

## OKD on Bare Metal

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**Test Automation** 



DevSecOps Delivery



Data Science



**Contact Center Operations** 

# Welcome!

Thank you for being here!

Sparksoft Corporation

What we're going to cover today

- Introduction
- Credit
- Network
- DHCP
- DNS Settings
- HAProxy
- NFS
- Installing the Cluster
- Post-installation Configuration

# Introduction

Who am I, and why should you care?

#### Howdy! I'm Thomas

- I've been doing this since 1993
- Started as a Novell CNE
- Went to work for Microsoft, became an MCSE/MCT
- Started using Linux in 1995 (while working at MSFT)
- Worked for Red Hat for about 14 years RHCA level 5
- Went to AWS for 4 years Solution Arch Pro, Solution Arch Assoc, Security Specialty, SysOps Associate, AAI
- Been with SparkSoft since July 2023







#### Howdy! I'm Thomas

- I am NOT an OKD maven. I like OKD, and I am learning OKD, but I'm still muddling my way through this.
- You never, ever stop learning (thank goodness).

# Credit

Big ups to Ryan Hay!

Sparksoft Corporation

#### Howdy! I'm Thomas

- HUGE credit goes to Ryan Hay https://github.com/ryanhay
- I shamelessly used his video
  - https://www.youtube.com/watch?v=d03xg2PKOPg
- And his instructions
  - https://github.com/ryanhay/ocp4-metal-install
- to prepare this demo.
- I had to update a bunch of stuff for Fedora 39, but the "bones" are definitely from his work.



What environment is this installed in?

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Two networks, 8 physical machines, one VM

- The production network is 172.31.100.0/24
  - DNS
  - DHCP/PXE
- The private network for the OKD cluster is 192.168.22.0/24
  - Need private DNS
  - Need private DHCP
- The connection between the two networks is the HAProxy machine, a VM
  - One interface bridged to the production network
  - One interface bridged to the private network

## **The Layout**



## **The Layout**

2	Termina	l - root@haproxy:~		^ _ O X
File Edit View Terminal	Tabs Help			
[root@haproxy ~]# fre	e			
total	used	free	shared buff/cache	available
Mem: 3734920	403204	3167344	16104 398948	3331716
Swap: 4128764		4128764		
[root@haproxy ~]# gre	ep "model name	e" /proc/cpuinf	0	
model name : Int	cel(R) Xeon(R)	CPU E5-266/ v	4 @ 3.20GHz	
model name : Int	el(R) Xeon(R)	CPU E5-266/ V	4 @ 3.20GHz	
model name : Int	el(R) Xeon(R)	CPU E5-266/ V	4 @ 3.20GHZ	
model name : Int	el(R) Xeon(R)	CPU E5-266/ V	4 @ 3.20GHZ	
[root@naproxy ~]#				

# Set up the second interface

- I kickstarted the HAProxy machine from the production network, and it has a DHCP reservation so that the IP address is fixed
- The second interface was unconfigured





▶_					Terminal - root@haproxy:~	^	-	×
File	Edit	View	Terminal	Tabs	Help			
					NetworkManager TUI Please select an option Edit a connection Activate a connection Set system hostname Radio Quit <ok></ok>			

2_	Terminal - root@haproxy:~	^ _ O X
File Edit View Terminal	Tabs Help	
	<pre>Ethernet ens3 Wired connection 1</pre>	



















2-					Tern	ninal - root@haproxy:~	<u>^</u> _	 ×
File	Edit	View	Terminal	Tabs	Help			
root enp1 enp9 root	t@hap Ls0 9s0 t@hap	roxy:	~# ip - UNK UP ~#	br a NOWN	sh	127.0.0.1/8 ::1/128 172.31.100.38/24 fe80::5054:ff:fedd:5eb1 192.168.22.1/24 fe80::63c:11d7:8250:134c	/64	

• Now I need to tell firewalld that these two interfaces are on different networks (internal and external), so I can manage firewall rules and network address translation.



Terminal - r	oot@haproxy:~	<u>^</u> _	×
File Edit View Terminal Tabs Help			
<pre>root@haproxy:~# ip -br a sh lo UNKNOWN 127. enp1s0 UP 172. enp9s0 UP 192. root@haproxy:~# nmcli connection mod root@haproxy:~# mmcli connection mod root@haproxy:~#</pre>	0.0.1/8 ::1/128 31.100.38/24 fe80::5054:ff:fedd:5eb1, 168.22.1/24 fe80::63c:11d7:8250:134c, ify enp1s0 connection.zone external ify enp9s0 connection.zone internal	/64 /64	

Terminal - root@haproxy:~	<u>^</u> _	o x
File Edit View Terminal Tabs Help		
<pre>root@haproxy:~# firewall-cmdget-active-zones</pre>		
external interfaces: ennls0		
internal		
interfaces: enp9s0		
public (default)		
rool@naproxy:~#		

Terminal - root@haproxy:~	^ _ O X
File Edit View Terminal Tabs Help	
<pre>root@haproxy:~# firewall-cmdzone=internallist-all</pre>	
internal (active)	
target: default	
ingress-priority: 0	
egress-priority: 0	
icmp-block-inversion: no	
sources:	
services: dhcpv6-client mdns samba-client ssh	
ports:	
protocols:	
forward: yes	
masquerade: no	
forward-ports:	
source-ports:	
1Cmp-blocks:	
rich rules:	
root@naproxy:~#	

Terminal - root@haproxy:~	^ _ O X
File Edit View Terminal Tabs Help	
<pre>root@haproxy:~# firewall-cmdzone=externallist-all</pre>	
external (active)	
target: default	
ingress-priority: 0	
egress-priority: 0	
interfaces: enpls0	
sources.	
services: ssh	
ports:	
protocols:	
forward: yes	
masquerade: yes	
forward-ports:	
source-ports:	
1cmp-blocks:	
rich rules:	
root@naproxy:~#	

2	Terminal - root@haproxy:~	^ _ 🗆 X
File Edit View Terminal Tabs Help		
<pre>root@haproxy:~# firewall-cmd</pre>	<pre>permanentnew-policy policy_int_to_ext</pre>	
success		
root@haproxy:~# firewall-cmd	permanentpolicy policy_int_to_extadd	1-ingres
<pre>root@haproxy:~# firewall-cmd</pre>	permanentpolicy policy int to extado	d-egress
-zone external		, i i i i i i i i i i i i i i i i i i i
success		
root@haproxy:~# firewall-cmd	<pre>permanentpolicy policy_int_to_extset</pre>	c-priori
root@haproxv·∼# firewall-cmd	permanentpolicy policy int to extset	t-target
ACCEPT	pormanone porces porces_int_co_oxe oo	cangoe
success		
<pre>root@haproxy:~# firewall-cmd</pre>	permanentzone=externaladd-masquerade	2
Warning: ALREADY_ENABLED: ma	squerade	
success	reload	
success		
root@haproxy:~#		
Warning: ALREADY_ENABLED: ma success root@haproxy:~# firewall-cmd success root@haproxy:~#	squerade	

Terminal - root@haproxy:~	^ _ O X
File Edit View Terminal Tabs Help	
<pre>root@haproxy:~# firewall-cmdinfo-policy policy_int_to_ext</pre>	
policy_int_to_ext (active)	
target: ACCEPT	
ingress-zones: internal	
egress-zones: external	
services:	
ports:	
masquerade: no	
forward-ports:	
source-ports:	
icmp-blocks:	
rich rules:	
root@naproxy.~#	

Terminal - root@haproxy:~	^ _ O X
File Edit View Terminal Tabs Help	
<pre>root@haproxy:~# firewall-cmdzone=externallist-all</pre>	
external (active)	
target: default	
ingress-priority: 0	
egress-priority: 0	
icmp-block-inversion: no	
sourcos: enpiso	
sources.	
$ports \cdot 6443/tcn 9000/tcn$	
protocols:	
forward: yes	
masquerade: yes	
forward-ports:	
source-ports:	
icmp-blocks:	
rich rules:	
root@haproxy:~#	
# **Firewall/NAT**

Terminal - root@okd-w-3:~	<u>^</u> _		×
File Edit View Terminal Tabs Help			
<pre>root@haproxy:~# ssh okd-w-3.lab.okd.lan root@okd-w-3.lab.okd.lan's password: Activate the web console with: systemctl enablenow cockpit.socket</pre>			
Register this system with Red Hat Insights: insights-clientregister Create an account or view all your systems at https://red.ht/insights-dag Last login: Thu Apr 11 20:08:44 2024 from 192.168.22.1 [root@okd-w-3 ~]# ping -c 4 4.2.2.1 PING 4.2.2.1 (4.2.2.1) 56(84) bytes of data. 64 bytes from 4.2.2.1: icmp_seq=1 ttl=55 time=21.9 ms 64 bytes from 4.2.2.1: icmp_seq=2 ttl=55 time=19.5 ms 64 bytes from 4.2.2.1: icmp_seq=3 ttl=55 time=19.7 ms 64 bytes from 4.2.2.1: icmp_seq=4 ttl=55 time=19.8 ms	shboa	ard	
4.2.2.1 ping statistics 4 packets transmitted, 4 received, 0% packet loss, time 3006ms rtt min/avg/max/mdev = 19.527/20.226/21.864/0.950 ms [root@okd-w-3 ~]#			

- I've already got DHCP running on the production network, but the private network doesn't have any access to it.
- Install and configure DHCP



2	Terminal - root@haproxy:~	<u>^</u> .		×
File Edit View Terminal Tabs Hel	p			
Install 1 Package				
Total download size: 1.3 M Installed size: 4.1 M Downloading Packages: dhcp-server-4.4.3-9.P1.fc39	.x86_64.rpm 2.4 MB/s   1.3 MB	00:00		
Total Running transaction check Transaction check succeeded Running transaction test Transaction test succeeded	1.6 MB/s   1.3 MB	00:00		
Running transaction				
Preparing : Running scriptlet: dhcp-se Installing : dhcp-se Running scriptlet: dhcp-se Verifying : dhcp-se	erver-12:4.4.3-9.P1.fc39.x86_64 erver-12:4.4.3-9.P1.fc39.x86_64 erver-12:4.4.3-9.P1.fc39.x86_64 erver-12:4.4.3-9.P1.fc39.x86_64		1/1 1/1 1/1 1/1 1/1	
<pre>Installed: dhcp-server-12:4.4.3-9.P1</pre>	.fc39.x86_64			
Complete! root@haproxy:~#				





Terminal - root@haproxy:~	^	-	×
File Edit View Terminal Tabs Help			
authoritative;			
ddns-update-style interim;			II.
allow bootp:			U
allow unknown-clients;			U
ignore client-updates;			U
default-lease-time 14400;			U
max-lease-time 14400;			U
			II.
~			U
~			U
			U
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~			U
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			U
			II.
~			II.
~			
~ INSERT			

2	Terminal - root@haproxy:~		^ _ O X
File Edit View Terminal Tabs Hel	p		
authoritative; ddns-update-style interim; allow booting; allow bootp; allow unknown-clients; ignore client-updates; default-lease-time 14400; max-lease-time 14400;			
<pre>subnet 192.168.22.0 netmask option routers option subnet-mask option domain-name option domain-name-servers range 192.168.22.80 192.168 } ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~</pre>	255.255.255.0 { 192.168.22.1; # lan 255.255.255.0; "okd.lan"; 192.168.22.1; 3.22.99;		
INSERT		17,1	Αιι

2	Terminal - root@haproxy:~	^ _ O X
File Edit View Terminal Tabs He	elp	
ddns-update-style interim; allow booting; allow bootp; allow unknown-clients; ignore client-updates; default-lease-time 14400; max-lease-time 14400;		
<pre>subnet 192.168.22.0 netmask option routers option subnet-mask option domain-name option domain-name-servers range 192.168.22.80 192.16 }</pre>	<pre>x 255.255.255.0 {</pre>	
host ocp-bootstrap { hardware ethernet 00:0c:29 fixed-address 192.168.22.2 } ~ ~	9:83:df:be; 200;	
INSERT	22,1	Bot

2	Terminal - root@haproxy:~		<u>^</u> _		×
File Edit View Terminal Tabs Hel	lp				
allow unknown-clients; ignore client-updates; default-lease-time 14400; max-lease-time 14400;					
<pre>subnet 192.168.22.0 netmask option routers option subnet-mask option domain-name option domain-name-servers range 192.168.22.80 192.168 }</pre>	255.255.255.0 { 192.168.22.1; # lan 255.255.255.0; "okd.lan"; 192.168.22.1; 8.22.99;				
host ocp-bootstrap { hardware ethernet 00:0c:29 fixed-address 192.168.22.20 }	:83:df:be; 00;				
<pre>host ocp-cp-1 {   hardware ethernet 00:0c:29   fixed-address 192.168.22.20 }</pre>	:65:d5:0f; 01;				
INSERT		27,1		Bot	

2	Terminal - root@haproxy:~	<u>^</u> _		×
File Edit View Terminal Tabs Hel	p			
hardware ethernet 00:0c:29 fixed-address 192.168.22.20 }	:4e:e6:77; 03;			
host ocp-w-1 { hardware ethernet 00:0c:29 fixed-address 192.168.22.2 }	:da:35:11; 11;			
host ocp-w-2 { hardware ethernet 00:0c:29 fixed-address 192.168.22.2 }	:3d:ea:c4; 12;			
host ocp-w-3 { hardware ethernet 00:0c:29 fixed-address 192.168.22.2 }	:3d:ea:c4; 12;			
host ocp-w-4 { hardware ethernet 00:0c:29 fixed-address 192.168.22.2 }	:3d:ea:c4; 12; 56.1	F	lot	

Terminal - root@haproxy:~	<u>^</u> _	. 🗆	×
File Edit View Terminal Tabs Help			
<pre>root@haproxy:~# firewall-cmdzone=internaladd-service=dhcpperm</pre>	anent		
success			
<pre>root@haproxy:~# firewall-cmdreload</pre>			
success			
<pre>root@haproxy:~# firewall-cmdzone=internallist-all</pre>			
internal (active)			
target: default			
ingress-priority: 0			
egress-priority: 0			
icmp-block-inversion: no			
interfaces: enp9s0			
sources:			
services: dhcp dhcpv6-client mdns samba-client ssh			
ports:			
protocols:			
forward: yes			
masquerade: no			
forward-ports:			
source-ports:			
icmp-blocks:			
rich rules:			
root@haproxy:~#			



- The production network already has DNS, but the private network doesn't
- It would be easy to argue that this cluster is so small that we could get away with /etc/hosts files, but OKD uses a BUNCH of hostnames. A DNS wildcard is quick and easy.



Terminal - root@haproxy:~	<u>~</u> .	_ 0	×
File Edit View Terminal Tabs Help			
Installed size: 2.0 M Downloading Packages: (1/2): bind-dnssec-utils-9.18.24-1.fc39.x86_64. 330 kB/s   148 kB 00 (2/2): bind-9.18.24-1.fc39.x86_64.rpm 1.0 MB/s   529 kB 00	00 00		
Total 749 kB/s   676 kB 00 Running transaction check Transaction check succeeded. Running transaction test Transaction test succeeded. Running transaction Preparing : Installing : bind-dnssec-utils-32:9.18.24-1.fc39.x86_64 Running scriptlet: bind-32:9.18.24-1.fc39.x86_64 Installing : bind-32:9.18.24-1.fc39.x86_64 Running scriptlet: bind-32:9.18.24-1.fc39.x86_64 Verifying : bind-32:9.18.24-1.fc39.x86_64 Verifying : bind-32:9.18.24-1.fc39.x86_64 Verifying : bind-32:9.18.24-1.fc39.x86_64 Verifying : bind-32:9.18.24-1.fc39.x86_64 Verifying : bind-dnssec-utils-32:9.18.24-1.fc39.x86_64 Installed:	00	1/1 1/2 2/2 2/2 1/2 2/2	
<pre>bind-32:9.18.24-1.fc39.x86_64 bind-dnssec-utils-32:9.18.24-1.fc39.x8 Complete! root@banroxy:~#</pre>	6_6	4	







>_	Terminal - root@haproxy:~		^ _ O X
File Edi	t View Terminal Tabs Help		
access	<ul> <li>If your recursive DNS server has a public IP addre</li> </ul>	ss, you MUST	enable
ill	control to limit queries to your legitimate users.	Failing to	do so w
	<pre>cause your server to become part of large scale DM attacks. Implementing BCP38 within your network wo reduce such attack surface */</pre>	S amplificat uld greatly	ion
	recursion yes;		
	dnssec-validation yes;		_
// Adde // exte	ed by Thomas Cameron so that internal hosts can resolve ernal hosts on the external network		_
	forwarders {		
	};		
	managed-keys-directory "/var/named/dynamic"; geoip-directory "/usr/share/GeoIP";		
INSE	pid-file "/run/named/named.pid"; RT	40,4-11	53%

>_					Terminal - root@haproxy:~	^	_ (	ר ב
File	Edit	View	Terminal	Tabs	Help			
			file seve	e "da erity	a/named.run"; dynamic;			
};		};						
zone };	"."	IN { type file	hint; "named.	ca";				
zone };	"ok	d.lan type file	n" IN { master; "db.okd	l.lan	;			
zone };	"22	.168. type file	192.in- master; "db.22.	addr 168.	arpa" IN { 92.in-addr.arpa";			
incl incl	ude ude	"/etc "/etc	/named. /named.	rfc19 root	012.zones"; key";			
I	NSER	Т			72,3		Во	t

File Edit View Terminal Tabs Help	
The Edit view lenning labs help	
<pre>root@haproxy:~# diff /usr/share/doc/bind/named.conf.default /etc/named.conf</pre>	
11c11	
< listen-on port 53 { 127.0.0.1; };	
> Clisten-on port 53 { any; };	
<pre>allow-query { localhost: }:</pre>	
<pre>&gt; allow-query { any; };</pre>	
34a35,41	
> // Added by Thomas Cameron so that internal hosts can resolve	
> // external hosts on the external network	
> Torwarders { > 172 21 100 15.	
> 1/2.31.100.15,	
54a62,71	
> };	
>	
> zone "okd.lan" IN {	
> type master;	
> Tite db.okd.lan;	

Terminal - root@haproxy:~	^	-	×
File Edit View Terminal Tabs Help			
19c19			
< allow-query { localhost; };			
<pre>&gt; accow-query { any; }; 24a25_41</pre>			
> // Added by Thomas Cameron so that internal bosts can resolve			
> // external hosts on the external network			11
>			11
> forwarders {			11
> 172.31.100.15;			11
> };			11
>			11
54a62,71			
> };			
>			11
> zone "okd.lan" IN {			
> file "db okd lap".			
> \.			
> zone "22.168.192.in-addr.arpa" IN {			
> type master;			
<pre>&gt; file "db.22.168.192.in-addr.arpa";</pre>			
root@haproxy:~#			

Terminal - root@haproxy:/var/named	^ _	×
File Edit View Terminal Tabs Help		
<pre>root@haproxy:~# cd /var/named/ root@haproxy:/var/named# touch db.okd.lan db.22.168.192.in-addr.arpa root@haproxy:/var/named# ls</pre>		
data db.okd.lan named.ca named.localhost db.22.168.192.in-addr.arpa root@haproxy:/var/named#	slaves	

2-					Terminal - root@haproxy:/var/named	<u>^</u> _	×
File	Edit	View	Terminal	Tabs	Help		
root	t@hap	roxy:	/var/na	med#	vi db.okd.lan		
							1
							II.
							II.
							II.

