CDP Private Cloud Data Services 1.5.4

# Managing the Embedded Container Service (ECS)

Date published: 2023-12-16 Date modified: 2024-05-30



https://docs.cloudera.com/

## **Legal Notice**

© Cloudera Inc. 2024. All rights reserved.

The documentation is and contains Cloudera proprietary information protected by copyright and other intellectual property rights. No license under copyright or any other intellectual property right is granted herein.

Unless otherwise noted, scripts and sample code are licensed under the Apache License, Version 2.0.

Copyright information for Cloudera software may be found within the documentation accompanying each component in a particular release.

Cloudera software includes software from various open source or other third party projects, and may be released under the Apache Software License 2.0 ("ASLv2"), the Affero General Public License version 3 (AGPLv3), or other license terms. Other software included may be released under the terms of alternative open source licenses. Please review the license and notice files accompanying the software for additional licensing information.

Please visit the Cloudera software product page for more information on Cloudera software. For more information on Cloudera support services, please visit either the Support or Sales page. Feel free to contact us directly to discuss your specific needs.

Cloudera reserves the right to change any products at any time, and without notice. Cloudera assumes no responsibility nor liability arising from the use of products, except as expressly agreed to in writing by Cloudera.

Cloudera, Cloudera Altus, HUE, Impala, Cloudera Impala, and other Cloudera marks are registered or unregistered trademarks in the United States and other countries. All other trademarks are the property of their respective owners.

Disclaimer: EXCEPT AS EXPRESSLY PROVIDED IN A WRITTEN AGREEMENT WITH CLOUDERA, CLOUDERA DOES NOT MAKE NOR GIVE ANY REPRESENTATION, WARRANTY, NOR COVENANT OF ANY KIND, WHETHER EXPRESS OR IMPLIED, IN CONNECTION WITH CLOUDERA TECHNOLOGY OR RELATED SUPPORT PROVIDED IN CONNECTION THEREWITH. CLOUDERA DOES NOT WARRANT THAT CLOUDERA PRODUCTS NOR SOFTWARE WILL OPERATE UNINTERRUPTED NOR THAT IT WILL BE FREE FROM DEFECTS NOR ERRORS, THAT IT WILL PROTECT YOUR DATA FROM LOSS, CORRUPTION NOR UNAVAILABILITY, NOR THAT IT WILL MEET ALL OF CUSTOMER'S BUSINESS REQUIREMENTS. WITHOUT LIMITING THE FOREGOING, AND TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, CLOUDERA EXPRESSLY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY, QUALITY, NON-INFRINGEMENT, TITLE, AND FITNESS FOR A PARTICULAR PURPOSE AND ANY REPRESENTATION, WARRANTY, OR COVENANT BASED ON COURSE OF DEALING OR USAGE IN TRADE.

# **Contents**

The Embedded Container Service (ECS)	4
Configuring the Embedded Container Service	
Upgrading RHEL to a new minor version	4
Adding hosts to a Embedded Container Service Cluster	
Starting, stopping, restarting, and refreshing Embedded Container Service Clusters	
Starting a Embedded Container Service Cluster	
Stopping a CDP Private Cloud Data Services Cluster	
Restarting a Embedded Container Service Cluster	
Refreshing a Embedded Container Service Cluster	
Monitoring Embedded Container Service Clusters	23
Viewing Health Status	
Viewing the Kubernetes Dashboard	
Viewing the Private Cloud Management Console	24
Performing maintenance on an Embedded Container Service cluster	24
Configuring a containerized cluster with SELinux	
Decommissioning ECS Hosts	27
Dedicating ECS nodes for specific workloads	
Specifying racks for ECS clusters	
ECS unified time zone	
Adjusting the expiration time of ECS cluster certificates	
Configuring multiple Base clusters with one ECS cluster	
GPU node labeling on ECS	

### The Embedded Container Service (