۶_					Terminal - r	oot@hapro	xy:/var/na	amed		~	_		×
File	Edit	View	Terminal	Tabs	Help								
\$TTL @		6048 IN	00 SOA 1 604800 86400 2419200 604800	h ; ; ;	aproxy.c Serial Refresh Retry Expire Minimum	okd.lan.	conta	ct.okd.lan (					
<i>'</i>		IN	NS	h	aproxy								H
hapr ; Te	oxy. emp E	okd. Boots	lan. trap Nod	e	IN	A	192.	168.22.1					
okd-	boot	stra	p.lab.ok	d.lan	).	IN	А	192.168.22	.200				H
; Co okd- okd- okd-	ntro cp-1 cp-2 cp-3	ol Pl L.lab 2.lab 3.lab	ane Node .okd.lan .okd.lan .okd.lan	S  .  .	IN IN IN	A A A	19 19 19	92.168.22.201 92.168.22.202 92.168.22.203					
; Wo	rker	Nod	es okd lan		тм	٨	102	168 22 211					I
okd- okd- "db.	w-1. w-2. okd.	lab. lab. lan"	okd.lan. 43L, <u>1</u> 6	86B w	IN IN ritten	A	192	.168.22.211	12,0-1		Т	ор	

<b>&gt;_</b>					Termi	nal - ro	ot@hap	roxy:/va	ar/named					^	-		×
File	Edit	View	Terminal	Tabs	Help												
; Wo	rker	Nod	es														
okd-	w-1.	lab.	okd.lan.		]	[N	А	1	192.168	.22.	211						
okd-	w-2.	lab.	okd.lan.		]	[N	Α	1	192.168	.22.	212						
okd-	w-3.	lab.	okd.lan.		]	[N	Α	1	192.168	.22.	213						
okd-	w-4.	lab.	okd.lan.		]	[N	А	1	192.168	.22.	214						
; Op	enSh	ift	Internal	- Lo	bad b	baland	cer										11
api.	lab.	okd.	lan.	]	EN	А	192.	168.2	22.1								11
api-	int.	lab.	okd.lan.	]	EN	А	192.	168.2	22.1								11
*.ap	ops.l	ab.o	kd.lan.		ΓN	А	192.	168.2	22.1								
; EI	CD C	lust	er				100										11
etco	1-0.l	ab.o	kd.lan.	11		A	192.	168.2	22.201								
etco	1-1.l	ab.o	kd.lan.	11		A	192.	168.2	22.202								11
etca	I-2.l	ab.o	kd.lan.	TL		А	192.	168.2	22.203								11
0.5	anch	: ++	Tntornol	CDV		unde (	(+			~ h )							
; Up	ensn	TIC	internat		reco	oras (	CLUSL	er na	ime = l	ab)	CDV	0	10	2	200		
_etc	a-se	rver	-ssttc	p.tat	).ΟΚΟ	i.tan.	o o	0400	TIV		эки	Θ	10	Z	300		н.
etc	.u-v.	rvor	ccl to	n lak		llan	0	6400	ТА		CD//	0	10	2	200		
_etc	u-se	l ab	-55110	p.tat	). UKU	i. tan.	. 0	0400	TIV		JKV	0	10	Z	300		
oto	. 1-u.	rvor	_ss] to	n lak		lan	Q	6400	ТМ		SDV	0	10	2	380		
	.u-se .d_2	lah		p.ca.	). UKU	r. call.	0	0400	TIV		JNV	0	10	Ζ.	500		
ett	.u-2.	cab										37.1			8	6%	

Te Te	rminal - roo	t@haproxy:/	var/named				^ _ O X
File Edit View Terminal Tabs He	elp						
okd-w-3.lab.okd.lan. okd-w-4.lab.okd.lan.	IN IN	A A	192.168 192.168	.22.213 .22.214			
; OpenShift Internal - Load	balanc	er					
api.lab.okd.lan. IN	А	192.168.	22.1				
api-int.lab.okd.lan. IN	Α	192.168.	22.1				
*.apps.lab.okd.lan. IN	А	192.168.	22.1				
; ETCD Cluster		102 160	22 201				
etcd-U.lap.oKd.lah. IN	A	192.168.	22.201				
etcd-1.lap.okd.lan. IN	A	192.168.	22.202				
etcd-2.lab.okd.lan. IN	А	192.108.	22.203				
: OpenShift Internal SRV re	cords ()	cluster r	name = la	ab)			
_etcd-server-ssltcp.lab.c	kd.lan.	86400	) IN	SRV	Θ	10	2380
etcd-0.lab							
_etcd-server-ssltcp.lab.c	okd.lan.	86400	) IN	SRV	Θ	10	2380
etcd-server-ssl. tcp.lab.o	kd.lan.	86400	) IN	SRV	Θ	10	2380
etcd-2.lab							
aguth anonchift apportant	dlan	TN	٨	102 169	22.1		
consolo openshift consolo (	u.lan.			192.108.	102	160 22	1
console-openshirt-console.a	ipps.cap	. oku. tan.	IN	A	43	100.22	Bot

<u>&gt;-</u>					Terminal - root@haproxy:/var/named	<u>^</u> _	×
File	Edit	View	Terminal	Tabs	Help		
roo	t@hap	roxy	/var/na	med#	vi db.22.168.192.in-addr.arpa		

▶_					Terminal - root@haproxy:/var/named	~	_ c	x
File	Edit	View	Terminal	Tabs	Help			
\$TTI @ )		60480 IN	30 SOA 1 604800 86400 2419200 604800	h ; ; ;	aproxy.okd.lan. contact.okd.lan ( Serial Refresh Retry Expire Minimum			
II	N	NS	ha	aproxy	.okd.lan.			
1	I	N	PTR	hapro	xy.okd.lan.			
1	I	N	PTR PTR	apı.ı api-i	nt.lab.okd.lan.			
; 200	I	N	PTR	okd-b	ootstrap.lab.okd.lan.			
, 201	I	N	PTR	okd-c	p-1.lab.okd.lan.			
202	Ι	N	PTR	okd-c	p-2.lab.okd.lan.			
203	I	N	PTR	okd-c	p-3.lab.okd.lan.			
; 211 212	I I	N N	PTR PTR	okd-w okd-w	-1.lab.okd.lan. -2.lab.okd.lan.			
"db	.22.1	.68.19	92.in-a	ddr.ar	pa" 25L, 737B written 1,1		lop	

2_			Terminal - root@haproxy:/var/named	~	_	o x
File	Edit Viev	v Terminal	Tabs Help			
)		1 604800 86400 2419200 604800	; Serial ; Refresh ; Retry ; Expire ; Minimum			
IN	NS	5 h	aproxy.okd.lan.			
1 1 1	IN IN IN	PTR PTR PTR	haproxy.okd.lan. api.lab.okd.lan. api-int.lab.okd.lan.			
, 200	IN	PTR	okd-bootstrap.lab.okd.lan.			
; 201 202 203	IN IN IN	PTR PTR PTR	okd-cp-1.lab.okd.lan. okd-cp-2.lab.okd.lan. okd-cp-3.lab.okd.lan.			
, 211 212 213 214	IN IN IN IN	PTR PTR PTR PTR	okd-w-1.lab.okd.lan. okd-w-2.lab.okd.lan. okd-w-3.lab.okd.lan. okd-w-4.lab.okd.lan.		B	0+

Terminal - root@haproxy:/var/named       ^         File Edit View Terminal Tabs Help       root@haproxy:/var/named# firewall-cmdzone=internaladd-service=dnsperman ent success         root@haproxy:/var/named# firewall-cmdreload       success         root@haproxy:/var/named# firewall-cmdreload       success         root@haproxy:/var/named# firewall-cmdzone=internallist-services         dhcp dhcpv6-client dns mdns samba-client ssh         root@haproxy:/var/named#
<pre>File Edit View Terminal Tabs Help root@haproxy:/var/named# firewall-cmdzone=internaladd-service=dnsperman ent success root@haproxy:/var/named# firewall-cmdreload success root@haproxy:/var/named# firewall-cmdzone=internallist-services dhcp dhcpv6-client dns mdns samba-client ssh root@haproxy:/var/named#</pre>
<pre>root@haproxy:/var/named# firewall-cmdzone=internaladd-service=dnsperman ent success root@haproxy:/var/named# firewall-cmdreload success root@haproxy:/var/named# firewall-cmdzone=internallist-services dhcp dhcpv6-client dns mdns samba-client ssh root@haproxy:/var/named#</pre>
ent success root@haproxy:/var/named# firewall-cmdreload success root@haproxy:/var/named# firewall-cmdzone=internallist-services dhcp dhcpv6-client dns mdns samba-client ssh root@haproxy:/var/named#
<pre>success root@haproxy:/var/named# firewall-cmdreload success root@haproxy:/var/named# firewall-cmdzone=internallist-services dhcp dhcpv6-client dns mdns samba-client ssh root@haproxy:/var/named#</pre>
<pre>success root@haproxy:/var/named# firewall-cmdzone=internallist-services dhcp dhcpv6-client dns mdns samba-client ssh root@haproxy:/var/named#</pre>
<pre>root@haproxy:/var/named# firewall-cmdzone=internallist-services dhcp dhcpv6-client dns mdns samba-client ssh root@haproxy:/var/named#</pre>
<pre>dhcp dhcpv6-client dns mdns samba-client ssh root@haproxy:/var/named#</pre>
rool@naproxy:/var/named#

2					Terminal - root@haproxy:/var/named	^ _ O X
File	Edit	View	Terminal	Tabs	Help	
roo Cre /li roo	t@haj ated b/sys t@haj	symli stemd/ proxy:	/var/na nk /etc /system/ /var/na	imed# /sys named imed#	systemctl enable namednow temd/system/multi-user.target.wants/named.servic d.service.	e → /usr

2	Terminal - root@haproxy:/var/named	<u>~</u> .	_ 0	×
File Edit View Terminal Tabs	Help			
<pre>root@haproxy:/var/named# Using domain server: Name: 192.168.22.1 Address: 192.168.22.1#53 Aliases:</pre>	host haproxy.okd.lan 192.168.22.1			
haproxy.okd.lan has addr root@haproxy:/var/named#	ess 192.168.22.1			

2					Terminal - root@haproxy:/var/named	^	_	×
File	Edit	View	Terminal	Tabs	Неір			
root Usir Name Addr Alia	t@hap ng do e: 19 ress: ases:	oroxy: omain 92.168 : 192.	:/var/na server: 3.22.1 .168.22.	med# 1#53	host 192.168.22.1 192.168.22.1			
1.22 1.22 1.22 root	2.168 2.168 2.168 2.168	8.192 8.192 8.192 9.192	in-addr in-addr in-addr /var/na	.arpa .arpa .arpa med#	domain name pointer api-int.lab.okd.lan. domain name pointer api.lab.okd.lan. domain name pointer haproxy.okd.lan.			

#### HAProxy

- We're going to use HAProxy to distribute traffic coming into the HAProxy machine from internal OR external networks to the nodes in the cluster.
- Because we're going to be accessing the cluster from the public network, we need to proxy traffic to the nodes on the private network.
- Because traffic can be distributed across various nodes from the private network, we're going to send all the internal traffic to the HAProxy machine's internal interface to distribute the load.


Terminal - root@haproxy:	~	^ _ O X
File Edit View Terminal Tabs Help		
Install 1 Package		
Total download size: 2.5 M Installed size: 7.6 M Downloading Packages: haproxy-2.8.5-1.fc39.x86_64.rpm	3.6 MB/s   2.5 MB	00:00
Total	2.5 MB/s   2.5 MB	00:00
Running transaction check		
Transaction check succeeded.		
Transaction test succeeded		
Running transaction		
Preparing :		1/1
Running scriptlet: haproxy-2.8.5-1.fc39.x86	64	1/1
Installing : haproxy-2.8.5-1.fc39.x86	64	1/1
Kunning scriptlet: naproxy-2.8.5-1.1039.X80 Vorifying barroxy 2.8.5.1 fc30 x86	64	1/1
verifying . haproxy-2.0.5-1.1039.800_		1/1
Installed:		
haproxy-2.8.5-1.fc39.x86_64		
Complete! root@haproxy:~#		



<b>P-</b>					Terminal - root@haproxy:~	<u>^ _</u>	п×
File	Edit	View	Terminal	Tabs	Help		
root	t@hap	roxy	~# vi /	/etc/	haproxy/haproxy.cfg		

<u>&gt;-</u>					Terminal - root@haproxy:~	<u>^</u> _	. 🗆	×
File	Edit	View	Terminal	Tabs	Help			
# G	lobal	sett	tings					
# glo	bal maxc log chrc pidf user grou	onn oot ile	2000 /dev /var /var hapr hapr	0 /log /lib, /run, oxy oxy	local0 info /haproxy /haproxy.pid			
	# tu stat	irn or :s soc	n stats cket /va	unix r/li	socket p/haproxy/stats			
~ ~ ~ ~ ~ ~								
~	INSER	ат			15,1		All	

2	Terminal - root@haproxy:~	<u>^</u> _		×
File Edit View Terminal Tabs He	p			
# d-f1+- +b-+ -11	the llistent and the bound continue will			11
# common deraulis that all # use if not designated in	the fisten and backend sections with			11
#				
defaults				
log	global			11
mode	http			11
option	httplog			11
option	dontlognull			11
option nulp-server-clos	2			11
option forwardfor	except 127 0 0 0/8			11
retries	3			11
maxconn	20000			11
timeout http-request	10000ms			11
timeout http-keep-alive	10000ms			11
timeout check	10000ms			11
timeout connect	40000ms			11
timeout client	300000ms			11
timeout server	300000ms			
timeout queue	50000MS			
INSERT	36,1	E	Bot	

<u>P-</u>		Terminal - root@haproxy:~	^	_ 0	х
File	Edit View Terminal Tabs Hel	p			
	log	global			
	mode	http			
	option	httplog			
	option	dontlognull			
	option http-server-close	2			
	option redispatch				
	option forwardfor	except 127.0.0.0/8			
	retries	3			
	maxconn	20000			
	timeout http-request	10000ms			
	timeout http-keep-alive	10000ms			
	timeout copport	10000ms			
	timeout client	30000ms			
	timeout server	300000ms			
	timeout queue	500000ms			
	cimeouc queue	300001113			
# En	able HAProxy stats				
list	en stats				
	bind :9000				
	stats uri /stats				
	stats refresh 10000ms				
I	NSERT	42,1		Bo	t

>_		Terminal - root@haproxy:~	^	-		×
Fi	le Edit View Terminal Tabs He	lp				
	option forwardfor	except 127.0.0.0/8				
	retries	3				
	maxconn	20000				
	timeout http-request	10000ms				
	timeout http-keep-alive	10000ms				
	timeout check	10000ms				
	timeout connect	40000ms				
	timeout client	300000ms				
	timeout server	500000ms				
	cimeout queue	50000ms				
#	Enable HAProxy stats					
″ 1 i	sten stats					
Ľ	bind :9000					
	stats uri /stats					
	stats refresh 10000ms					
#	Kube API Server					
fr	ontend k8s_api_frontend					
	bind :6443					
	default_backend k8s_api	_backend				
	mode tcp					
	INSERT	48,1		Bo	ot	

2	Terminal - root@haproxy:~		<u>~</u> -	. 0	×
File Edit View Terminal Tabs He	p				
timeout server timeout queue	300000ms 50000ms				
# Enable HAProxy stats					
listen stats					
bind :9000					
stats url /stats					
stats refresh 10000ms					
# Kube API Server					
frontend k8s_api_frontend					
bind :6443					
default_backend k8s_api	_backend				
mode tcp					
backend k8s ani backend					
mode tcp					
balance source					
server okd-bootstr	ap 192.168.22.200:6443 check				
server okd-cp-1 19	2.168.22.201:6443 check				
server okd-cp-2 19	2.168.22.202:6443 check				
server okd-cp-3-19	2.168.22.203:6443 check				
INSERT		56,1		Bot	

Terminal - root@haproxy:~		<u>^</u> _		×
File Edit View Terminal Tabs Help				
stats refresh 10000ms				
# Kube APT Server				
frontend k8s api frontend				
bind :6443				
default_backend k8s_api_backend				
mode tcp				
backend k8s api backend				
mode tcp				
balance source				
server okd-bootstrap 192.168.22.200:6443 check				
server okd-cp-1 192.168.22.201:6443 check				
server 0kd-cp-2 192.108.22.202:0443 check				
Server oka ep 5 152.100.22.205.0445 eneek				
# OKD Machine Config Server				
<pre>frontend okd_machine_config_server_frontend</pre>				
mode tcp				
D1NG :22023 default backend okd machine config server backend				
deradtt_backend okd_machine_conrig_server_backend				
INSERT	62,1	E	Bot	

Terminal - root@haproxy:~		<u>^</u> -	. 🗆	×
File Edit View Terminal Tabs Help				
backend k8s_api_backend				
mode tcp				
balance source				
server 0kd-b00tStrap 192.108.22.200:0443 check				
$server = okd_{cp} = 2,100,22,201,0443$ check				
server okd-cp-3 192.168.22.203:6443 check				
# OKD Machine Config Server				
frontend okd_machine_config_server_frontend				
mode tcp				
bind :22623				
derault_backend_okd_machine_config_server_backend				
backend okd machine config server backend				
mode tcp				
balance source				
server okd-bootstrap 192.168.22.200:22623 chec	:k			
server okd-cp-1 192.168.22.201:22623 check				
server okd-cp-2 192.168.22.202:22623 check				
server okd-cp-3 192.168.22.203:22623 check				
INSERT	70,1		Bot	

Terminal - root@haproxy:~		<u>^</u> _		×			
File Edit View Terminal Tabs Help							
# OKD Mashing Config Conver							
# UKD Machine Config Server frontend okd machine config server frontend				н.			
mode tcp							
bind :22623				11			
<pre>default_backend okd_machine_config_server_backend</pre>				11			
<pre>backend okd_machine_config_server_backend</pre>				U.			
mode tcp				н.			
balance source				н.			
server okd-cp-1 192 168 22 201.22623 check	IC K						
server okd-cp-2 192.168.22.202:22623 check				11			
server okd-cp-3 192.168.22.203:22623 check				11			
# OKD Ingress - layer 4 tcp mode for each. Ingress Cor 7.	# OKD Ingress - layer 4 tcp mode for each. Ingress Controller will handle layer 7						
frontend okd_http_ingress_frontend				н.			
bind :80				11			
mode_tcp	default_backend_okd_http_ingress_backend mode_tcp						
~							
INSERT	76,1	В	ot				

₽_			Terminal - root@hapro	oxy:~	^ _ O X
File	Edit View	Terminal Tabs	Help		
	mode tcp balance server server server server	source okd-boot okd-cp-1 okd-cp-2 okd-cp-3	strap 192.168.22.20 192.168.22.201:226 192.168.22.202:226 192.168.22.203:226	0:22623 check 23 check 23 check 23 check 23 check	
# 0ŀ 7.	KD Ingres	s - layer 4	tcp mode for each.	Ingress Controller will	handle layer
fror	ntend okd bind :80 default_ mode tcp	_http_ingres backend okd_	s_frontend http_ingress_backen	d	
back	kend okd_	http_ingress	_backend		
	mode tcp	source			
	server	okd-w-1	192.168.22.211:80 c	heck	
	server	okd-w-2	192.168.22.212:80 cl	heck	
	server	okd-w-3	192.168.22.213:80 cl 192.168.22.214.80 cl	heck	
	361 761	0Ku-w-4	192.100.22.214.00 C		
]	INSERT			84,1	Bot

Terminal - root@haproxy:~	^	_ 0	×
File Edit View Terminal Tabs Help			
server okd-cp-2 192.168.22.202:22623 check server okd-cp-3 192.168.22.203:22623 check			
# OKD Ingress - layer 4 tcp mode for each. Ingress Controller wi 7.	ll handle l	ayer	I
frontend okd_http_ingress_frontend bind :80 default_backend okd_http_ingress_backend mode tcp			I
backend okd_http_ingress_backend balance source mode tcp			l
server okd-w-1 192.168.22.211:80 check server okd-w-2 192.168.22.212:80 check server okd-w-3 192.168.22.213:80 check server okd-w-4 192.168.22.214:80 check			I
<pre>frontend okd_https_ingress_frontend     bind *:443     default_backend okd_https_ingress_backend     mode tcp</pre>			
INSERT 89	,1	Bot	

Terminal - root@haproxy:~	^	-		×
File Edit View Terminal Tabs Help				
mode tcp				
<pre>backend okd_http_ingress_backend balance source mode tcp server okd-w-1 192.168.22.211:80 check server okd-w-2 192.168.22.212:80 check server okd-w-3 192 168 22 213:80 check</pre>				
server okd-w-3 192.108.22.213.80 check				U.
frontend okd_https_ingress_frontend bind *:443 default_backend okd_https_ingress_backend mode tcp				
backend okd_https_ingress_backend mode tcp balance source sorver				
server okd-w-1 192.168.22.211:443 check				
server okd-w-3 192.168.22.213:443 check server okd-w-4 192.168.22.214:443 check				I
INSERT 97,1		В	ot	

Terminal - root@haproxy:~	^ _ 0	×
File Edit View Terminal Tabs Help		
<pre>root@haproxy:~# firewall-cmdadd-service=httpzone=i</pre>	nternalpermanent.	
SUCCESS		11
rool@naproxy:~# Tirewall-cmdadd-service=nllpzone=e	xternalpermanent	11
<pre>root@haproxy:~# firewall-cmdadd-service=httpszone=</pre>	internalpermanent	11
success		11
<pre>root@haproxy:~# firewall-cmdadd-service=httpszone=</pre>	externalpermanent	11
success	istonel somet	11
root@naproxy:~# Tirewall-cmdadd-port=6443/tcpzone=	internalpermanent	11
<pre>root@haproxy:~# firewall-cmdadd-port=6443/tcpzone=</pre>	externalpermanent	11
success		11
<pre>root@haproxy:~# firewall-cmdadd-port=22623/tcpzone</pre>	e=internalpermanent	11
SUCCESS	ovtornol normonont	11
success	externatpermanent	11
<pre>root@haproxy:~# firewall-cmdreload</pre>		11
success		11
root@haproxy:~#		11
		11

▶_						Terminal - root@haproxy:~	<u>~</u> _	×
File	Edit	View	Terminal	Tabs	Help			
roo	t@hap	roxy:	~# set	seboo	l - P	haproxy_connect_any 1		
100	runap	TUXY.	~#					
								U.





0	Statistics Report for HAProxy - Google Chrome				<u>^ -</u>	• ×
•	Statistics Report for HAPra × +					
←	→ C A Not secure haproxy:9000/stats	☆	<u>ک</u>	≡	ग 😞	:
	Personal 🗅 Sparksoft					
						<u>_</u>

### HAProxy version 2.8.5-aaba8d0, released 2023/12/07

### Statistics Report for pid 2981

> General process information		
<pre>pid = 2981 (process #1, nbproc = 1, nbthread = 4) uptime = 0d 0h01m52s; warnings = 28 system timits: memmax = unlimited; ulimit-n = 40055 maxsock = 40055; maxconn = 20000; reached = 0; maxpipes = 0 current conns = 1; current pipes = 0/0; conn rate = 1/sec; bit rate = 0.000 kbps Running tasks: 0/42; idle = 100 %</pre>	active UP       backup UP         active DWN, going down       backup DQWN, going up         active DOWN, going up otive or backup DOWN       backup CoWN         active or backup DOWN       orm anitrenance (MAINT)         active or backup SOFT STOPPED for maintenance         Note: "NOLB"/"DRAIN" = UP with load-balancing disabled.	Display option:     External resources:       Scope :     Primary site       Hide 'DOWN' servers     Updates (v2, 8)       Disable refresh     Online manual       Refresh now     CSV export       JSON export (schema)     JSON export (schema)
stats		

		Que	eue			Session ra	ate			Sess	ions			B	ytes	D	enied		Errors		Wa	rnings				Se	rver				
	Cur	Max	.	Limit	Cur	Max	Limit	Cur	Max	Limit	Total	LbTot	Last	In	Out	Req	Resp	Req	Conn	Resp	Retr	Redis	Status	LastChk	Wght	Act	Bck	Chk	Dwn	Dwntme	Thrtle
Frontend					1	1	-	1	2	20 000	1			0	0	0	0	0	)				OPEN								
Backend	0		0		0	0		0	0	2 000	0	0	0s	s 0	0	0	0		0	(	0 0	0	1m52s UP		0/0	0	0		0		

k8s_api_fro	ntend																													
		Queue			Session ra	ite			Sess	ions			Byt	tes	Dei	nied		Errors		Wa	rnings					Server				
	Cur	Max	Limit	Cur	Max	Limit	Cur	Max	Limit	Total	LbTot	Last	In	Out	Req	Resp	Req	Conn	Resp	Retr	Redis	Status	LastChk	Wght	Act	Bck	Chk	Dwn	Dwntme	Thrtle
Frontend				0	0	-	0	0	20 000	0			0	0	0	(	0					OPEN								

k8s_api_backend																															
		Queu	e		Session I	rate			Se	ssions			E	Bytes	D	enied		Errors		V	Varning	gs			Server						
	Cur	Max	Limit	Cur	Max	Limit	Cur	Max	Limit	Total	LbTot	Last	In	Out	Req	Resp	Req	Conn	Resp	Retr	F	Redis	Status	LastChk	Wght	Act	Bck	Chk	Dwn	Dwntme	Thrtle
okd-bootstrap	0	0	)	- 0	0		0	0	-	0	) 0	1	? 0	0		(	)	0	(	2	0	0	1m52s DOWN	L4CON in 0ms	1/1	Y	-	1	1	1m52s	-
okd-cp-1	0	1 0	)	- 0	0		0	0	-	9	) 0	1	? 0	0		(	)	0	(	2	0	0	1m50s DOWN	* L4TOUT in 2001ms	1/1	Y	-	1	1	1m50s	-
okd-cp-2	0	0	)	- 0	0		0	0	-	0	) 0	1	? 0	0		(	)	0	(	2	0	0	1m50s DOWN	* L4TOUT in 2002ms	1/1	Y	-	1	1	1m50s	-
okd-cp-3	0	1 0	)	- 0	0		0	0	-	9	<u>)</u> 0	1	? 0	0		(	)	0	(	2	0	0	1m50s DOWN	L4TOUT in 2002ms	1/1	Y	-	1	1	1m50s	-
Backend	0	0		0	0		0	0	2 000	0	) 0	1	? 0	0	0	0		0	0	)	0	0	1m50s DOWN		0/0	0	0		1	1m50s	

### okd\_machine\_config\_server\_frontend

		Queue			Session ra	ate			Sess	ions			By	rtes	De	enied		Errors		Wa	rnings					Server				
	Cur	Max	Limit	Cur	Мах	Limit	Cur	Max	Limit	Total	LbTot	Last	In	Out	Req	Resp	Req	Conn	Resp	Retr	Redis	Status	LastChk	Wght	Act	Bck	Chk	Dwn	Dwntme	Thrtle
Frontend				0	0	-	0	0	20 000	0			0	0	0	C	0					OPEN								

Dwntme

1m52s

1m49s

1m49s

1m49s

1m49s

Thrtle

### okd\_machine\_config\_server\_backend Session rate Bytes Errors Server Queue LastChk L4CON in 0ms Cur Max Limit Cur Max Limit Cur Max Limit Total LbTot Last In Out Req Resp Req Conn Resp Retr Redis Status Wght Act Bck Chk Dwn okd-bootstrap 0 1m52s DOWN 1/1 Y -Y -0 1 0 ? 0 1m49s DOWN L4TOUT in 2000ms 1/1 okd-cp-1 0 0 0 0 0 0 0 1 1/1 okd-cp-2 0 0 0 0 0 0 ? 0 0 0 0 0 0 1m49s DOWN L4TOUT in 2001ms Y 1 0 0 2 1m49s DOWN L4TOUT in 2002ms 1/1 Υ okd-cp-3 0 0 0 0 0 0 0 0 0 0 1 0/0 Backend 0 0 0 2 000 0 ? 0 1m49s DOWN 0 0 0 0 0 0 0 0 0 0 1 0

### okd\_http\_ingress\_frontend

		Queu	•			Session ra	te			Se	ssions			By	ytes	De	enied		Errors		Wa	rnings					Server				
	Cur	Мах	Lin	nit	Cur	Мах	Limit	Cur	Мах	Limit	Total	LbTot	Last	In	Out	Req	Resp	Req	Conn	Resp	Retr	Redis	Status	LastChk	Wght	Act	Bck	Chk	Dwn	Dwntme	Thrtle
Frontend					0	0		-	0	0 20.0	0 0	2		0	0	0	(	0 0					OPEN								

okd_http_ing	ress_bac	kend																												
		Queue	•		Session r	ate			Ses	sions			B	lytes	De	enied		Errors		W	arnings			Server						
	Cur	Max	Limit	Cur	Max	Limit	Cur	Max	Limit	Total	LbTot	Last	In	Out	Req	Resp	Req	Conn	Resp	Retr	Redis	Status	LastChk	Wght	Act	Bck	Chk	Dwn	Dwntme	Thrtle
okd-w-1	0	0	-	0	0		0	0	-	0	0		? 0	0		0		0	0	0	0	1m49s DOWN	L4TOUT in 2001ms	1/1	Y	-	1	1	1m49s	-
okd-w-2	0	0	-	0	0		0	0	-	0	0		? 0	0		0		0	0	0	0	1m49s DOWN	L4TOUT in 2001ms	1/1	Y	-	1	1	1m49s	-
okd-w-3	0	0	-	0	0		0	0	-	0	0		? 0	0		0		0	0	0	0	1m49s DOWN	L4TOUT in 2001ms	1/1	Y	-	1	1	1m49s	-
okd-w-4	0	0	-	0	0		0	0	-	0	0		? 0	0		0		0	0	0	0	1m49s DOWN	L4TOUT in 2003ms	1/1	Y	-	1	1	1m49s	-
Backend	0	0		0	0		0	0	2 000	0	0		? 0	0	0	0		0	0	0	0	1m49s DOWN		0/0	0	0		1	1m49s	



- We're going to set up an NFS server for registry storage.
- I added a second 200GB disk to the HAProxy machine, partitioned it, and formatted it with ext4.
- We'll export it using NFS.

Terminal - root@haproxy:~	^	_	×
File Edit View Terminal Tabs Help			
<pre>root@haproxy:~# mkdir /var/export</pre>			
root@haproxy:~# mount /dev/vdb1 /var/export			
Filesystem Size Used Avail Use% Mounted on			
/dev/vdb1 196G 2.1M 186G 1% /var/export			
root@haproxy:~#			

Terminal - root@haproxy:~	^ _	×
File Edit View Terminal Tabs Help		
<pre>File Edit View Terminal Tabs Help root@haproxy:~# tail -1 /etc/mtab /dev/vdb1 /var/export ext4 rw,seclabel,relatime 0 0 root@haproxy:~# tail -1 /etc/mtab &gt;&gt; /etc/fstab root@haproxy:~#</pre>		

Terminal - root@haproxy:~	^	· _ =	×
File Edit View Terminal Tabs Help			
<pre>root@haproxy:~# cat /etc/fstab</pre>			
#			
# /etc/fstab			
# Created by anaconda on Thu Apr 11 20:51:27 2024			
# # Accessible filesystems by reference are maintained under '/dey/d	dick/'		
# See man pages fstab(5). findfs(8). mount(8) and/or blkid(8) for mo	ore inf	ο.	
#			
<pre># After editing this file, run 'systemctl daemon-reload' to update s # upits generated from this file</pre>	systemd		
# units generated from this file.			
UUID=74050d47-aa78-42c5-8934-8fdb2f38ca37 / ex	xt4	defau	il
ts $11$	. + 4	1-5	
UUID=C3D0a8b5-1T0C-4Tba-8/1/-Tb045328da4/ /boot ex	KT4	deral	1
/dev/vdb1 /var/export ext4 rw,seclabel,relatime 0 0			
<pre>root@haproxy:~#</pre>			



Terminal - root@haproxy:~       Image: Content of Content o	×
File Edit View Terminal Tabs HelpRunning scriptlet: gssproxy-0.9.1-6.fc39.x86_644/5Installing: gssproxy-0.9.1-6.fc39.x86_644/5	
Running scriptlet:         gssproxy-0.9.1-6.fc39.x86_64         4/5           Installing         :         gssproxy-0.9.1-6.fc39.x86_64         4/5	
Installing : gssproxy-0.9.1-6.fc39.x86 64 4/5	
Running scriptlet: gssproxy-0.9.1-6.fc39.x86_64 4/5	
Running scriptlet: nfs-utils-1:2.6.4-0.rc5.fc39.x86_64 5/5	1
Installing : nfs-utils-1:2.6.4-0.rc5.fc39.x86_64 5/5	
Running scriptlet: nTs-utils-1:2.6.4-0.rc5.rc39.x86_64 5/5	
<pre>Created symlink /etc/systemd/system/multi-user.target.wants/nts-client.target → (uen/lib/ovetemd/ovetem/mfe_client_tenget)</pre>	
/usr/lib/systemu/system/nis-client.target. Created cymlink (atc/cyctomd/cyctom/romate fo target yantc/nfc client target . /	
usr/lib/systemd/systemu/system/remote-is.target.wants/mis-ttient.target → /	
usi / (ID/ systemu/ system) in s-ctient. turget.	
Verifying : assproxy-0.9.1-6.fc39.x86.64 1/5	
Verifying : libev-4.33-8.fc39.x86 64 2/5	
Verifying : libverto-libev-0.3.2-6.fc39.x86 64 3/5	
Verifying : nfs-utils-1:2.6.4-0.rc5.fc39.x86 64 4/5	
Verifying : rpcbind-1.2.6-4.rc3.fc39.x86_64 5/5	
Installed:	
gssproxy-0.9.1-6.fc39.x86_64 libev-4.33-8.fc39.x86_64	
libverto-libev-0.3.2-6.fc39.x86_64	
rpcbind-1.2.6-4.rc3.tc39.x86_64	
root@haproxy:~#	



Terminal - root@haproxy:~	^	_ 0	×
File Edit View Terminal Tabs Help			
<pre>root@haproxy:~# chown nobody:nobody /var/export/registry/ root@haproxy:.# chmod 777 /var/export/registry/</pre>			
root@haproxy:~# childd /// /var/export/registry/			



Terminal - root@haproxy:~	^ _ O X
File Edit View Terminal Tabs Help	
<pre>/var/export/registry 192.168.22.0/24(rw,root_squash,no_subtre </pre>	ee_check,no_wdela
y)	
~	
~	
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≥_					Terminal - root@haproxy:~	^ _	×
File	Edit	View	Terminal	Tabs	Help		
root	t@hap	roxy:	~# expo	ortfs	-rv 1. (var (oxport (rogistry		
root	t@hap	roxy:	~#	.0/2	4:/Val/export/registry		

Terminal - root@haproxy:~	^	-	o x
File Edit View Terminal Tabs Help			
<pre>root@haproxy:~# firewall-cmdzone=internaladd-service=nfsperman</pre>	ent		
success			
root@naproxy:~# Tirewall-cmdreload			
root@haproxy:~# firewall-cmdzone=internallist-services			
dhcp dhcpv6-client dns http https mdns nfs samba-client ssh			
root@haproxy:~#			

Terminal - root@haproxy:~		~	<u> </u>		×
File Edit View Terminal Tabs Help					
<pre>root@haproxy:~# firewall-cmdzone=internaladd-service=rpc-bind</pre>	1 1	perm	ane	nt	
SUCCESS					
success					
<pre>root@haproxy:~# firewall-cmdzone=internallist-services</pre>					
dhcp dhcpv6-client dns http https mdns nfs rpc-bind samba-client ss	sh				
root@haproxy:~#					
					U

Terminal - root@haproxy:~	^ _	×
File Edit View Terminal Tabs Help		
<pre>root@haproxy:~# firewall-cmdzone=internaladd-service=mountdp</pre>	ermanent	
SUCCESS		
success		
<pre>root@haproxy:~# firewall-cmdzone=internallist-services</pre>		
dhcp dhcpv6-client dns http https mdns mountd nfs rpc-bind samba-clie	nt ssh	
root@naproxy:~#		



Terminal - root@haproxy:~	~	• _	□ ×
File Edit View Terminal Tabs Help			
<pre>root@haproxy:~# mount 192.168.22.1:/var/export/registry /mnt root@haproxy:~# mount   grep registry 192.168.22.1:/var/export/registry on /mnt type nfs4 (rw,relatime,ver 524288,wsize=524288,namlen=255,hard,proto=tcp,timeo=600,retrans=2,se addr=192.168.22.1,local_lock=none,addr=192.168.22.1) root@haproxy:~#</pre>	s=4.2, c=sys,	rsi cli	ze= ent


#### NFS



Download the client and installer

- Download the installation and client software
  - openshift-client-linux
  - openshift-install-linux
- I used my desktop machine to download the client and installer





4.15.0-0.okd-2024-02-23-163410

### **Client and Install**



### **Client and Install**

۶_				Terr	ninal - sy	sadmi	n@jum	p:~/I	Down	nloads	okd					<u>^</u> .	- 0	×
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File Sysa - 03 - READ oc kube sysa sysa sysa tota - rwx Sysa	Edit 10-0 ME.m ectl idmin idmin idmin idmin idmin idmin	View @jump 10116 d @jump @jump 6760 -x. 1 -x. 1 @jump	Terminal :~/Down .tar.gz :~/Down :~/Down :~/Down .root r .root r :~/Down	Tabs	Help 5/0KD\$ 5/0KD\$ 5/0KD\$ 5/0KD\$ 1570572 1570572 5/0KD\$	tar sudo sudo ls - 288 A	zxvf inst inst l/us pr 11	ope tall tall sr/1 1 23	ensh l oc l ku loca 3:12 3:12	hift c /us ubect al/bi 2 <b>kul</b> 2 <b>cc</b>	-cli sr/lo tl / in/ bect	ent- ocal usr/ l	linux /bin/ local	-4.15	0.0-0.	okd -	20	24

### **Client and Install**

2_				Ter	rminal - sy	sadmin@ju	ump:~	-/Downl	oads/O	KD				^ _		×
File E	dit \	/iew	Termina	l Tabs	Help											
sysad	min@	jump	:~/Dov	vnload	s/OKD\$	tar zxv	vf op	penshi	ift-i	nstall	-linux	-4.15.	0-0.	okd	202	2
4-03-1	10-0	1011	6.tar.	gz												
READM	E.Mα ⊳ift	inc	+-11													
sysadi	min@	iumn	ιαιι ·~/Dow	nload	s/0KD¢	ni ohuz	nsta	11 on4	nshi	ft_ins	tall /	usr/lo	cal/	'hin/	/	
sysadi	nin@	iump	:~/Dow	nload	s/OKDS	ls -l	/usr	/local	l/bin	/	cace ,	u317 CC	/cut/	0111/		
total	971	416	, , , , , , , , , , , , , , , , , , , ,		(0) 0110 <b>Q</b>		ao.,	,	c, 13 111	,						
-rwxr	-xr-	x. 1	root	root	1570572	288 Apr	$11^{-2}$	23:12	kube	ctl						
-rwxr	-xr-	x. 1	root	root	1570572	288 Apr	11	23:12	oc							
-rwxr	-xr-	x. 1	root	root	680601	624 Apr	11	23:13	open	shift-	instal	.1				
sysadi	nin@	jump	:~/Dow	nload	ls/OKD\$											

Create the installconfig.yaml file

- You can download the template from the documentation site: https://github.com/openshift/installer/blob/master/docs/user/customiza tion.md
- I used the one from Ryan's repository, and modified it a little bit for OKD vs. OpenShift

## install-config.yaml

▶_				Т	erminal	- s	ysadmin@jum	np:~/Dow	nloads		<u>^</u> _	. 🗆	×
File	Edit	View	Terminal	Tabs	Help								
sys	admir	n@jump	o:~/Down	lload	s\$ vi	i	stall-con	nfig.ya	ml				
													11
													11
													н.
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													н.
													н.
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													11
													11
													н.
													н.
													н.

# install-config.yaml

Terminal - sysadmin@jump:~/Downloads		<u> </u>		×
File Edit View Terminal Tabs Help				
apiVersion: v1				
baseDomain: okd.lan				н.
compute:				н.
- hyperinreading: Enabled				н.
replicas: 0 # Must be set to 0 for User Provisioned Installation as	we	orke	r r	
odes will be manually deployed.		/11/0		
controlPlane:				н.
hyperthreading: Enabled				н.
name: master				н.
replicas: 3				н.
metadata				н.
name: lab # Cluster name				н.
networking: 				н.
- cidr: 10.128 + 0.0/14				н.
hostPrefix: 23				н.
networkType: OVNKubernetes				н.
serviceNetwork:				н.
- 172.30.0.0/16				н.
platform:				н.
none: {}				
fips: false		-		
			ор	

# Grab your pull secret

- You **can** create a pull secret at https://console.redhat.com/openshift/install/pull-secret but it will register your cluster to Red Hat!
- Instead, you can use the string {"auths":{"fake": {"auth":"aWQ6cGFzcwo="}}} into your install-configure.yaml to bypass registration.

okd-project/okd: The self-managing, auto-upgrading, Kubernetes distribution for every	yone - Google Chrome	^ _ D >
🗿 Statistics Report for HAPr 🗴   🎧 Releases · okd-project/ok 🗴   📤 Clusters   Red Hat OpenS 🗴   🔗 Fedora CoreOS   The Fedo 🗴   🔗 Index of /ign	× 🕥 okd-project/okd: The self- × +	
→ C 🛱 😅 github.com/okd-project/okd#getting-started		다 ☆ 🖪 む 🖃 🚷 :

#### 🗅 Personal 🗋 Sparksoft

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- Developer centric tooling and console for building containerized applications on Kubernetes
  - Push source code to your Git repository and automatically deploy containerized applications.

### **Pull secret**

Terminal - sysadmin@jump:~/Downloads	<u>^ _</u>		×
File Edit View Terminal Tabs Help			
<pre>compute:     - hyperthreading: Enabled     name: worker     replicas: 0 # Must be set to 0 for User Provisioned Installation as w</pre>	/orke	er r	
odes will be manually deployed.			
<pre>controlPlane</pre>			н.
hyperthreading: Enabled			н.
name: master			н.
metadata:			н.
name: lab # Cluster name			н.
networking:			н.
clusterNetwork:			н.
- cidr: 10.128.0.0/14			н.
hostPrefix: 23			н.
networkType: OVNKubernetes			н.
serviceNetwork:			н.
- 172.30.0.0/16			н.
platform:			н.
none: {}			
<pre>Tips: Talse pullSecret:</pre>			
pullsecret: { auths :{ lake :{ auth : awyocorzewo= }}}			
7,1	6	66%	

#### Create an ssh key

Use ssh-keygen -t ecdsa -b 521

•

# ssh-keygen

Terminal - sysadmin@jump:~/Downloads	<u>^</u> _	. 🗆	×
File Edit View Terminal Tabs Help			
<pre>sysadmin@jump:~/Downloads\$ ssh-keygen -t ecdsa -b 521 Generating public/private ecdsa key pair. Enter file in which to save the key (/home/sysadmin/.ssh/id_ecdsa): Enter passphrase (empty for no passphrase): Enter same passphrase again: Your identification has been saved in /home/sysadmin/.ssh/id_ecdsa Your public key has been saved in /home/sysadmin/.ssh/id_ecdsa.pub The key fingerprint is: SHA256:FLbxL8SkgnKwjeq6GX2luzNzeK8WdV4NdWgGfSKwh2Q sysadmin@jump.aus.sp rp.io The key's randomart image is: +[ECDSA 521]+   . + E+    = @ oo *    + + . + * .* o     . 0 00  </pre>	arkso	ftco	
0			
1+. 00.0. +[SHA256]+			
sysadmin@jump:~/Downloads\$			

# ssh-keygen



# ssh-keygen

lerminal - sysadmin@jump:~/Downloads	^ _ U X
File Edit View Terminal Tabs Help	
replicas: 0 # Must be set to 0 for User Provisioned Installation a odes will be manually deployed.	is worker n∩
controlPlane:	
hyperthreading: Enabled	
name: master	
replicas: 3	
metadata:	
<b>name</b> : lab # Cluster name	
networking:	
clusterNetwork:	
- <b>cidr</b> : 10.128.0.0/14	
hostPrefix: 23	
<pre>networkType: OVNKubernetes</pre>	
serviceNetwork:	
- 172.30.0.0/16	
platform:	
none: {}	
fips: false	
<b>pullSecret</b> : '{"auths":{"fake":{"auth":"aWQ6cGFzcwo="}}}'	
<pre>shKey: 'ecdsa-sha2-nistp521 AAAAE2VjZHNhLXNoYTItbmlzdHA1MjEAAAAIbmlzd</pre>	HA1MjEAAAC
FBAFnPiaIR2mIa0Icub+v5xgYBB0WjN44bpiANdoI4wkDCLo60e0/DpH9Yobdq+P+w4TVT	n+06NNE6NJ
6nXeqebAJpQHah8E4rskJwjwGy6ZAocEz4vH8vXNfAyQvb/hEN/x6HV25X8ELE8l7GdroD	I8tzxjnNI1
Mj3zTOd3iiR2tZDfJBw== sysadmin@jump.aus.sparksoftcorp.io'	
24,1	Bot

• Note that when you create the installation files, it will nuke your installconfig.yaml file! So keep a copy of it if you want to re-deploy your cluster later.





If you don't want your control plane nodes to be scheduleable • Change the cluster-scheduler-02-config.yml so that mastersSchedulable is set to false

Terminal - sysadmin@jump:~/Downloads	<u>^</u> _	п×
File Edit View Terminal Tabs Help		
<pre>sysadmin@jump:~/Downloads\$ sed -i 's/mastersSchedulable: true/mastersSc : false/' okd-install/manifests/cluster-scheduler-02-config.yml sysadmin@jump:~/Downloads\$ cat okd-install/manifests/cluster-scheduler- .yml apiVersion: config.openshift.io/v1 kind: Scheduler metadata: creationTimestamp: null name: cluster spec: mastersSchedulable: false policy: name: "" status: {} sysadmin@jump:~/Downloads\$</pre>	hedula 02-con	ble fig

# Create the ignition files

• openshift-install create ignition-configs --dir okd-install





<pre>File Edit View Terminal Tabs Help Sysadmin@jump:~/Downloads\$ find okd-install/ okd-install/bootstrap.ign okd-install/master.ign okd-install/auth okd-install/auth okd-install/auth/kubeadmin-password okd-install/auth/kubeconfig okd-install/.openshift_install_state.json okd-install/.openshift_install.log sysadmin@jump:~/Downloads\$</pre>	P-	Terminal - sysadmin@jump:~/Downloads	^	-	×
<pre>sysadmin@jump:~/Downloads\$ find okd-install/ okd-install/ okd-install/metadata.json okd-install/master.ign okd-install/auth okd-install/auth/kubeadmin-password okd-install/auth/kubeconfig okd-install/.openshift_install_state.json okd-install/worker.ign okd-install/.openshift_install.log sysadmin@jump:~/Downloads\$</pre>	File	Edit View Terminal Tabs Help			
<pre>okd-install/ okd-install/bootstrap.ign okd-install/master.ign okd-install/auth okd-install/auth/kubeadmin-password okd-install/auth/kubeconfig okd-install/.openshift_install_state.json okd-install/worker.ign okd-install/.openshift_install.log sysadmin@jump:~/Downloads\$</pre>	sysa	admin@jump:~/Downloads\$ find okd-install/			
okd-install/bootstrap.ign okd-install/metadata.json okd-install/master.ign okd-install/auth okd-install/auth/kubeadmin-password okd-install/auth/kubeconfig okd-install/.openshift_install_state.json okd-install/worker.ign okd-install/.openshift_install.log sysadmin@jump:~/Downloads\$	okd	-install/			
okd-install/master.ign okd-install/auth okd-install/auth/kubeadmin-password okd-install/auth/kubeconfig okd-install/.openshift_install_state.json okd-install/worker.ign okd-install/.openshift_install.log sysadmin@jump:~/Downloads\$	okd	-install/bootstrap.ign			
okd-install/auth okd-install/auth/kubeadmin-password okd-install/auth/kubeconfig okd-install/.openshift_install_state.json okd-install/worker.ign okd-install/.openshift_install.log sysadmin@jump:~/Downloads\$	0KQ ·	-install/metadata.json			
okd-install/auth/kubeadmin-password okd-install/auth/kubeconfig okd-install/.openshift_install_state.json okd-install/worker.ign okd-install/.openshift_install.log sysadmin@jump:~/Downloads\$	oku	-install/auth			
okd-install/auth/kubeconfig okd-install/.openshift_install_state.json okd-install/worker.ign okd-install/.openshift_install.log sysadmin@jump:~/Downloads\$	okd	-install/auth/kubeadmin-password			
okd-install/.openshift_install_state.json okd-install/worker.ign okd-install/.openshift_install.log sysadmin@jump:~/Downloads\$	okd	-install/auth/kubeconfig			
okd-install/worker.ign okd-install/.openshift_install.log sysadmin@jump:~/Downloads\$	okd	-install/.openshift_install_state.json			
okd-install/.openshift_install.log sysadmin@jump:~/Downloads\$	okd	-install/worker.ign			
sysadmin@jump:~/Downloads\$	okd∙	-install/.openshift_install.log			
	sysa	admin@jump:~/Downloads\$			

I am going to share my ignition files via web site • The permissions are wrong, though

# **Change permissions**

Terminal - sysadmin@jump:~/Downloads	^ _ O X
File Edit View Terminal Tabs Help	
<pre>sysadmin@jump:~/Downloads\$ ls -l okd-install/</pre>	
total 280	
drwxr-x 2 sysadmin sysadmin   4096 Apr 12 16:26 auth	
-rw-r 1 sysadmin sysadmin 269796 Apr 12 16:29 bootstrap.ign	
-rw-r 1 sysadmin sysadmin 1/13 Apr 12 16:29 master.ign	
-rw-r I sysadmin sysadmin 134 Apr 12 16:29 metadata.json	
-rw-r I sysadmin sysadmin 1/13 Apr 12 10:29 Worker.ign	
sysadmin@jump:~/Downloads\$ chmod 664 okd-install/* ison	
sysadmin@jump:~/Downloads\$ chmod 775 okd-install/auth/	
sysadmin@jump:~/Downloads\$ ls -1 okd-install/	
total 280	
drwxrwxr-x. 2 sysadmin sysadmin 4096 Apr 12 16:26 auth	
-rw-rw-r 1 sysadmin sysadmin 269796 Apr 12 16:29 bootstrap.ign	
-rw-rw-r 1 sysadmin sysadmin 1713 Apr 12 16:29 master.ign	
-rw-rw-r 1 sysadmin sysadmin 134 Apr 12 16:29 metadata.json	
-rw-rw-r 1 sysadmin sysadmin 1713 Apr 12 16:29 worker.ign	
sysadmin@jump:~/Downloads\$	

#### Copy the ign files to the web server

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In my case, it's just my workstation, but it could be anything which is available from the 192.168.22.0/24 network. In my case, my workstation is dual-homed. I could have done this on the haproxy machine, too.

dex of /ign - Google Chr			<u></u> (\$) (€) ↓ <sup>203</sup>
		Click to start dragging "Index of /ign - Goo	gle Chrome"
0	Index of /ign - Google Chrome		^ _
👻 🖸 GitHub - okd-project/okd: Th x 🛛 🕜 Fedora CoreOS   The Fedora 🗴 🗌 🚳 🛉	console-openshift-console.a 🗙 📔 G openshift bare metal - Goog 🗙 📔 📤 Makir	ng OpenShift on Bare 🕅 🗙 📀 Index of /ign	× +
← → C ⋒ ▲ Not secure 192.168.22.15/ign/			* 🖬 🗗 (
🗅 Personal 🕒 Sparksoft			
Index of /ign			
Name Last modified Size Description			
Darent Directory			
bootstrap.ign 2024-04-12 16:37 263K			
master.ign 2024-04-12 16:37 1.7K			
worker.ign 2024-04-12 16:37 1.7K			



#### Burn media

l use Brasero

•

#### **Burn DVD**

6	Image Burning Setup	^ _ O X		
Sele				
	🔯 os-39.20240322.3.1-live.x86_64.iso": 859.8 MB			
Select a disc to write to				
	◎ Blank DVD-R Disc: 3.8 GB of free space ▼	Roperties		
	X Cancel Burn Several Copies	Ø Burn		

#### **Burn DVD**

6	Burning DVD	^ _ O X
Image successfu	lly burned to DVD	
Success		859.8 MB
Average drive speed:		5468 KiB/s (4.0×)
	🗶 Close	Make More Copies

Boot your hardware off the FCOS ISO

- In this case, I'm using a physical drive attached to my NUCs, so I'm burning the image to a DVD drive.
- I'm also doing this in KVM virtual machines so I can capture screenshots.

# **Boot your nodes**



Sparksoft Corporation

Proprietary And Confidential Information

### **Boot your nodes**



Sparksoft Corporation

Proprietary And Confidential Information
# **Boot your nodes**



Sparksoft Corporation

Proprietary And Confidential Information

### **Boot your nodes**



Fedora CoreOS 39.20240309.3.0 Kernel 6.7.7-200.fc39.x86\_64 on an x86\_64 (tty1)

SSH host key: SHA256:mJyF42HwSM/CRtkOsF9/ej5cRIWFS+dmDiQAtSHaipI (ED25519) SSH host key: SHA256:T35ARGMbmQ706N9/5MjFVJJVHzWfSGPVTcDJ1eiTJrk (ECDSA) SSH host key: SHA256:TMd3FSGQBKJpjpWmBJMf0yZDQTOkFu4Mo4RYIUZDyMA (RSA) enp1s0: 192.168.22.200 fe80::cb14:904e:38e:e683 Ignition: ran on 2024/04/12 22:31:05 UTC (this boot) Ignition: no config provided by user No SSH authorized keys provided by Ignition or Afterburn okd-bootstrap login: core (automatic login)

### Fedora CoreOS 39.20240309.3.0

### 

Welcome to the CoreOS live environment. This system is running completely from memory, making it a good candidate for hardware discovery and installing persistently to disk. Here is an example of running an install to disk via coreos-installer:

sudo coreos-installer install /dev/sda 🔪

--ignition-url https://example.com/example.ign

You may configure networking via 'sudo nmcli' or 'sudo nmtui' and have that configuration persist into the installed system by passing the '--copy-network' argument to 'coreos-installer install'. Please run 'coreos-installer install --help' for more information on the possible install options.

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[core@okd-bootstrap ~]\$ sudo coreos-installer install /dev/vda -I http://192.168.22.15/ign/bootstrap.ign --insecure-ignition\_

Fedora CoreOS 39.20240309.3.0 Kernel 6.7.7–200.fc39.x86\_64 on an x86\_64 (tty1)

SSH host key: SHA256:VNEdwKmJ6svYqyzqLO0fnhYvS6fdPu84AYyzIKO3s+o (ECDSA) SSH host key: SHA256:KWgJjRXIUr2A7frIAdCw97FK4+7I2e3H0SiQBI+CIq0 (ED25519) SSH host key: SHA256:e2Ey0I5ituo3gFb2AHJeerv/yUy6CI8Yrt1hPOmUNUg (RSA) enp1s0: 192.168.22.201 fe80::2b3f:1fbf:8e45:f26b Ignition: ran on 2024/04/12 22:36:10 UTC (this boot) Ignition: no config provided by user No SSH authorized keys provided by Ignition or Afterburn okd-cp-1 login: core (automatic login)

Fedora CoreOS 39.20240309.3.0

### 

Welcome to the CoreOS live environment. This system is running completely from memory, making it a good candidate for hardware discovery and installing persistently to disk. Here is an example of running an install to disk via coreos-installer:

sudo coreos-installer install /dev/sda 🔪

--ignition-url https://example.com/example.ign

You may configure networking via 'sudo nmcli' or 'sudo nmtui' and have that configuration persist into the installed system by passing the '--copy-network' argument to 'coreos-installer install'. Please run 'coreos-installer install --help' for more information on the possible install options.

[core@okd-cp-1 ~]\$ sudo coreos-installer install /dev/vda -I http://192.168.22.15/ign/master.ign --insecure-ignition\_

Fedora CoreOS 39.20240309.3.0 Kernel 6.7.7–200.fc39.x86\_64 on an x86\_64 (tty1)

SSH host key: SHA256:Wh4evFoT0zk1PX+eG4/qLB3p66pKoCzm9pNNArNjvWE (ECDSA) SSH host key: SHA256:IDoZiD/v8No8zv2B8JjaZeFX9aUzR2LP627MIn5g48U (ED25519) SSH host key: SHA256:4UjpFsI1p/3HGakqRhhzT2c0a9fBQJIHcHIqKgvT5JQ (RSA) enp1s0: 192.168.22.211 fe80::52ee:6442:6946:d32f Ignition: ran on 2024/04/12 22:36:26 UTC (this boot) Ignition: no config provided by user No SSH authorized keys provided by Ignition or Afterburn okd-w-1 login: core (automatic login)

### Fedora CoreOS 39.20240309.3.0

### 

Welcome to the CoreOS live environment. This system is running completely from memory, making it a good candidate for hardware discovery and installing persistently to disk. Here is an example of running an install to disk via coreos-installer:

sudo coreos-installer install /dev/sda 🔪

--ignition-url https://example.com/example.ign

You may configure networking via 'sudo nmcli' or 'sudo nmtui' and have that configuration persist into the installed system by passing the '--copy-network' argument to 'coreos-installer install'. Please run 'coreos-installer install --help' for more information on the possible install options.

### 

[core@okd-w-1~]\$ sudo coreos-installer install /dev/vda -I http://192.168.22.15/ign/worker.ign --insecure-ignition\_

Fedora CoreOS 39.20240309.3.0 Kernel 6.7.7-200.fc39.x86\_64 on an x86\_64 (tty1)

SSH host key: SHA256:mJyF42HwSM/CRtkOsF9/ej5cRIWFS+dmDiQAtSHaipI (ED25519) SSH host key: SHA256:T35ARGMbmQ706N9/5MjFVJJVHzWfSGPVTcDJ1eiTJrk (ECDSA) SSH host key: SHA256:TMd3FSGQBKJpjpWmBJMf0yZDQTOkFu4Mo4RYIUZDyMA (RSA) enp1s0: 192.168.22.200 fe80::cb14:904e:38e:e683 Ignition: ran on 2024/04/12 22:31:05 UTC (this boot) Ignition: no config provided by user No SSH authorized keys provided by Ignition or Afterburn okd-bootstrap login: core (automatic login)

### Fedora CoreOS 39.20240309.3.0

### 

Welcome to the CoreOS live environment. This system is running completely from memory, making it a good candidate for hardware discovery and installing persistently to disk. Here is an example of running an install to disk via coreos-installer:

sudo coreos-installer install /dev/sda 🔪

--ignition-url https://example.com/example.ign

You may configure networking via 'sudo nmcli' or 'sudo nmtui' and have that configuration persist into the installed system by passing the '--copy-network' argument to 'coreos-installer install'. Please run 'coreos-installer install --help' for more information on the possible install options.

### 

[core@okd-bootstrap ~]\$ sudo coreos-installer install /dev/vda -I http://192.168.22.15/ign/bootstrap.ign --insecure-ignition
Installing Fedora CoreOS 39.20240309.3.0 x86\_64 (512-byte sectors)
> Read disk 2.5 GiB/2.5 GiB (100%)
Writing Ignition config
Install complete.
[core@okd-bootstrap ~]\$

### You can watch the installation

• openshift-install --dir okd-install bootstrap-complete --log-level=debug

# Watch the log



OK	]	Finished systemd-tmpfiles-setup-de∎ic Device Nodes in ∕dev gracefully.
		Starting <b>systemd-sysusers.service</b> – Create System Users
		Starting systemd-userdbd.service - User Database Manager
OK	]	Started systemd-userdbd.service - User Database Manager.
OK	]	Finished systemd-sysusers.service - Create System Users.
		Starting systemd-tmpfiles-setup-de∎eate Static Device Nodes in ∕dev
OK	]	Finished systemd-tmpfiles-setup-de∎Create Static Device Nodes in ∕dev.
OK	]	Reached target local-fs-pre.target=Preparation for Local File Systems.
		Mounting var.mount - /var
OK	]	Mounted var.mount - /var.
OK	]	Reached target machines.target - Containers.
		Starting ostree-remount.service - OSTree Remount OS/ Bind Mounts
OK	]	Finished ostree-remount.service - OSTree Remount OS/ Bind Mounts.
		Starting systemd-journal-flush.ser∎sh Journal to Persistent Storage
		Starting systemd-random-seed.service - Load/Save OS Random Seed
OK	]	Finished systemd-random-seed.service - Load/Save OS Random Seed.
OK	]	Finished systemd-hwdb-update.service - Rebuild Hardware Database.
		Starting systemd-udevd.service - R∎ager for Device Events and Files
OK	]	Finished systemd-journal-flush.ser∎lush Journal to Persistent Storage.
OK	]	Started systemd-udevd.service - Ru∎anager for Device Events and Files.
		Starting modprobe@configfs.service - Load Kernel Module configfs
		Starting modprobe@fuse.service - Load Kernel Module fuse
OK	]	Finished modprobe@configfs.service - Load Kernel Module configfs.
OK	]	Finished modprobe@fuse.service - Load Kernel Module fuse.

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  | 5 -<br>0 -   
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   | 1 644   | 1 112 541<br>0   | 0   | 0   |  
   | 0 0   | 4m16s UP<br>2h49m DOWN  | L4OK in 0ms<br>L4CON in 1ms  | 1/1<br>1/1  | Y -<br>Y -   
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   | 1 644<br>0<br>0<br>0<br>5 709   | 0<br>1 112 541<br>0<br>0<br>0<br>1 112 541   | 0<br>0<br>0<br>0<br>0<br>0  | 0<br>0<br>0<br>0<br>0<br>0<br>502   |  
   | 0         0           0         0           0         0           0         0           0         0           0         0           0         0   | 4m16s UP<br>2h49m DOWN<br>2h49m DOWN<br>2h49m DOWN<br>4m16s UP  | L4OK in Oms<br>L4OK in Oms<br>L4CON in Oms<br>L4CON in Oms   | 1/1<br>1/1<br>1/1<br>1/1<br>1/1<br>1/1  | Y -<br>Y -<br>Y -<br>Y -<br>1 0  
  | 1 1<br>1 1<br>1 1<br>1 1<br>1 1<br>1 1  | 2h44m<br>2h49m<br>2h49m<br>2h49m<br>2h49m<br>2h44m   | -   |
| okd-bool<br>okd-cj<br>okd-cj<br>okd-cj<br>Backe<br>okd_http  | strap         0         0         0           -1         0         0         0           -2         0         0         0           -3         0         0         0           ingress         frontend         Queue         Cur           Cur         Max         Limit   
   | Cont         Cont         Cont           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         8  
  |  
  | Linit         IO           5         -           0         -           0         -           5         2 000   
   | Image: Control of the second  | 4m12s<br>?<br>?<br>4m12s   | 1 644<br>0 0<br>0 0<br>5 709  | 0         0           0         0           1112 541         0           0         0           1112 541         0           9         0           1112 541         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0   | enied Resp Rec  
   | Conn  |  | 0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0
          0         0         0   | 4 m165 UP<br>2h49m DOWN<br>2h49m DOWN<br>2h49m DOWN<br>4m16s UP   | LastChk W  | 1/1<br>1/1<br>1/1<br>1/1<br>1/1<br>1/1<br>1/1<br>1/1<br>1/1   | Y -<br>Y -<br>Y -<br>Y -<br>1 0   | 1 1<br>1 1<br>1 1<br>1 1<br>1 1<br>1 1<br>1 1<br>1 1  | 2h44m<br>2h49m<br>2h49m<br>2h49m<br>2h44m  | Thrtle  |
| okd-bool<br>okd-cj<br>okd-cj<br>okd-cj<br>Backe<br>okd_http  | strap         0         0           -1         0         0           -2         0         0           -3         0         0           ingress         frontend            Cur         Max         Limit  
   | Control         Interference           -         0         3           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0  
  | Limit Cur<br>- 0<br>0<br>- 0<br>- 4<br>- 0   
  | Max         Limit         Ion           0         -  
   | Image: Constraint of the second sec  | 4m12s<br>?<br>?<br>4m12s<br>4m12s<br>LbTot   | 1 644<br>0<br>0<br>5 709<br>Last In<br>0<br>0   | Out         112 541           1         0           0         0           1         112 541           Systes         D           Out         Req           0         0   | enied 0  
  | Conn<br>Conn<br>Conn<br>Conn<br>Conn<br>Conn  | Resp         Resp  | Neturity           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0
        0           0         0           0         0           0         0           0         0           0         0  | Amilos UP<br>2h49m DOWN<br>2h49m DOWN<br>2h49m DOWN<br>4milos UP<br>iis Status<br>OPEN  | LastChk W  | 1/1                                           | Y         -           Y         -           Y         -           Y         -           I         0   | 1 1<br>1 1<br>1 1<br>1 1<br>1 1<br>1 1<br>1<br>1<br>Dwn   | 2h44m<br>2h49m<br>2h49m<br>2h49m<br>2h44m<br>Dwntme  |   |
| okd-bool<br>okd-cj<br>okd-cj<br>okd-cj<br>Backe<br>okd_http<br>Frontend  | strap 0 0 0<br>-1 0 0<br>-2 0 0<br>-3 0 0<br>ingress_frontend<br>Cur Max Limit<br>ingress_backend   
   | Control         China           -         0         3           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0   
  | Limit Cur<br>- 0<br>- 0<br>- 4<br>- 0<br>- 0<br>- 0<br>- 0   
  | Image: Second  
  | Lbfor           ?.         7           0         0           0         0           0         0           500         7           Sessions           t           Total           20 000         20  | Lust<br>4m12s<br>?<br>?<br>4m12s<br>LbTot  | 1 644<br>0 0<br>0 5 709   | Out         N           1 112 541         0           0         0           1 112 541         0           0         1 112 541           Bytes         D           Out         Req           0         0  | Q         100 pt           0         0           0         0           0         0  
   | Com     C | Resp         I   | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
  | Amilos UP<br>2h49m DOWN<br>2h49m DOWN<br>2h49m DOWN<br>4milos UP<br>is Status<br>OPEN   | LastOnin<br>L4CON in 0ms<br>L4CON in 0ms<br>L4CON in 0ms<br>L4CON in 0ms   | 1/1           1/1 | Y         -           Y         -           Y         -           Y         -           I         0   | 1 1<br>1 1<br>1 1<br>1 1<br>1 1<br>1 1<br>1<br>Dwn  | 2h44m<br>2h49m<br>2h49m<br>2h49m<br>2h44m<br>2h44m   | -<br>-<br>-<br>Thrtle   |
| okd-bool<br>okd-cj<br>okd-cj<br>okd-cj<br>Backe<br>okd_http<br>Frontend<br>okd_http  | strap 0 0 0<br>▶1 0 0<br>▶2 0 0<br>md 0 0<br>ingress_frontend<br>Cur Max Limit<br>Queue<br>Cur Max Limit  
   | Control         Control         Control           -         0         3           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         8           Cur         Max         I   
  | Limit Cur Maa  
  | Max         Limit         Io           0         -<  
   | Image: Control of the second secon   | Last   | ■ 1 644<br>0<br>0<br>5 709<br>■ Last In<br>■ 0<br>Bytes 0<br>In Out Re  | 0         0           0         0           0         0           1112 541         0           0         0           1112 541         0  | enied errors Reg Conn  
  | q         0           0         0           0         0           502         Errors           1         Conn           0         8   | Resp<br>Warnings<br>etr Redis  | Vertified of the second   
  | atuus suaus 4 m16s UP<br>2h49m DOWN<br>2h49m DOWN<br>2h49m DOWN<br>4 m16s UP<br>iis Status<br>OPEN  | LastChk LastChk LastChk LastChk LastChk LastChk LastChk LastChk  | 1/1           1/1           1/1           1/1           1/1           1/1           1/1           1/1           1/1           1/1           1/1           1/1           1/1           Server           Wght         Act   | Y         -           Y         -           Y         -           Y         -           I         0   | 1 1<br>1 1<br>1 1<br>1 1<br>1 1<br>1 1<br>1<br>Dwn  | 2h44m<br>2h49m<br>2h49m<br>2h49m<br>2h44m<br>Dwntme  | -<br>-<br>-<br>Thrtle   |
| okd-bool<br>okd-cj<br>okd-cj<br>okd-cj<br>Backe<br>okd_http<br>Frontend<br>okd_http  | strap 0 0 0<br>→1 0 0<br>→2 0 0 0<br>→3 0 0 0<br>ingress frontend<br>Cur Max Limit<br>ingress backend<br>Queue<br>Cur Max Limit   
   | Control         Control         Control           -         0         3           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0   
  | Limit Cur May<br>Cur May<br>Cur May  
  | Max         Limit         Io           0         -<  
   | Image: Control of the second  | Last<br>0 ?<br>Last<br>0 ?<br>0 ?<br>0 ?<br>0 ?<br>0 ?<br>0 ?<br>0 ?<br>0 ?  | In 644         0           0         0           0         5709           Last         In           Bytes         0           In         Out           0         0  | Out         I           1         112         541           0         0         0           1         112         541           Bytes         D           Out         Req         0           Denied         Resp         1  |   
   | Q 00mm<br>0<br>0<br>502<br>Errors<br>0<br>0<br>Resp R<br>0  | Resp           0           0           0           0           0   | 0 0 0<br>0 0 0<br>0 0 0<br>0 0 0<br>0 0 0<br>0 0 0<br>0 0 0<br>0 0 0<br>0 0 0 0<br>0 0 0 0 0<br>0 0 0 0 0 0<br>0 0 0 0 0 0 0<br>0 0 0 0 0 0 0 0 0 0 0<br>0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0   | atus status 4 m16s UP<br>2h49m DOWN<br>2h49m DOWN<br>2h49m DOWN<br>4m16s UP<br>is Status<br>OPEN  | LastChk W<br>LastChk W<br>LastChk W  | 1/1           1/1           1/1           1/1           1/1           1/1           1/1           1/1           1/1           Server           Wght         Act           1/1         Y   | Y         -           Y         -           Y         -           Y         -           Y         -           Y         -           Y         -           Y         -           Y         -           Bck         Chk   | 1 1<br>1 1<br>1 1<br>1 1<br>1 1<br>1 1<br>1 1<br>1 1  | 2h44m<br>2h49m<br>2h49m<br>2h49m<br>2h44m<br><b>Dwntme</b><br>2h49m  | Thrtle  |
| okd-bool<br>okd-cy<br>okd-cy<br>okd-cy<br>Backe<br>okd_http<br>Frontend<br>okd_http<br>okd_http<br>okd-w-1<br>okd-w-2<br>okd-w-2   | Strap         0         0         0           -1         0         0         0           -2         0         0         0           -3         0         0         0           ingress         frontend   
   | Control         Max         Limit           -         0         3           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0   
  | Limit - 0<br>Cur Max<br>- 0<br>- 0<br>- 0<br>- 0<br>- 0<br>- 0<br>- 0<br>- 0   
  | Max         Limit         Io           0         -         -           0         -         -           0         -         -           5         2 000         -           5         2 000         -           0         -         -           0         -         -           1         0         -           2         0         -           0         -         -           0         -         -           0         -         -   
   | Control         Control <t< td=""><td>4m12s<br/>?<br/>?<br/>?<br/>?<br/>4m12s<br/>LbTot<br/>2</td><td>III 644<br/>0<br/>0<br/>5 709<br/>Last In<br/>III 0<br/>Bytes 0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0</td><td>Out         I           1         112         541           0         0         0           1         112         541           Systes         D         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0</td><td>Resp         Resp           Resp         Resp           Resp         0</td><td>Q 00mm<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0<br/>0</td><td>Resp         Resp           0         0           0         0           0         0           0         0</td><td>0 0 0<br/>0 0 0<br/>0 0 0<br/>0 0 0<br/>0 0 0<br/>Warnings<br/>Retr Red<br/>2h49r<br/>0 2h49r<br/>0 2h49r</td><td>Amilos UP 2h49m DOWN 2h49m DOWN 2h49m DOWN 4milos UP  iis Status OPEN in DOWN h DOWN</td><td>LastChk II Oms L4CON in Oms L4CON in Oms L4CON in Oms L4CON in Ims L4CON in Ims L4CON in Oms L4C</td><td>Vi         Vi           1/1         1/1           1/1         1/1           1/1         1/1           1/1         1/1           Server         Wght         Act           1/1         Y         1/1           1/1         Y         1/1</td><td>Y         -           Y         -           Y         -           Y         -           Y         -           Y         -           Y         -           Bck         Chk</td><td>1 1<br/>1 1<br/>1 1<br/>1 1<br/>1 1<br/>1 1<br/>1 1<br/>1<br/>Dwn 1<br/>1 1<br/>1 1<br/>1 1<br/>1 1<br/>1 1<br/>1 1<br/>1 1</td><td>2h44m<br/>2h49m<br/>2h49m<br/>2h49m<br/>2h44m<br/><b>Dwntme</b><br/>2h49m<br/>2h49m<br/>2h49m</td><td>-<br/>-<br/>-<br/>-<br/>Thrtle<br/>-<br/>Thrtle<br/>-<br/>-</td></t<> | 4m12s<br>?<br>?<br>?<br>?<br>4m12s<br>LbTot<br>2   | III 644<br>0<br>0<br>5 709<br>Last In<br>III 0<br>Bytes 0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | Out         I           1         112         541           0         0         0           1         112         541           Systes         D         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0   | Resp         Resp           Resp         Resp           Resp         0   
  | Q 00mm<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   | Resp         Resp           0         0           0         0           0         0           0         0  | 0 0 0<br>0 0 0<br>0 0 0<br>0 0 0<br>0 0 0<br>Warnings<br>Retr Red<br>2h49r<br>0 2h49r<br>0 2h49r  
   | Amilos UP 2h49m DOWN 2h49m DOWN 2h49m DOWN 4milos UP  iis Status OPEN in DOWN h DOWN  | LastChk II Oms L4CON in Oms L4CON in Oms L4CON in Oms L4CON in Ims L4CON in Ims L4CON in Oms L4C | Vi         Vi           1/1         1/1           1/1         1/1           1/1         1/1           1/1         1/1           Server         Wght         Act           1/1         Y         1/1           1/1         Y         1/1   | Y         -           Y         -           Y         -           Y         -           Y         -           Y         -           Y         -           Bck         Chk   | 1 1<br>1 1<br>1 1<br>1 1<br>1 1<br>1 1<br>1 1<br>1<br>Dwn 1<br>1 1<br>1 1<br>1 1<br>1 1<br>1 1<br>1 1<br>1 1  | 2h44m<br>2h49m<br>2h49m<br>2h49m<br>2h44m<br><b>Dwntme</b><br>2h49m<br>2h49m<br>2h49m                                  | -<br>-<br>-<br>-<br>Thrtle<br>-<br>Thrtle<br>-<br>-   |
| okd-bool<br>okd-cj<br>okd-cj<br>okd-cj<br>Backe<br>okd_http<br>Frontend<br>okd_http<br>okd-w-1<br>okd-w-2<br>okd-w-3<br>okd-w-3  | strap     0     0       >-1     0     0       >-2     0     0       >-3     0     0       ingress     frontend     1       Ingress     frontend   
   | Curr         Max         Limit           -         0         3           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           0         0         0           0         0         0  
  | Limit Cur<br>- 0<br>- 0<br>- 0<br>- 0<br>- 0<br>- 0<br>- 0<br>- 0  
  | Max         Limit         Io           0         -<  
   | Lbfor  | 4m12s<br>?<br>?<br>?<br>?<br>4m12s<br>4m12s<br>2<br>•<br>•<br>•<br>•<br>•<br>•<br>•<br>•<br>•<br>•<br>•<br>•<br>•<br>•<br>•<br>•<br>•  | III 644<br>1 644<br>0<br>0<br>5 709<br>1<br>1 Last In<br>1<br>1<br>1<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   
   | Out         I           1         112         541           0         0         0           1         112         541           Bytes         D         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0  | q         (kep)         0           0         0         0           0         0         0           0         0         0   | q         00ml           0         0           0         0           0         502  | Resp         Redis           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -   
   | 0 0 0<br>0 0 0<br>0 0 0<br>0 0 0<br>Warnings<br>Retr Red<br>St<br>2h49r<br>0 2h49r<br>0 2h49r<br>0 2h49r  | attus         attus           4m165 UP         2h49m DOWN           2h49m DOWN         2h49m DOWN           2h49m DOWN         4m16s UP           iis         Status           OPEN         0PEN           in DOWN  | LastChk II Oms<br>L4CON in Oms<br>L4CON in Oms<br>L4CON in Oms<br>L4CON in Ims<br>L4CON in Oms<br>L4CON in Oms<br>L4CON in Oms<br>L4CON in Oms   | YI           1/1           1/1           1/1           1/1           1/1           1/1           1/1           1/1           Server           Wight         Act           1/1         Y   | Y     -       Y     -       Y     -       Y     -       I     0  
                          | 1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1             | 2h44m<br>2h49m<br>2h49m<br>2h49m<br>2h44m<br><b>Dwntme</b><br>2h44m<br>2h49m<br>2h49m<br>2h49m<br>2h49m                | Thrtle  |
| okd-bool<br>okd-cj<br>okd-cj<br>Backe<br>okd_http<br>Frontend<br>okd_http<br>okd_http<br>okd-w-1<br>okd-w-2<br>okd-w-3<br>okd-w-4<br>Backend   | strap 0 0 0<br>→1 0 0<br>→2 0 0<br>→3 0 0 0<br>ingress for tend<br>ingress backend<br>ingress backend<br>Cur Max Limit<br>0 0 0<br>0 0 0<br>0 0 0<br>0 0 0<br>0 0 0   
   | Curr         Max         Limit           -         0         3         -           -         0         0         -         -           -         0         0         -         -         -           -         0         0         0         - <td< td=""><td>Limit - 0<br/>Cur Max<br/>- 0<br/>- 0<br/>- 0<br/>- 0<br/>- 0<br/>- 0<br/>- 0<br/>- 0</td><td>Limit         IO           5         -           0         -           0         -           5         2 000           5         2 000           Max         Limit           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -</td><td>LbTot          </td><td>4m12s<br/>?<br/>?<br/>?<br/>4m12s<br/>4m12s<br/>LbTot<br/>2<br/>Last<br/>0<br/>?<br/>0<br/>?<br/>0<br/>?<br/>0<br/>?<br/>0<br/>?<br/>0<br/>?<br/>0<br/>?<br/>0<br/>?<br/>0<br/>?<br/>0<br/>?<br/>0<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?</td><td>I         644           0         0           0         0           5         709           Last         In           Last         In           O         0           0         0</td><td>Out         III2 541           1 112 541         0           0         0           1 112 541         0           Out         Req           0         0           Out         Req           0         0           0         0           0         0           0         0           0         0           0         0           0         0</td><td>q         (Cap)         0           0         0         0           0         0         0           0         0         0</td><td>q         0           q         0           q         0           q         502         Errors           Q         0         Resp     R           Q         0</td><td>Resp         0           0        </td><td>0 0 0<br/>0 0 0<br/>0 0 0<br/>0 0 0<br/><b>Warnings</b><br/><b>Retr Red</b><br/>0 2h49r<br/>0 2h49r<br/>0 2h49r<br/>0 2h49r</td><td>atus status 4 m165 UP<br/>2h49m DOWN<br/>2h49m DOWN<br/>2h49m DOWN<br/>4m16s UP<br/>is Status<br/>0 OPEN<br/>atus 00PEN<br/>a DOWN<br/>a DOWN<br/>b DOWN<br/>c DOWN<br/>c</td><td></td><td>Vit           1/1           1/1           1/1           1/1           1/1           1/1           1/1           1/1           Server           Wight         Act           1/1         Y           1/1         Y           1/1         Y           1/1         Y           1/1         Y           0/0         0</td><td>Y         -         I           Y         -         I           Y         -         I           Y         -         I           Y         -         I           I         0         I</td><td>1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1</td><td>2h44m<br/>2h49m<br/>2h49m<br/>2h44m<br/>2h44m<br/>2h44m<br/>2h49m<br/>2h49m<br/>2h49m<br/>2h49m<br/>2h49m</td><td></td></td<>   
   | Limit - 0<br>Cur Max<br>- 0<br>- 0<br>- 0<br>- 0<br>- 0<br>- 0<br>- 0<br>- 0  
   | Limit         IO           5         -           0         -           0         -           5         2 000           5         2 000           Max         Limit           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -  
  | LbTot  | 4m12s<br>?<br>?<br>?<br>4m12s<br>4m12s<br>LbTot<br>2<br>Last<br>0<br>?<br>0<br>?<br>0<br>?<br>0<br>?<br>0<br>?<br>0<br>?<br>0<br>?<br>0<br>?<br>0<br>?<br>0<br>?<br>0<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?   | I         644           0         0           0         0           5         709           Last         In           Last         In           O         0           0         0   | Out         III2 541           1 112 541         0           0         0           1 112 541         0           Out         Req           0         0           Out         Req           0         0           0         0           0         0           0         0           0         0           0         0           0         0   | q         (Cap)         0           0         0         0           0         0         0           0         0         0   
   | q         0           q         0           q         0           q         502         Errors           Q         0         Resp     R           Q         0   | Resp         0           0   | 0 0 0<br>0 0 0<br>0 0 0<br>0 0 0<br><b>Warnings</b><br><b>Retr Red</b><br>0 2h49r<br>0 2h49r<br>0 2h49r<br>0 2h49r   
  | atus status 4 m165 UP<br>2h49m DOWN<br>2h49m DOWN<br>2h49m DOWN<br>4m16s UP<br>is Status<br>0 OPEN<br>atus 00PEN<br>a DOWN<br>a DOWN<br>b DOWN<br>c |  | Vit           1/1           1/1           1/1           1/1           1/1           1/1           1/1           1/1           Server           Wight         Act           1/1         Y           1/1         Y           1/1         Y           1/1         Y           1/1         Y           0/0         0  | Y         -         I           Y         -         I           Y         -         I           Y         -         I           Y         -         I           I         0         I   | 1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1           1         1             | 2h44m<br>2h49m<br>2h49m<br>2h44m<br>2h44m<br>2h44m<br>2h49m<br>2h49m<br>2h49m<br>2h49m<br>2h49m                        |   |
| okd-bool<br>okd-cj<br>okd-cj<br>Backe<br>okd_http<br>Frontend<br>okd_http<br>okd-w-1<br>okd-w-2<br>okd-w-3<br>okd-w-4<br>Backend   | Strap         0         0         0           >1         0         0         0           >2         0         0         0           >3         0         0         0           ingress_frontend   
   | Cur         Max         Limit           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0   
  | Limit Cur<br>- 0<br>Cur Max<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0   
  | Max         Limi         T           0         -         -           0         -         -           0         -         -           5         2 000         -           Max         Limi         -           0         -         -           0         -         -           0         -         -           0         -         -           0         -         -           0         -         -           0         -         -           0         -         -           0         2 000         -  
   | Lbrot           Ω         0           Ω         0           Ω         0           Ω         0           Ω         0           Ω         0           Ω         0           Ω         0           Ω         0           Ω         0           Ω         0           Ω         0           Ω         0           Ω         0           Ω         0           Ω         0           Ω         0           Ω         0           Ω         0  | 4m12s<br>?<br>?<br>4m12s<br>?<br>4m12s<br>2<br><b>LbTot</b><br>2<br>2<br>0 ?<br>0 ?<br>0 ?<br>0 ?<br>0 ?<br>0 ?  
   | 1 644<br>0<br>0<br>5 709<br>► Last In<br>Last In<br>0<br>► Ver Re<br>0<br>0 0<br>0<br>0 0<br>0<br>0 0<br>0 0<br>0 0   | Out     1112 541       0     0       1112 541     0       1112 541     0       Out     Req       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0   | Resp         Ret           0         0           0         0           0         0           0         0  | Q         0           0         0           0         0           502         0   | Resp         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0        
0           0         0           0         0           0         0           0         0           0         0           0         0           0         0   | 0 0 0<br>0 0 0<br>0 0 0<br>0 0 0<br>0 0 0<br>Warnings<br>Retr Red<br>Variance<br>2 2h49n<br>0 2h49n<br>0 2h49n<br>0 2h49n<br>0 2h49n<br>0 2h49n   | Amilis UP  2h49m DOWN  2h49m DOWN  4mils  Status  OPEN  atus  DOWN  | LastChk L4CON in 1ms L4CON in 0ms L4CON in 0ms L4CON in 0ms L4CON in 1ms  | VII           1/1           1/1           1/1           1/1           1/1           1/1           Server           Wght         Act           1/1         Y           1/1         Y           1/1         Y           1/1         Y           1/1         Y           1/1         Y           0/0         0   | Y         -           Y         -           Y         -           Y         -           Y         -           Y         -           Y         -           Y         -           Y         -           P         -           Bck         Chk           Bck         Chk           -         -           -         -           0         -           Server         -  | 1 1<br>1 1<br>1 1<br>1 1<br>1 1<br>1 1<br>1 1<br>1 1  | 2h44m<br>2h49m<br>2h49m<br>2h49m<br>2h44m<br>2h44m<br>2h49m<br>2h49m<br>2h49m<br>2h49m<br>2h49m                        |   |
| okd-bool<br>okd-cj<br>okd-cj<br>Backe<br>okd_http<br>Frontend<br>okd_http<br>okd_w-1<br>okd-w-2<br>okd-w-2<br>okd-w-4<br>Backend   | strap     0     0       >1     0     0       >2     0     0       >3     0     0       ingress     frontend       Queue     Queue       Cur     Max     Limit       0     0     -   
   | Control         Max         Limit           -         0         3           -         0         0         -           -         0         0         -           -         0         0         -           -         0         0         -           -         0         0         -           -         0         0         -           -         0         0         -           -         0         0         -           -         0         0         -           -         0         0         -           -         0         0         -           0         0         0         -           0         0         0         -           0         0         0         -           0         0         0         -   
  | Limit Cur Max<br>Cur Max<br>Cur Max<br>Cur Max<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  
  | Max         Limit         Total           0         -         -           0         -         -           0         -         -           0         -         -           5         2 000         -           0         -         -           0         -         -           0         -         -           0         -         -           0         -         -           0         -         -           0         -         -           0         -         -           0         -         -           0         -         -           0         -         -           0         -         -           0         -         -           0         2 000         -  
   | Lb Total   | 4m12s<br>?<br>?<br>?<br>4m12s<br>4m12s<br>2<br>4m12s<br>2<br>2<br>4m12s<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2  
   | III 644<br>0<br>0<br>5 709<br>Last II<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0<br>0  | Out         I           1         112         541           0         0         0           1         112         541           Out         Req         0           0         0         0           Out         Req         0           0         0         0           Denied         0         0           0         0         0           Bytes         0         0           0         0         0           Bytes         0         0           0         0         0         0           0         0         0         0 | q         (Kesp)         N           0         0         0           0         0         0           0         0         0  | q         0           q         0           q         0           q         0           solar         0   | Resp         O           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0        
0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0   | 0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         2         0           0         2         2           0         2         2           0         2         2           0         2         2           0         2         2           0         2         2           0         2         2           0         2         4           0         2         1   | Status           4m165 UP           2h49m DOWN           2h49m DOWN           2h49m DOWN           4m16s UP   | LastChk II Oms<br>L4CON in Oms<br>L4CON in Oms<br>L4CON in Oms<br>L4CON in 1ms<br>L4CON in 1ms<br>L4CON in 1ms<br>L4CON in 1ms<br>L4CON in 1ms   | Vg/I           1/1           1/1           1/1           1/1           1/1           1/1           1/1           1/1           Server           Wght         Act           1/1         Y           0/0         0           Wght         Act   | Y         -           Y         -         1           Y         -         1           Y         -         1           Y         -         1           Bck         Chk           Bck         Chk           -         -           0         -           -         -           0         -           Server         -           Bck         Chk  
   | 1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1   | Dwntme Dwntme Dham Dham Dham Dham Dham Dham Dham Dham  | -<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>- |
| okd-bool<br>okd-cj<br>okd-cj<br>okd-cj<br>Backee<br>okd_http<br>Frontend<br>okd_http<br>okd-w-1<br>okd-w-2<br>okd-w-3<br>okd-w-4<br>Backend<br>okd_https                                       | strap 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0   
   | Corr         Max         Limit           -         0         3           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0  
  | Limit - Cur Max<br>- Q - 0<br>- Q - 0<br>- Q - 0<br>- 0<br>- 0<br>- 0<br>- 0<br>- 0<br>- 0<br>- 0  
  | Max         Limit         Total           0         - <td< td=""><td>Image: constraint of the second se</td><td>4m12s<br/>?<br/>?<br/>?<br/>4m12s<br/>2<br/>4m12s<br/>2<br/>2<br/>4m12s<br/>0<br/>2<br/>2<br/>0<br/>2<br/>0<br/>2<br/>0<br/>2<br/>0<br/>2<br/>0<br/>2<br/>0<br/>2<br/>0<br/>2<br/>0<br/>2</td><td>Index       1644       0       0       0       5709         Index       Index       Index       Out       Red       Out       Red       Out       Red       Out       Index       Index</td><td>Out     Introduct       1112 541     0       0     0       1112 541     0       Bytes     D       0     0       1112 541     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0</td><td>Near         Near           I         I&lt;</td><td>Q         Conn           0         0           0         0           0         502           Errors         8           0         0</td><td>Resp         Redis           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0</td><td>0         0         0           0         0         0         0           0         0         0         0         0           0         0         0         0         0           0         0         0         0         0           0         2         1         2         1           0         2         2         1        
1</td><td>status           4m116s UP           2h49m DOWN           2h49m DOWN           2h49m DOWN           4m16s UP           iis         Status           0PEN           n DOWN           status           Status           OPEN</td><td>LastChk UM<br/>LastChk UM<br/>LastChk UM<br/>LastChk UM<br/>LastChk UM<br/>LastChk L4CON in 1ms<br/>L4CON in 1ms<br/>L4CON in 1ms<br/>L4CON in 1ms</td><td>Vi         Vi           1/1         1/1           1/1         1/1           1/1         1/1           ght         Act           Server         Wght           1/1         Y           0/0         0</td><td>Y         -         I           Y         -         I           Y         -         I           Y         -         I           Y         -         I           Y         -         I           Y         -         I           Y         -         I           Bck         Chk         I           I         -         I           Bck         Chk         I           I         -         I           I         -         I           I         -         I           I         -         I           I         I         I           I         I         I           I         I         I           I         I         I           I         I         I           I         I         I           I         I         I           I         I         I           I         I         I           I         I         I           I         I         I      I         I         I     <!--</td--><td>1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1</td><td>2h44m<br/>2h49m<br/>2h49m<br/>2h44m<br/>2h44m<br/>2h44m<br/>2h49m<br/>2h49m<br/>2h49m<br/>2h49m<br/>2h49m<br/>2h49m<br/>2h49m</td><td>Thrtle</td></td></td<> | Image: constraint of the second se   | 4m12s<br>?<br>?<br>?<br>4m12s<br>2<br>4m12s<br>2<br>2<br>4m12s<br>0<br>2<br>2<br>0<br>2<br>0<br>2<br>0<br>2<br>0<br>2<br>0<br>2<br>0<br>2<br>0<br>2<br>0<br>2  | Index       1644       0       0       0       5709         Index       Index       Index       Out       Red       Out       Red       Out       Red       Out       Index       Index | Out     Introduct       1112 541     0       0     0       1112 541     0       Bytes     D       0     0       1112 541     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0   | Near         Near           I         I<   
  | Q         Conn           0         0           0         0           0         502           Errors         8           0         0   | Resp         Redis           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0   | 0         0         0           0         0         0         0           0         0         0         0         0           0         0         0         0         0           0         0         0         0         0           0         2         1         2         1           0         2         2         1   | status           4m116s UP           2h49m DOWN           2h49m DOWN           2h49m DOWN           4m16s UP           iis         Status           0PEN           n DOWN           status           Status           OPEN  
   | LastChk UM<br>LastChk UM<br>LastChk UM<br>LastChk UM<br>LastChk UM<br>LastChk L4CON in 1ms<br>L4CON in 1ms<br>L4CON in 1ms<br>L4CON in 1ms   | Vi         Vi           1/1         1/1           1/1         1/1           1/1         1/1           ght         Act           Server         Wght           1/1         Y           0/0         0   | Y         -         I           Y         -         I           Y         -         I           Y         -         I           Y         -         I           Y         -         I           Y         -         I           Y         -         I           Bck         Chk         I           I         -         I           Bck         Chk         I           I         -         I           I         -         I           I         -         I           I         -         I           I         I         I           I         I         I           I         I         I           I         I         I           I         I         I           I         I         I           I         I         I           I         I         I           I         I         I           I         I         I           I         I         I      I         I         I </td <td>1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1</td> <td>2h44m<br/>2h49m<br/>2h49m<br/>2h44m<br/>2h44m<br/>2h44m<br/>2h49m<br/>2h49m<br/>2h49m<br/>2h49m<br/>2h49m<br/>2h49m<br/>2h49m</td> <td>Thrtle</td> | 1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1   | 2h44m<br>2h49m<br>2h49m<br>2h44m<br>2h44m<br>2h44m<br>2h49m<br>2h49m<br>2h49m<br>2h49m<br>2h49m<br>2h49m<br>2h49m      | Thrtle  |
| okd-bool<br>okd-cj<br>okd-cj<br>Backee<br>okd_http<br>Frontend<br>okd_http<br>okd_w-1<br>okd-w-2<br>okd-w-3<br>okd-w-4<br>Backend<br>okd_https   | strap     0     0       >1     0     0       >2     0     0       >3     0     0       ingress     Queue       Cur     Max       Limit       0     0       ingress     Limit       0     0       0     0       ingress     Image: Cur       0     0       1     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0 <t< td=""><td>Cur         Max         Limit           0         0         0</td><td>Image         Image         <t< td=""><td>Limit         IO           5         -           0         -           0         -           5         2 000           5         2 000           Max         Limit           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         2 000</td><td>Image: constraint of the second se</td><td>4m12s<br/>?<br/>?<br/>?<br/>4m12s<br/>4m12s<br/>2<br/>4m12s<br/>0<br/>?<br/>4m12s<br/>0<br/>?<br/>2<br/>4m12s<br/>0<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?</td><td>I     644       0     0       0     0       5     709       I     Last     In       I     Out     R       0     0     0       0     0     0       0     0     0       0     0     0       0     0     0       0     0     0       0     0     0</td><td>Out         III2 541           0         0           0         1           11I2 541         0           Out         Req           0         0           Out         Req           0         0           O         0           O         0           O         0           O         0           O         0           O         0           O         0           O         0           Bytes         In           B36 380         0</td><td>q         Resp         0           0         0         0           0         0         0           0         0         0</td><td>Q         O           0         0           0         0           0         502           Resp         R           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0</td><td>Resp         Corr           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0</td><td>0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td><td>Amilos UP Amilos UP Amilo</td><td>LastChk LastChk LastChk LastChk LastChk LastChk L4CON in 1ms L4CON in 0ms L4CON in 0ms L4CON in 1ms L4CON in</td><td>Nyn           1/1           1/1           1/1           1/1           1/1           1/1           1/1           Server           Wght         Act           1/1         Y           1/1         Y           1/1         Y           1/1         Y           1/1         Y           0/10         0           Wght         Act</td><td>Y         -           Y         -         I           Y         -         I           Y         -         I           Y         -         I           I         0         I           Erver         Etck         Chk           Bck         Chk         I           I         -         I         I           Bck         Chk         I         I         I           I         <thi< th=""> <thi< th=""> <thi< th="">         &lt;</thi<></thi<></thi<></td><td>1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1</td><td>2h44m<br/>2h49m<br/>2h49m<br/>2h44m<br/>2h44m<br/>2h44m<br/>2h49m<br/>2h49m<br/>2h49m<br/>2h49m<br/>2h49m<br/>2h49m</td><td>-<br/>-<br/>-<br/>-<br/>Thrtle<br/>-<br/>-<br/>-<br/>-<br/>-<br/>-<br/>-<br/>-<br/>-</td></t<></td></t<> | Cur         Max         Limit           0         0         0  
   | Image         Image <t< td=""><td>Limit         IO           5         -           0         -           0         -           5         2 000           5         2 000           Max         Limit           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         2 000</td><td>Image: constraint of the second se</td><td>4m12s<br/>?<br/>?<br/>?<br/>4m12s<br/>4m12s<br/>2<br/>4m12s<br/>0<br/>?<br/>4m12s<br/>0<br/>?<br/>2<br/>4m12s<br/>0<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?</td><td>I     644       0     0       0     0       5     709       I     Last     In       I     Out     R       0     0     0       0     0     0       0     0     0       0     0     0       0     0     0       0     0     0       0     0     0</td><td>Out         III2 541           0         0           0         1           11I2 541         0           Out         Req           0         0           Out         Req           0         0           O         0           O         0           O         0           O         0           O         0           O         0           O         0           O         0           Bytes         In           B36 380         0</td><td>q         Resp         0           0         0         0           0         0         0           0         0         0</td><td>Q         O           0         0           0         0           0         502           Resp         R           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0</td><td>Resp         Corr           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0</td><td>0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td><td>Amilos UP Amilos UP Amilo</td><td>LastChk LastChk LastChk LastChk LastChk LastChk L4CON in 1ms L4CON in 0ms L4CON in 0ms L4CON in 1ms L4CON in</td><td>Nyn           1/1           1/1           1/1           1/1           1/1           1/1           1/1           Server           Wght         Act           1/1         Y           1/1         Y           1/1         Y           1/1         Y           1/1         Y           0/10         0           Wght         Act</td><td>Y         -           Y         - 
       I           Y         -         I           Y         -         I           Y         -         I           I         0         I           Erver         Etck         Chk           Bck         Chk         I           I         -         I         I           Bck         Chk         I         I         I           I         <thi< th=""> <thi< th=""> <thi< th="">         &lt;</thi<></thi<></thi<></td><td>1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1</td><td>2h44m<br/>2h49m<br/>2h49m<br/>2h44m<br/>2h44m<br/>2h44m<br/>2h49m<br/>2h49m<br/>2h49m<br/>2h49m<br/>2h49m<br/>2h49m</td><td>-<br/>-<br/>-<br/>-<br/>Thrtle<br/>-<br/>-<br/>-<br/>-<br/>-<br/>-<br/>-<br/>-<br/>-</td></t<> | Limit         IO           5         -           0         -           0         -           5         2 000           5         2 000           Max         Limit           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         -           0         2 000   | Image: constraint of the second se                                      
  | 4m12s<br>?<br>?<br>?<br>4m12s<br>4m12s<br>2<br>4m12s<br>0<br>?<br>4m12s<br>0<br>?<br>2<br>4m12s<br>0<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?   | I     644       0     0       0     0       5     709       I     Last     In       I     Out     R       0     0     0       0     0     0       0     0     0       0     0     0       0     0     0       0     0     0       0     0     0   | Out         III2 541           0         0           0         1           11I2 541         0           Out         Req           0         0           Out         Req           0         0           O         0           O         0           O         0           O         0           O         0           O         0           O         0           O         0           Bytes         In           B36 380         0   | q         Resp         0           0         0         0           0         0         0           0         0         0   
  | Q         O           0         0           0         0           0         502           Resp         R           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0  | Resp         Corr           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0  | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0   | Amilos UP Amilo   | LastChk LastChk LastChk LastChk LastChk LastChk L4CON in 1ms L4CON in 0ms L4CON in 0ms L4CON in 1ms L4CON in  | Nyn           1/1           1/1           1/1           1/1           1/1           1/1           1/1           Server           Wght         Act           1/1         Y           1/1         Y           1/1         Y           1/1         Y           1/1         Y           0/10         0           Wght         Act   | Y         -           Y         -         I           Y         -         I           Y         -         I           Y         -         I           I         0         I           Erver         Etck         Chk           Bck         Chk         I           I         -         I         I           Bck         Chk         I         I         I           I <thi< th=""> <thi< th=""> <thi< th="">         &lt;</thi<></thi<></thi<>   
   | 1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1   | 2h44m<br>2h49m<br>2h49m<br>2h44m<br>2h44m<br>2h44m<br>2h49m<br>2h49m<br>2h49m<br>2h49m<br>2h49m<br>2h49m               | -<br>-<br>-<br>-<br>Thrtle<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-                     |
| okd-bool<br>okd-cj<br>okd-cj<br>Backet<br>okd_http<br>Frontend<br>okd_http<br>okd-w-1<br>okd-w-2<br>okd-w-3<br>okd-w-4<br>Backend<br>okd_https<br>Frontend                                     | strap     0     0       >1     0     0       >2     0     0       >3     0     0       ingress     fontend       Cur     Max     Limit       ingress     0     0       Cur     Max     Limit       0     0     -       0     0     -       0     0     -       0     0     -       0     0     -       0     0     -       0     0     -       0     0     -       0     0     -       0     0     -       ingress     fortend       Cur     Max     Limit       ingress     backend  
   | Cur         Max         Limit           -         0         3           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           -         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0           0         0         0   
  | Limit Cur<br>- 0<br>- 0<br>- 0<br>- 0<br>- 0<br>- 0<br>- 0<br>- 0  
  | Limit         IO           5         -         -           0         -         -           0         -         -           0         -         -           5         2 000         -           0         -         -           0         -         0           0         -         -           0         -         -           0         -         -           0         -         -           0         -         -           0         -         -           0         2 000         -           10         2 000         -           10         2 000         -           10         2 000         -           10         2 000         -           10         2 000         -           10         2 000         -           10         2 000         -           10         2 000         -           10         2 000         -           10         2 000         -   
   | Image: constraint of the second se   | 4m12s<br>?<br>?<br>?<br>4m12s<br>4m12s<br>2<br>4m12s<br>0<br>?<br>4m12s<br>0<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?   |   | Out     1112 541       0     0       0     0       1112 541     0       Out     Req       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0  | q         Resp         0           0         0         0           0         0         0           0         0         0           enied         0         0           Resp         Resp         Resp           Reg         Conn         0           0         0         0           0         0         0   
  | q         0           q         0           q         0           q         502           Errors         Q           Q         0           Q         0           Q         0           Q         0           Q         0           Q         0           Q         0           Q         0           Q         0           Q         0           Q         0           Q         0           Q         0           Q         0  | Resp         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0   | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0   
   | Amilos UP Amilo   | LastChk         W           LastChk         W           LastChk         W           LastChk         W           LastChk         U           L4CON in 1ms         L4CON in 0ms           L4CON in 1ms         L4CON in 0ms           L4CON in 0ms         L4CON in 0ms           L4CON in 1ms         U  | Vg/h           1/1           1/1           1/1           1/1           1/1           1/1           1/1           1/1           Server           Wght         Act           1/1         Y           0/0         0           Wght         Act   | Y         -           Y         -           Y         -           Y         -           Y         -           I         0   erver           Bck         Chk           -         -           0         -           -         -           -         -           0         -           Server         -           Bck         Chk  | 1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1   | Dwntme Dwntme Dwntme Duntme |   |
| okd-bool<br>okd-cj<br>okd-cj<br>Backet<br>okd_rttp<br>Frontend<br>okd_http<br>okd-w-1<br>okd-w-2<br>okd-w-3<br>okd-w-3<br>okd-w-4<br>Backend<br>okd_https<br>Frontend<br>okd_https<br>Frontend | $\begin{tabular}{ c c c c }  c c c c c c c c c c c c c c $  
   | Curr         Max         Limit           -         0         -           -         0         0         -           -         0         0         -           -         0         0         -           -         0         0         -           -         0         0         -           -         0         0         -           -         0         0         -           -         Max         Limit         0           0         -0         -         -           0         0         0         -         -           0         0         0         -         -           0         0         0         -         -           0         0         0         -         -           0         0         0         -         -         -           0         0         68         -         -           Session rate         Limit         C         C           0         0         -         -         -   
  | Cur         Max           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0  
  | Limit         IO           5         -         -           0         -         -           0         -         -           0         -         -           5         2 000         -           0         -         -           0         -         -           0         -         -           0         -         -           0         -         -           0         -         -           0         -         -           0         -         -           0         2 000         -           10         2 000         -           10         2 000         -           10         2 000         -           10         2 000         -           10         2 000         -           10         2 000         -           10         2 000         -           10         2 000         -           10         2 000         -           10         2 000         -   
   | Image: Control of the sector of th   | 4m12s<br>?<br>?<br>?<br>4m12s<br>4m12s<br>2<br>4m12s<br>2<br>4m12s<br>0<br>?<br>4m12s<br>2<br>2<br>4m12s<br>2<br>2<br>4m12s<br>2<br>2<br>4m12s<br>2<br>2<br>4m12s<br>2<br>2<br>4m12s<br>2<br>2<br>4m12s<br>2<br>2<br>4<br>4m12s<br>2<br>2<br>4<br>4m12s<br>2<br>2<br>4<br>4<br>2<br>2<br>2<br>4<br>4<br>2<br>2<br>2<br>2<br>4<br>4<br>2<br>2<br>2<br>2 | I     644       0     0       0     0       1     0       0     0       1     Last     In       1     Last     In       1     Out     Re       0     0     0       0     0     0       0     0     0       0     0     0       0     0     0  | Out     1112 541       0     0       0     0       1112 541     0       Out     Req       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0  | Q         Reap         N           0         0         0           0         0         0           0         0         0           0         0         0           Resp         Resp         Resp           Req         Conn         0           0         0         0         0           0         0         0         0           0         0         0         0           0         0         0         0   
  | Q         Conn           0         0           0         0           0         502           Conn         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0   | Image: Non-Section of the section of the s | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0   
   | Arillos UP   | LastChk         W           LastChk         W           LastChk         W           LastChk         W           LastChk         W           LastChk         U  | Vg/h           1/1           1/1           1/1           1/1           1/1           1/1           Server           Wght         Act           1/1         Y           1/1         Y           1/1         Y           1/1         Y           1/1         Y           0/0         0           Wght         Act           Server         Wght           1/1         1/1           1/1         Y           0/0         0   | Y         -         I           Y         -         I           Y         -         I           Y         -         I           Y         -         I           Y         -         I           P         -         I           Bck         Chk         I           Image: Server         Image: Server         Image: Server           Server         Image: Server         Image: Server           Act         Bck         Chk  | 1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1       1     1   | Dwntme<br>2h49m<br>2h49m<br>2h49m<br>2h44m<br>2h49m<br>2h49m<br>2h49m<br>2h49m<br>2h49m<br>2h49m<br>2h49m              | - · · · · · · · · · · · · · · · · · · ·   |
| okd-bool<br>okd-cj<br>okd-cj<br>Backet<br>okd-titp<br>Frontend<br>okd-http<br>okd-w-1<br>okd-w-2<br>okd-w-3<br>okd-w-4<br>Backend  | strap     0     0       >1     0     0       >2     0     0       >3     0     0       ingress     0     0       ingress     Queue       Cur     Max     Limit       ingress     0     0       ingress     Queue     0       0     0     0       ingress     0     0       0     0     -       0     0     -       0     0     -       0     0     -       0     0     -       0     0     -       0     0     -       ingress     for tend       V     Queue       0     0       0     0       0     0       0     0       0     0       0     0       0     0   
   | Cur         Max         Limit           -         0         3           -         0         0         -           -         0         0         -           -         0         0         -           -         0         0         -           -         0         0         -           -         0         0         -           -         0         0         0           -         0         0         0           0         0         0         -           0         0         0         -           0         0         0         -           0         0         0         -           0         0         0         -           0         0         68         -           Session rate         Cur           Max         Limit         C           0         0         -         -           0         0         -         -           0         0         -         -           0         0         -         - </td <td>Cur         Max           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0</td> <td>Limit         IO           0         -         -           0         -         -           0         -         -           0         -         -           5         2 000         -           0         -         -           0         -         -           0         -         -           0         -         -           0         -         -           0         -         -           0         -         -           0         2 000         -           0         2 000         -           0         2 000         -           5         20 000         -           5         20 000         -           10         -         -           20         2 000         -           5         20 000         -           10         -         -           10         -         -           10         2 0000         -</td> <td>Image: Control of the sector of th</td> <td>4m12s<br/>?<br/>?<br/>4m12s<br/>?<br/>4m12s<br/>?<br/>4m12s<br/>?<br/>4m12s<br/>?<br/>?<br/>4m12s<br/>?<br/>?<br/>4m12s<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?<br/>?</td> <td>I     644       0     0       0     0       5     709       I     Last     In       Last     In       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0</td> <td>Out     1112 541       I     I112 541       Out     Reg       Out     Reg       I     III2 541       Out     Reg       Out     Reg       I     IIII2 541       State     Out       Out     Reg       I     IIIIII       I     Out       I     Reg       I     IIIIIII IIIII IIII IIII IIIIIIIIIIIII</td> <td>Q         RCSP         N           I         I         I<td>Q         O           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0</td><td>Normalization         Normalization           Q        </td><td>0 0 0<br/>0 0 0 0</td><td>A min6s UP 2h49m DOWN 2h49m DOWN 2h49m DOWN 4mi6s UP  iis Status 0 OPEN  iis OPEN  iis Status 0 OPEN  iiis Status 0 OPEN  iiii OWN 1 OWN 1 OWN 1 OWN 1 OWN 2h49m DOWN 2h49m DOWN 2h49m DOWN 2h49m DOWN 2h49m DOWN 2h49m DOWN</td><td>LastChk         W           LastChk         W           LastChk         W           LastChk         W           LastChk         W           LastChk         LastChk           L4CON in 1ms         L4CON in 0ms           L4CON in 0ms         L4CON in 0ms           L4CON in 1ms         U           LastChk         I           LastChk         I           L4CON in 0ms         L4CON in 0ms           L4CON in 0ms         L4CON in 0ms           L4CON in 0ms         L4CON in 0ms</td><td>Nght         Act           1/1         1/1           1/1         1/1           1/1         1/1           Server         Wght           Mght         Act           1/1         Y           1/1         Y           1/1         Y           1/1         Y           1/1         Y           0/0         0           Wght         Act           Ught         Act           1/1         Y           1/1         Y</td><td>Y         -         I           Y         -         I           Y         -         I           Y         -         I           Y         -         I           Y         -         I           P         -         I           Bck         Chk         I           Image: Server         Image: Server         Image: Server           Bck         Chk         Image: Server           Server         Image: Server         Image: Server           Act         Bck         Chk           Y         -         Image: Server</td><td>1     1       1     1</td><td>Dwntme<br/>2h44m<br/>2h49m<br/>2h49m<br/>2h44m<br/>2h49m<br/>2h49m<br/>2h49m<br/>2h49m<br/>2h49m<br/>2h49m<br/>2h49m</td><td>Thrtle</td></td> | Cur         Max           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0  
   
  | Limit         IO           0         -         -           0         -         -           0         -         -           0         -         -           5         2 000         -           0         -         -           0         -         -           0         -         -           0         -         -           0         -         -           0         -         -           0         -         -           0         2 000         -           0         2 000         -           0         2 000         -           5         20 000         -           5         20 000         -           10         -         -           20         2 000         -           5         20 000         -           10         -         -           10         -         -           10         2 0000         -  | Image: Control of the sector of th  
  | 4m12s<br>?<br>?<br>4m12s<br>?<br>4m12s<br>?<br>4m12s<br>?<br>4m12s<br>?<br>?<br>4m12s<br>?<br>?<br>4m12s<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?<br>?  | I     644       0     0       0     0       5     709       I     Last     In       Last     In       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0       0     0   | Out     1112 541       I     I112 541       Out     Reg       Out     Reg       I     III2 541       Out     Reg       Out     Reg       I     IIII2 541       State     Out       Out     Reg       I     IIIIII       I     Out       I     Reg       I     IIIIIII IIIII IIII IIII IIIIIIIIIIIII  | Q         RCSP         N           I         I         I <td>Q         O           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0</td> <td>Normalization         Normalization           Q        </td> <td>0 0 0<br/>0 0 0 0</td> <td>A min6s UP 2h49m DOWN 2h49m DOWN 2h49m DOWN 4mi6s UP  iis Status 0 OPEN  iis OPEN  iis Status 0 OPEN  iiis Status 0 OPEN  iiii OWN 1 OWN 1 OWN 1 OWN 1 OWN 2h49m DOWN 2h49m DOWN 2h49m DOWN 2h49m DOWN 2h49m DOWN 2h49m DOWN</td> <td>LastChk         W           LastChk         W           LastChk         W           LastChk         W           LastChk         W           LastChk         LastChk           L4CON in 1ms         L4CON in 0ms           L4CON in 0ms         L4CON in 0ms           L4CON in 1ms         U           LastChk         I           LastChk         I           L4CON in 0ms         L4CON in 0ms           L4CON in 0ms         L4CON in 0ms           L4CON in 0ms         L4CON in 0ms</td> <td>Nght         Act           1/1         1/1           1/1         1/1           1/1         1/1           Server         Wght           Mght         Act           1/1         Y           1/1         Y           1/1         Y           1/1         Y           1/1         Y           0/0         0           Wght         Act           Ught         Act           1/1         Y           1/1         Y</td> <td>Y         -         I           Y         -         I           Y         -         I           Y         -         I           Y         -         I           Y         -         I           P         -         I           Bck         Chk         I           Image: Server         Image: Server         Image: Server           Bck         Chk         Image: Server           Server         Image: Server         Image: Server           Act         Bck         Chk           Y         -         Image: Server</td> <td>1     1       1     1</td> <td>Dwntme<br/>2h44m<br/>2h49m<br/>2h49m<br/>2h44m<br/>2h49m<br/>2h49m<br/>2h49m<br/>2h49m<br/>2h49m<br/>2h49m<br/>2h49m</td> <td>Thrtle</td> | Q         O           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0           0         0   | Normalization         Normalization           Q  
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okd-bootstrap         0         0           okd-cp-1         0         0           okd-cp-2         0         0           okd-cp-3         0         0           Backend         0         0	out         max         clinit         total         clocal         clocal <thclocal< th="" thcoresided<="">         clocal</thclocal<>	Control         Control <t< td=""><td>Resp         Redis         Status           0         0         2         1         3m50s DOWN           0         0         0         0         8m UP           0         0         0         0         7m59s UP           0         0         0         0         7m52s UP           0         0         2         1         16m41s UP</td><td>LastChk         wight         Act         Bck         Chk         Dwn         Dwntme         Lintte           L4CON in 0ms         1/1         Y         -         4         2         2h48m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -</td></t<>	Resp         Redis         Status           0         0         2         1         3m50s DOWN           0         0         0         0         8m UP           0         0         0         0         7m59s UP           0         0         0         0         7m52s UP           0         0         2         1         16m41s UP	LastChk         wight         Act         Bck         Chk         Dwn         Dwntme         Lintte           L4CON in 0ms         1/1         Y         -         4         2         2h48m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -
okd-bootstrap         O         O           okd-cp-1         0         0           okd-cp-2         0         0           okd-cp-3         0         0           Backend         0         0	one         0         3         0         5         -         10         8           -         0         1         0         1         -         10         8           -         0         1         0         1         -         2         2           -         0         1         0         1         -         1         1           -         0         1         0         1         -         1         1           -         0         1         0         1         -         1         1           -         0         8         0         5         2000         513         12	Control         Control <t< td=""><td>Resp         Redit         Status           0         0         0         1         3m50s DOWN           0         0         0         0         8m UP           0         0         0         0         7m59s UP           0         0         0         0         7m52s UP           0         0         2         1         16m41s UP</td><td>LastChk         wight         Act         Bck         Chk         Dwn         Dwntme         Inftre           L4CON in 0ms         1/1         Y         -         4         2         2h43m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           3/3         3         0         1         2h44m         -         -         -</td></t<>	Resp         Redit         Status           0         0         0         1         3m50s DOWN           0         0         0         0         8m UP           0         0         0         0         7m59s UP           0         0         0         0         7m52s UP           0         0         2         1         16m41s UP	LastChk         wight         Act         Bck         Chk         Dwn         Dwntme         Inftre           L4CON in 0ms         1/1         Y         -         4         2         2h43m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           3/3         3         0         1         2h44m         -         -         -
okd-bootstrap         O         O           okd-cp-1         0         0           okd-cp-2         0         0           okd-cp-3         0         0           Backend         0         0	Curr         max         Limit         Otal         Limit         Iotal         Libit           -         0         3         0         5         10         8         8           -         0         1         0         1         -         2         2           -         0         1         0         1         -         1         1           -         0         1         0         1         -         1         1           -         0         1         0         1         -         1         1           -         0         1         0         5         2 000         513         12	3m50s         133 436         1189 125         0         0           3m50s         1096         734 922         0         0           3m53s         548         367 461         0         0           3m54s         548         367 461         0         5           3m50s         139 693         2 658 969         0         0         5	Resp         Retr         Redis         Status           0         0         2         1         3m50s DOWN           0         0         0         0         8m UP           0         0         0         0         7m59s UP           0         0         0         0         7m52s UP           0         0         2         1         16m41s UP	LastChk         Wight         Act         Bck         Chk         Dwn         Dwntme         Linttle           L4CON in 0ms         1/1         Y         -         4         2         2h48m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           3/3         3         0         1         2h44m         -         2h44m         -
okd-bootstrap         O         O           okd-cp-1         0         0           okd-cp-2         0         0           okd-cp-3         0         0           okd-ttp_ingress_frontend         0         0	Curr         Max         Limit         Odd         Limit         Iotal         Libit           -         0         3         0         5         -         10         8           -         0         1         0         1         -         2         2           -         0         1         0         1         -         1         1           -         0         1         0         1         -         1         1           -         0         1         0         5         2000         5133         12	3m50s         133 436         1189 125         0         0         0           3m50s         1096         734 922         0         0         0           3m50s         1096         734 922         0         0         0           3m53s         548         367 461         0         0         0         0           3m50s         139 693         2 658 969         0         0         5	Resp         Retr         Redis         Status           0         0         0         1         3m50s DOWN           0         0         0         0         8m UP           0         0         0         0         7m59s UP           0         0         0         0         7m52s UP           0         0         2         1         16m41s UP           S         Warnings         OPEN         OPEN	LastChk         Wight         Act         Bck         Chk         DWn         DWntme         Innte           L4CON in 0ms         1/1         Y         -         4         2         2h48m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           3/3         3         0         1         2h44m         -         2h44m         -
okd-bootstrap         old         max         Limit           okd-bootstrap         0         0         0           okd-cp-1         0         0         0           okd-cp-2         0         0         0           okd-cp-3         0         0         0           okd_http_ingress_trontend         Queue         Cur         Max         Limit           Frontend	Image: Constraint of the second se	3m50s         133 436         1189 125         0         0           3m50s         1096         734 922         0         0           3m53s         548         367 461         0         0           3m50s         139 693         2 658 969         0         0         5           Model         Model         Model         Model         Model         Model           3m50s         139 693         2 658 969         0         0         5           LbTot         Last         In         Out         Req         Resp         Req         Conn           0         0         0         0         0         0         0         0         0	Resp         Redit         Redits         Status           0         0         0         3m50s DOWN           0         0         0         8m UP           0         0         0         7m59s UP           0         0         0         7m52s UP           0         0         2         1         16m41s UP           s         Kernings         OPEN         OPEN	LastChk         Wight         Act         Bck         Chk         DWm         DWmm         Innte           L4CON in 0ms         1/1         Y         -         4         2         2h43m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           Sava         3/3         3         0         1         2h44m         -
okd-bootstrap         O         O           okd-bootstrap         0         0           okd-cp-1         0         0           okd-cp-3         0         0           okd-http_ingress_frontend         Queue           Cur         Max         Limit           okd_http_ingress_backend         Queue           Limit         Cur         Max	Curr         Max         Limit         Out         Max         Limit         Iotal         Librot         8           -         0         3         0         5         -         10         8         2         1          10         8         2         2          10          10         1          10         8          10         1          1	Total 33 436         Total 1189 125         0         O         O           3m50s         1096         734 922         0         0         0         0           3m53s         548         367 461         0         0         0         0         0           3m53s         548         367 461         0         0         0         0         0         5           3m50s         139 693         2 658 969         0         0         0         5           3m50s         Last         In         Out         Req         Resp         Req         Conn           0         O         0         0         0         0         0         0         0	Resp         Redis         Status           0	LastChk         Wght         Act         Bck         Chk         DWm         DWmme         Innte           L4CON in 0ms         1/1         Y         -         4         2         2h43m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         3/3         3         0         1         2h44m         -
okd-bootstrap         oki         max         Limit           okd-cp-1         0         0         0           okd-cp-2         0         0         0           okd-cp-3         0         0         0           okd_cp-3         0         0         0           okd_http_ingress_frontend         Queue         Cur         Max         Limit           Frontend         Cur         Max         Limit         Limit           okd_http_ingress_backend         O         0         -         -	Curr         Max         Limit         Out         max         Limit         Iotal         Libit         Iotal         Iotal         Iotal	3m50s         1133 436         1189 125         0         0         0           3m50s         1 096         734 922         0         5         3         3         548         367 461         0         0         0         0         5         3         3         548         367 461         0         0         0         5         3         548         367 461         0         0         0         5	Kesp         Redit         Redits         Status           0         0         2         1         3m50s DOWN           0         0         0         0         8m UP           0         0         0         0         7m59s UP           0         0         0         0         7m52s UP           0         0         2         1         16m41s UP             s         Ketr         Redis         Status           O         0         0         0PEN	LastChk         Wght         Act         Bck         Chk         Dwn         Dwntme         Intrie           L4CON in 0ms         1/1         Y         -         4         2         2h43m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           3/3         3         0         -         1         1         2h44m         -
okd-bootstrap         O         O           okd-cp-1         0         0           okd-cp-2         0         0           okd-cp-3         0         0           okd-ttp-ingress         frontend           Cur         Max         Limit           Frontend         Cur         Max         Limit           okd_http_ingress_backend         0         0	Curr         Max         Limit         Out         max         Limit         Iotal         Libit         Iotal         Iotal         Iotal	3m50s         1138         3df         1189         125         0         5         3         3         3         3         5         5         3         3         5         4         3         67         461         0         0         0         5         3         3         3         3         9         2         6         8         3         67         461         0         0         0         5         3         3         9         3         3         6         3         3         6         3         3         6         3         3         3         3         3         3         3         3         3         3         3         3         3         3         3         3	Resp         Redis         Status           0         2         1         3m50s DOWN           0         0         0         0         8m UP           0         0         0         0         7m59s UP           0         0         0         0         7m52s UP           0         0         2         1         16m41s UP	LastChk         Wight         Act         Bck         Chk         Dwnme         Dwntme         Initie           L4QCN in 0ms         1/1         Y         -         4         2         2h43m         -           L4QK in 0ms         1/1         Y         -         1         1         2h53m         -           L4QK in 0ms         1/1         Y         -         1         1         2h53m         -           L4QK in 0ms         1/1         Y         -         1         1         2h53m         -           L4QK in 0ms         1/1         Y         -         1         1         2h53m         -           L4QK in 0ms         1/1         Y         -         1         1         2h53m         -           3/3         3         0         1         2h44m         -         2h44m         -
okd-bootstrap         O         Image         O           okd-cp-1         0         0         0           okd-cp-2         0         0         0           okd-cp-3         0         0         0           okd-ttp_ingress_frontend         Queue         Cur         Max         Limit           Frontend         Cur         Max         Limit           okd-http_ingress_backend         0         0         -           okd-w-1         0         0         -         -           okd-w-2         0         0         -         -           okd-w-3         0         0         -         -           okd-w-4         0         0         -         -	$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	Resp         Retr         Redis         Status           0         0         2         1         3m50s DOWN           0         0         0         0         8m UP           0         0         0         0         7m59s UP           0         0         0         0         7m52s UP           0         0         2         1         16m41s UP	LastChk         Wight         Act         Bck         Chk         Dwm         Dwmme         Intrie           L4OK in Oms         1/1         Y         -         4         2         2h43m         -           L4OK in Oms         1/1         Y         -         1         1         2h53m         -           L4OK in Oms         1/1         Y         -         1         1         2h53m         -           L4OK in Oms         1/1         Y         -         1         1         2h53m         -           L4OK in Oms         1/1         Y         -         1         1         2h53m         -           L4OK in Oms         1/1         Y         -         1         1         2h53m         -           L4OK in Oms         1/1         Y         -         1         1         2h53m         -           LastChk         Wght         Act         Bck         Chk         Dwn         Dwntme         Thrtle           L4CON in Oms         1/1         Y         -         1         1         3h1m         -           L4CON in Oms         1/1         Y         -         1         1         3h1m
okd-bootstrap         oki         instance         instance           okd-cp-1         0         0         0           okd-cp-2         0         0         0           okd-cp-3         0         0         0           okd-cp-3         0         0         0           okd-trp ingress         frontend         0         0           okd_http_ingress_backend         Queue         Limit           okd_http_ingress_backend         0         0         -           okd-w-1         0         0         -         -           okd-w-2         0         0         -         -           okd-w-4         0         0         -         -			Resp         Redus         Status           0         ···         0         ···         3m50s DOWN           0         ···         0         ···         3m50s DOWN           0         ···         ···         3m UP         ···           0         ···         ···         7m59s UP         ···           0         ···         ···         7m52s UP         ···           0         ···         ···         16m41s UP         ···           s         Resv         Retr         Redis         Status         OPEN           Retr         Redis         Status         OPEN         ···           0         ···         ···         ···         ···         ···           0         ···         ···         ···         ···         ···           0         ···         ···         ···         ···         ···           0         ···         ···         ···         ···         ···           0         ···         ···         ···         ···         ···           0         ···         ···         ···         ···         ···           0         ···	LastChk         Wght         Act         Bck         Chk         DWn         DWntme         Initie           L4CON in 0ms         1/1         Y         -         4         2         2h48m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           JAOK in 0ms         1/1         Y         -         1         1         2h44m         -           LAOK in 0ms         Mght         Act         Bck         Chk         Dwn         Dwntme         Thrtle           LastChk         Wght         Act         Bck         Chk         Dwn         Dwntme         Thrtle           L4CON in 0ms         1/1         Y         -         1<
okd-bootstrap         old         max         Limit           okd-cp-1         0         0         0           okd-cp-2         0         0         0           okd-cp-3         0         0         0           okd-cp-3         0         0         0           okd-http_ingress_frontend         Queue         Cur         Max         Limit           okd_http_ingress_backend         0         0         -         -           okd_http_ingress_backend         Cur         Max         Limit           okd-wr-1         0         0         -         -           okd-w-2         0         0         -         -           okd-w-3         0         0         -         -           okd-w-4         0         0         -         -           okd-w-4         0         0         -         -           okd-typs_ingress_frontend         0         0         -         -	Cur         Max         Curr         Total         Total         Total         Curr         Max         Limit         Total         Curr         Max         Limit         Total         Limit         Total         Limit         Curr         Max         Limit         Curr         Curr         Max         Limit         Curr         Curr         Max         Limit	3m50s         133 436         1189 125         0	Nesp         Redit         Redits         Status           0         0         2         1         3m50s DOWN           0         0         0         0         3m UP           0         0         0         0         7m59s UP           0         0         0         0         7m52s UP           0         0         2         1         16m41s UP           s         Kerr         Redis         Status         OPEN           Retr         Redis         Status         OPEN           Retr         Redis         Status         OPEN           0         0         3h1m DOWN         I	LastChk         Wight         Act         Bck         Chk         DWm         DWmme         Intrie           L4OCN in Oms         1/1         Y         -         4         2         2h48m         -           L4OK in Oms         1/1         Y         -         1         1         2h53m         -           L4OK in Oms         1/1         Y         -         1         1         2h53m         -           L4OK in Oms         1/1         Y         -         1         1         2h53m         -           L4OK in Oms         1/1         Y         -         1         1         2h53m         -           JAOK in Oms         1/1         Y         -         1         1         2h53m         -           JAOK in Oms         1/1         Y         -         1         1         2h44m         -
okd-bootstrap         O         O           okd-cp-1         0         0           okd-cp-2         0         0           okd-cp-3         0         0           okd-ttp-ingress         frontend           Cur         Max         Limit           Frontend         0         0           okd_http_ingress         backend         O           okd_http_ingress         backend         Limit           okd_http_ingress         backend         Imit           okd-w-2         0         0         -           okd-w-2         0         0         -           okd-w-3         0         0         -           okd-w-4         0         0         -           okd-https ingress_frontend         -         -           okd-htttps ingress_frontend <td>Imax         Limit         Out         Max         Limit         Iotal         Libit         Iotal         Iot</td> <td>3m50s         133 436         1189 125         I         0         5         3         3         548         367 461         □         □         □         □         0         0         0         0         0         0         5         3&lt;</td> <td>Resp         Redix         Status           0              ∑          2         1         3m50s DOWN           0              ∑          0         3m UP         0           0              ∑          0         0         3m UP           0              ∑          0         0         7m59s UP           0              ∑          0         0         7m59s UP           0              ∑          2         1         16m41s UP             s         Ketr         Retr         Status         OPEN             Retr         Redis         Status         OPEN             Retr         Redis         Status         OPEN           0         0         3h1m DOWN          Status           0         0         3h1m DOWN             0         0         3h1m DOWN             0         0         3h1m DOWN             0         0         3h1m DOWN</td> <td>LastChk         Wight         Act         Bck         Chk         Dwn         Dwntme         Intrie           L4OK in 0ms         1/1         Y         -         4         2         2h43m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           JAOK in 0ms         1/1         Y         -         1         1         2h44m         -           LastChk         Wght         Act         Bck         Chk         Dwn         Dwntme         Thrtle           L4CON in 0ms         1/1         Y         -         1         1         3h1m         -           L4CON in 0ms         1/1         Y         -         1         1</td>	Imax         Limit         Out         Max         Limit         Iotal         Libit         Iotal         Iot	3m50s         133 436         1189 125         I         0         5         3         3         548         367 461         □         □         □         □         0         0         0         0         0         0         5         3<	Resp         Redix         Status           0              ∑          2         1         3m50s DOWN           0              ∑          0         3m UP         0           0              ∑          0         0         3m UP           0              ∑          0         0         7m59s UP           0              ∑          0         0         7m59s UP           0              ∑          2         1         16m41s UP             s         Ketr         Retr         Status         OPEN             Retr         Redis         Status         OPEN             Retr         Redis         Status         OPEN           0         0         3h1m DOWN          Status           0         0         3h1m DOWN             0         0         3h1m DOWN             0         0         3h1m DOWN             0         0         3h1m DOWN	LastChk         Wight         Act         Bck         Chk         Dwn         Dwntme         Intrie           L4OK in 0ms         1/1         Y         -         4         2         2h43m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           JAOK in 0ms         1/1         Y         -         1         1         2h44m         -           LastChk         Wght         Act         Bck         Chk         Dwn         Dwntme         Thrtle           L4CON in 0ms         1/1         Y         -         1         1         3h1m         -           L4CON in 0ms         1/1         Y         -         1         1
okd-bootstrap         oki         max         Limit           okd-cp-1         0         0         0           okd-cp-2         0         0         0           okd-cp-3         0         0         0           okd-cp-3         0         0         0           okd-ttp-ingress_frontend         Queue         Limit           Frontend         Cur         Max         Limit           okd_http_ingress_backend         0         0         -           okd-w-1         0         0         -         -           okd-w-2         0         0         -         -           okd-w-3         0         0         -         -           okd-w-4         0         0         -         -           okd-https_ingress_frontend         Queue         -         -           okd_https_ingress_frontend         -         - <td< td=""><td>Imax         Limit         Out         Max         Limit         Iotal         Libit         Iotal         Libit         Total         Libit         Iotal         Iot</td><td>Note of the set of</td><td>Nesp         Redit         Redits         Status           0         0         2         1         3m50s DOWN           0         0         0         0         3m UP           0         0         0         0         7m59s UP           0         0         0         0         7m52s UP           0         0         0         0         7m52s UP           0         0         2         1         16m41s UP           Status           OPEN           Varmings           Retr         Redis         Status         OPEN           Varmings         Varmings         Varmings         Varmings           0         0         3h1m DOWN         Image: Status         Varmings           0         0         Retr         Redis         Status</td><td>LastChk         Wight         Act         Bck         Chk         Dwm         Dwmtme         Intrie           L4CON in 0ms         1/1         Y         -         4         2         2h43m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h44m         -</td></td<>	Imax         Limit         Out         Max         Limit         Iotal         Libit         Iotal         Libit         Total         Libit         Iotal         Iot	Note of the set of	Nesp         Redit         Redits         Status           0         0         2         1         3m50s DOWN           0         0         0         0         3m UP           0         0         0         0         7m59s UP           0         0         0         0         7m52s UP           0         0         0         0         7m52s UP           0         0         2         1         16m41s UP           Status           OPEN           Varmings           Retr         Redis         Status         OPEN           Varmings         Varmings         Varmings         Varmings           0         0         3h1m DOWN         Image: Status         Varmings           0         0         Retr         Redis         Status	LastChk         Wight         Act         Bck         Chk         Dwm         Dwmtme         Intrie           L4CON in 0ms         1/1         Y         -         4         2         2h43m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h53m         -           L4OK in 0ms         1/1         Y         -         1         1         2h44m         -
okd-bootstrap         O         O           okd-cp-1         0         0           okd-cp-2         0         0           okd-cp-3         0         0           okd-cp-3         0         0           Backend         0         0           Queue           Cur         Max         Limit           Frontend         Queue         Limit         0           okd-http_ingress_backend         0         0         -           okd-http_ingress_backend         Queue         -         -           okd-w-2         0         0         -         -           okd-w-3         0         0         -         -           okd-w-4         0         0         -         -           okd-w-3         0         0         -         -           okd-w-4         0         0         -         -           okd-w-3         0         0         -         -           okd-w-4         0         0         -         -           okd-https_ingress_frontend         -         -         -           okd_https_ingress_backend         - <td< td=""><td>Imax         Limit         Other         Intermediate         Intermediat         Intermediate         Inter</td><td>Note of the second sec</td><td>Resp         Retry         Redux         Status           0         ○         0         3m50s DOWN           0         ○         0         0         8m UP           0         ○         0         0         7m59s UP           0         ○         0         0         7m52s UP           0         ○         2         1         16m41s UP           s         Retry         Retr         Redis         Status             0         3h1m DOWN         0           0         0         3h1m DOWN         0         0         0           0         0         3h1m DOWN         0         0         0</td><td>LastChk         Wight         Act         Bck         Chk         DWm         Dwmtme         Intrie           L4OK in Oms         1/1         Y         -         4         2         2h43m         -           L4OK in Oms         1/1         Y         -         1         1         2h53m         -           L4OK in Oms         1/1         Y         -         1         1         2h53m         -           L4OK in Oms         1/1         Y         -         1         1         2h53m         -           L4OK in Oms         1/1         Y         -         1         1         2h53m         -           L4OK in Oms         1/1         Y         -         1         1         2h53m         -           L4OK in Oms         1/1         Y         -         1         1         2h44m         -           LastChk         Wght         Act         Bck         Chk         Dwn         Dwntme         Thrtle           L4CON in Oms         1/1         Y         -         1         1         3h1m         -           L4CON in Oms         1/1         Y         -         1         1</td></td<>	Imax         Limit         Other         Intermediate         Intermediat         Intermediate         Inter	Note of the second sec	Resp         Retry         Redux         Status           0         ○         0         3m50s DOWN           0         ○         0         0         8m UP           0         ○         0         0         7m59s UP           0         ○         0         0         7m52s UP           0         ○         2         1         16m41s UP           s         Retry         Retr         Redis         Status             0         3h1m DOWN         0           0         0         3h1m DOWN         0         0         0           0         0         3h1m DOWN         0         0         0	LastChk         Wight         Act         Bck         Chk         DWm         Dwmtme         Intrie           L4OK in Oms         1/1         Y         -         4         2         2h43m         -           L4OK in Oms         1/1         Y         -         1         1         2h53m         -           L4OK in Oms         1/1         Y         -         1         1         2h53m         -           L4OK in Oms         1/1         Y         -         1         1         2h53m         -           L4OK in Oms         1/1         Y         -         1         1         2h53m         -           L4OK in Oms         1/1         Y         -         1         1         2h53m         -           L4OK in Oms         1/1         Y         -         1         1         2h44m         -           LastChk         Wght         Act         Bck         Chk         Dwn         Dwntme         Thrtle           L4CON in Oms         1/1         Y         -         1         1         3h1m         -           L4CON in Oms         1/1         Y         -         1         1
okd-bootstrap         oki         max         Limit           okd-cp-1         0         0         0           okd-cp-2         0         0         0           okd-cp-3         0         0         0           okd-cp-3         0         0         0           okd-thtp_ingress_frontend         Queue         Cur         Max         Limit           okd_http_ingress_backend         Queue	Image     Limit     Curr     Max     Limit     Image     Image <thimage< th=""> <thimage< th=""> <thimage< th=""> <thim< td=""><td>Note of the point of</td><td>Nesp         Net/         Redis         Status           0         ○         2         1         3m50s DOWN           0         ○         0         0         3m UP           0         ○         0         0         7m59s UP           0         ○         0         0         7m52s UP           0         ○         2         1         16m41s UP           s         Kerr         Redis         Status         0           s         Varnings         Status         0         0           N         N         N         0         0         3h1m DOWN           0         ○         3h1m DOWN         0         0         3h1m DOWN           0         ○         3h1m DOWN          0         0         3h1m DOWN         0           0         ○         3h1m DOWN          0         0         3h1m DOWN         0           0         ○         3h1m DOWN          0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0</td><td>LastChk         wight         Act         Bck         Chk         Dwint         Dwintine         Intrie           I_4OK in Oms         1/1         Y         -         4         2         2h48m         -           I_4OK in Oms         1/1         Y         -         1         1         2h53m         -           I_4OK in Oms         1/1         Y         -         1         1         2h53m         -           I_4OK in Oms         1/1         Y         -         1         1         2h53m         -           I_4OK in Oms         1/1         Y         -         1         1         2h53m         -           I_4OK in Oms         1/1         Y         -         1         1         2h53m         -           I_4OK in Oms         1/1         Y         -         1         1         2h44m         -           Server           I_astChk         Wght         Act         Bck         Chk         Dwn         Dwntme         Thrtle           I_4CON in Oms         1/1         Y         -         1         1         3h1m         -           I_4CON in Oms         1/1         Y</td></thim<></thimage<></thimage<></thimage<>	Note of the point of	Nesp         Net/         Redis         Status           0         ○         2         1         3m50s DOWN           0         ○         0         0         3m UP           0         ○         0         0         7m59s UP           0         ○         0         0         7m52s UP           0         ○         2         1         16m41s UP           s         Kerr         Redis         Status         0           s         Varnings         Status         0         0           N         N         N         0         0         3h1m DOWN           0         ○         3h1m DOWN         0         0         3h1m DOWN           0         ○         3h1m DOWN          0         0         3h1m DOWN         0           0         ○         3h1m DOWN          0         0         3h1m DOWN         0           0         ○         3h1m DOWN          0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0	LastChk         wight         Act         Bck         Chk         Dwint         Dwintine         Intrie           I_4OK in Oms         1/1         Y         -         4         2         2h48m         -           I_4OK in Oms         1/1         Y         -         1         1         2h53m         -           I_4OK in Oms         1/1         Y         -         1         1         2h53m         -           I_4OK in Oms         1/1         Y         -         1         1         2h53m         -           I_4OK in Oms         1/1         Y         -         1         1         2h53m         -           I_4OK in Oms         1/1         Y         -         1         1         2h53m         -           I_4OK in Oms         1/1         Y         -         1         1         2h44m         -           Server           I_astChk         Wght         Act         Bck         Chk         Dwn         Dwntme         Thrtle           I_4CON in Oms         1/1         Y         -         1         1         3h1m         -           I_4CON in Oms         1/1         Y
okd-bootstrap         oki         max         Limit           okd-cp-1         0         0         0           okd-cp-2         0         0         0           okd-cp-3         0         0         0           okd-cp-3         0         0         0           okd-cp-3         0         0         0           okd-http_ingress_frontend         Queue         Queue         Limit           okd_http_ingress_backend         0         0         -           okd-http_ingress_backend         Queue	Imax         Limit         Out         Max         Limit         Iotal         Libit         Iotal         Libit         Total         Libit         Total         Libit         Iotal         Iotal         Iotal         Iotal         Iotal         Iotal         Iotal         Iotal         Iotal         Iot	Note of the point of	Neespont         Neespont         Needds         Status           0         0         2         1         3m50s DOWN           0         0         0         0         3m UP           0         0         0         0         7m59s UP           0         0         0         7m59s UP         7m52s UP           0         0         2         1         16m41s UP           s         Ketr         Redis         Status         OPEN           s         Varnings         Varnings         Varnings         Varnings           Retr         Redis         Status         OPEN           No         0         3h1m DOWN         Image: Status         OPEN           0         0         3h1m DOWN         Image: Status	LastChk         Wight         Act         Bck         Chk         Dwn         Dwntme         Intrie           I_4OK in 0ms         1/1         Y         -         4         2         2h48m         -           I_4OK in 0ms         1/1         Y         -         1         1         2h53m         -           I_4OK in 0ms         1/1         Y         -         1         1         2h53m         -           I_4OK in 0ms         1/1         Y         -         1         1         2h53m         -           I_4OK in 0ms         1/1         Y         -         1         1         2h53m         -           I_4OK in 0ms         1/1         Y         -         1         1         2h53m         -           I_4OK in 0ms         1/1         Y         -         1         1         2h44m         -           Server           LastChk         Wght         Act         Bck         Chk         Dwn         Dwntme         Thrtle           L4CON in 0ms         1/1         Y         -         1         1         3h1m         -           L4CON in 0ms         1/1         Y <t< td=""></t<>
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Terminal - sysadmin@jump:~/Downloads	^ _		×
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DEBUG Loading Agent Config DEBUG Still waiting for the Kubernetes API: Get "https://api.lab.okd.lan:@ rsion": FOF	6443	3/v	e
DEBUG Still waiting for the Kubernetes API: Get "https://api.lab.okd.lan:6 rsion": EOF	6443	3/v	e
INFO API v1.28.2-3598+6e2789bbd58938-dirty up DEBUG Loading Install Config DEBUG Loading SSH Key			
DEBUG Loading Base Domain DEBUG Loading Platform			
DEBUG Loading Cluster Name DEBUG Loading Base Domain DEBUG Loading Platform			
DEBUG Loading Pull Secret DEBUG Loading Platform			
DEBUG Using Install Config loaded from state file INFO Waiting up to 30m0s (until 6:25PM CDT) for bootstrapping to complete. DEBUG Bootstrap status: complete			
<pre>INFO It is now safe to remove the bootstrap resources DEBUG Time elapsed per stage:</pre>			I
DEBUG Bootstrap Complete: 17m48s DEBUG API: 5m29s INFO Time elapsed: 17m48s			
sysadmin@jump:~/Downloads\$			

Terminal - root@haproxy:~	^ _ O X
File Edit View Terminal Tabs Help	
<pre>mode tcp balance source # server okd-bootstrap 192.168.22.200:6443 check server okd-cp-1 192.168.22.201:6443 check server okd-cp-2 192.168.22.202:6443 check server okd-cp-3 192.168.22.203:6443 check</pre>	
<pre># OKD Machine Config Server frontend okd_machine_config_server_frontend mode tcp bind :22623 default_backend okd_machine_config_server_backend</pre>	
<pre>backend okd_machine_config_server_backend   mode tcp   balance source</pre>	
<pre># server okd-bootstrap 192.168.22.200:22623 check server okd-cp-1 192.168.22.201:22623 check server okd-cp-2 192.168.22.202:22623 check server okd-cp-3 192.168.22.203:22623 check</pre>	
# OKD Ingress - layer 4 tcp mode for each. Ingress Controller will ha 7. INSERT 66 1	andle layer 65%



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Now you can watch the rest of the installation • openshift-install --dir okd-install wait-for install-complete

# Watch the installation



Join the worker nodes to the cluster

- Log into the workstation and authenticate to the cluster
- Set KUBECONFIG variable
- Check identity
- Approve certificate signing requests
- Approve with:
  - oc get csr -o go-template='{{range .items}}{{if not .status}}{{.metadata.name}}{{"\n"}}
     {{end}}{{end}}' | xargs oc adm certificate approve
- You'll have to do it a couple of times

# Log in to the workstation



# Log in to the workstation



2	Terminal - sysadmin@jump:~/Downloads	^ _ D X
File Edit View Terminal	Tabs Help	
sysadmin@jump:~/Down	lloads\$ oc get csr   grep Pending	
csr-9p4sk	13m	kubernetes.io/kube-apiser
ver-client-kubelet	system:serviceaccount:openshift-	machine-config-operator:nod
e-bootstrapper	<none> Pending</none>	
csr-b4dqb	13m	kubernetes.io/kube-apiser
ver-client-kubelet	system:serviceaccount:openshift-	machine-config-operator:nod
e-bootstrapper	<none> Pending</none>	
csr-dxzt2	13m	kubernetes.io/kube-apiser
ver-client-kubelet	system:serviceaccount:openshift-	machine-config-operator:nod
e-bootstrapper	<none> Pending</none>	
csr-gn5ft	13m	kubernetes.io/kube-apiser
ver-client-kubelet	system:serviceaccount:openshift-	machine-config-operator:nod
e-bootstrapper	<none> Pending</none>	
csr-llqmr	13m	kubernetes.io/kube-apiser
ver-client-kubelet	system:serviceaccount:openshift-	machine-config-operator:nod
e-bootstrapper	<none> Pending</none>	
csr-m4n94	13m	kubernetes.io/kube-apiser
ver-client-kubelet	system:serviceaccount:openshift-	machine-config-operator:nod
e-bootstrapper	<none> Pending</none>	
csr-p48ls	13m	kubernetes.io/kube-apiser
ver-client-kubelet	system:serviceaccount:openshift-	machine-config-operator:nod
e-bootstrapper	<none> Pending</none>	
csr-tfdgj	13m	kubernetes.io/kube-apiser
ver-client-kubelet	system:serviceaccount:openshift-	machine-config-operator:nod



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csr-	vwdk	h						10s	kubernetes.io/kubelet-ser
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2	Terminal - sys	admin@jump:~/Downloads		^ _ O X
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2	Terminal - sysadmin@jump:~/Downloads	^ _ O X
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<pre>sysadmin@jump:~/Downl NAME okd-cp-1.lab.okd.lan okd-cp-2.lab.okd.lan okd-w-1.lab.okd.lan okd-w-2.lab.okd.lan okd-w-3.lab.okd.lan okd-w-4.lab.okd.lan sysadmin@jump:~/Downl</pre>	.oads\$ oc get nodes STATUS ROLES A Ready control-plane,master 3 Ready control-plane,master 3 Ready worker 3	GE VERSION 1m v1.28.7+6e2789b 1m v1.28.7+6e2789b m2s v1.28.7+6e2789b m8s v1.28.7+6e2789b m4s v1.28.7+6e2789b m6s v1.28.7+6e2789b

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	okd-cp-1 okd-cp-2	0	0	-	0	0		0	0	-		0	0	?	0	0		0		0	0	0	0	14m51 14m51	Ls UP Ls UP	L	4OK in 1ms 4OK in 0ms	1/1	Y	-				0s 0s	-
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	okd-w-1	0	0	- Cu	0 6		0	2	Lint	- 3	10	30	17s	12 04	5	81 795	j	0	- CQ	0	) (	0 0	0	2	9s UP		L4OK in 0ms		U1	Y	-	1	1 1	4m21s	-
	okd-w-2 okd-w-3	0	0	-	0 0		0	0		-	0	0	?		0	0		0		0	) (	0 0	0	14m5	50s DOWN		L4CON in 1ms		/1	Y	•	1	$\frac{1}{1}$ 1	4m50s 4m49s	-
	okd-w-4	0	0	-	0 10		0	2		- 1	.7	17	2s	9 02	4	76 966	6	0		0	) (	2 0	0		Bs UP		L4OK in 1ms		1/1	Y	•	1	1 1	4m41s	•
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Configure storage for registry

- We'll use the NFS storage we set up earlier for the registry
- oc edit configs.imageregistry.operator.openshift.io

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>_	Terminal - sysadmin@jump:~ ^ _ 🛛 🗙
File	Edit View Terminal Tabs Help
1 2	<pre># Please edit the object below. Lines beginning with a '#' will be ignored,\$ # and an empty file will abort the edit. If an error occurs while saving thi s file will be\$</pre>
3	# reopened with the relevant failures.\$
4 5 6	#\$ apiVersion: imageregistry.operator.openshift.io/v1\$ kind: Config\$
7	metadata:\$
8	creationTimestamp: "2024-04-12T23:09:55Z"\$
9	finalizers:\$
10	<ul> <li>imageregistry.operator.openshift.io/finalizer\$</li> </ul>
11	generation: 1\$
12	name: cluster\$
1/	$u_1d_1 = 130c52cf = b631  46d6  b267  8acbf03f1f6bc$
15	spec:\$
16	logLevel: Normals
17	managementState: Removed\$
18	observedConfig: null\$
19	<pre>operatorLogLevel: Normal\$</pre>
20	proxy: {}\$
21	replicas: 1\$
22	requests:\$
	17.20 Top

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<pre>1 # Please edit the object below. Lines beginning with a '#' wil 2 # and an empty file will abort the edit. If an error occurs wh</pre>	l be ignore ile saving	d,\$ thi
s file will be\$		
3 # reopened with the relevant failures.\$		
4 #\$ 5 aniVersion: imageregistry operator openshift io/v1s		
6 kind: Config\$		
7 metadata:\$		
8 creationTimestamp: "2024-04-12T23:09:55Z"\$		
9 finalizers:\$		
10 - imageregistry.operator.openshift.io/finalizer\$		
11 generation: 1s		
12 name: cluster\$		
13 resourceversion: "41014"5 14 wid: 120c52cf b621 46d6 b267 Pachf02f1f6b¢		
14 ulu: 150C52C1-D051-4000-D207-08CD1051110D5		
16 loglevel: Normals		
17 managementState: Manageds		
18 observedConfig: nulls		
<pre>19 operatorLogLevel: Normal\$</pre>		
20 proxy: {}\$		
21 replicas: 1\$		
22 requests:\$		
INSERT 17,2	.7 1	op

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File Edit View Terminal Tabs Help			
11 generation: 1\$			
12 name: cluster\$			
13 resourceVersion: "41614"\$			
14 uld: 130C52CT-D631-4606-D267-8aCDT03T1T6D\$			
15 Spec: \$			
10 LogLevel: Normals			
18 observedConfig: nulls			
19 operatorLogLevel: Normals			
20 proxy: {}\$			
21 replicas: 1\$			
22 requests:\$			
23 read:\$			
24 maxWaitInQueue: 0s\$			
25 write:\$			
26 maxWaitInQueue: 0s\$			
2/ FolloutStrategy: RollingUpdates			
26 Storage: []>			
30 status:			
31 conditions:			
32 - lastTransitionTime: "2024-04-12T23:33:41Z"\$			
33 message: All registry resources are removed\$			
28,13		15	i%

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File Edit View Terminal Tabs Help	
<pre>13 resourceVersion: "41614"\$ 14 uid: 130c52cf-b631-46d6-b267-8acbf03f1f6b\$ 15 spec:\$</pre>	
<pre>16 logLevel: Normal\$</pre>	
17 managementState: Managed\$	
18 observedConfig: nulls	
20 proxy: 10	
20 proxy: {} <sup>\$</sup>	
22 requests: \$	
23 read:\$	
24 maxWaitInQueue: 0s\$	
25 write:\$	
26 maxWaitInQueue: 0s\$	
<pre>27 rolloutStrategy: RollingUpdate\$</pre>	
28 storage: \$	
29 pvc: \$	
31 unsupportedConfigOverrides: nulls	
32 status:	
33 conditions:\$	
<pre>34 - lastTransitionTime: "2024-04-12T23:33:41Z"\$</pre>	
35 message: All registry resources are removed\$	
INSERT 30,13	17%


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imaç	je-re	egistr 4m1s	y-stora	ige	Bound	registry-pv	100Gi	RWX	
sysa	admir	n@jump	:~/Down	load	S\$				

### **Setupp is finally complete**

Terminal - sysadmin@jump:~/Downloads
File Edit View Terminal Tabs Help
<pre>level=debug msg=Cluster Operator node-tuning is stable</pre>
level=debug msg=Cluster Operator openshift-apiserver is stable
level=debug msg=Cluster Operator openshift-controller-manager is stable
level=debug msg=Cluster Operator openshift-samples is stable
level=debug msg=Cluster Operator operator-lifecycle-manager is stable
level=debug msg=Cluster Operator operator-lifecycle-manager-catalog is stable
level=debug msg=cluster operator operator-lifecycle-manager-packageserver is sta
ple level-debug meg-Cluster Operator convice ca is stable
level=debug_msg=Cluster_Operator_service-ca_is_stable
level=debug msg=cluster operator storage is stable
level-info msg-All cluster operators have completed progressing
tevet-into msg-checking to see if there is a route at openshift-console/console.
 level=debug_msg=Route_found_in_openshift-console_namespace:_console
level=debug msg=OpenShift console route is admitted
level=info msg=Install complete!
level=info msg=To access the cluster as the system:admin user when using 'oc', r
un 'export KUBECONFIG=/home/sysadmin/Downloads/okd-install/auth/kubeconfig'
level=info msg=Access the OpenShift web-console here: https://console-openshift-
console.apps.lab.okd.lan
<pre>level=info msg=Login to the console with user: "kubeadmin", and password: "aLoQj</pre>
-QpaXa-eawJ8-IngrF"
level=info msg=Time elapsed: 0s
sysadmin@jump:~/Downloads\$

# Log into the console!

• https://console-openshift-console.apps.lab.okd.lan



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## And that's a wrap!

- Now you have an on-prem OKD cluster to play with!
- Note that I did this in my office with some **really** old Intel NUC computers. It's running just fine.
- I hope you've enjoyed this, thank you so much for coming!

### Thank You!

Any questions?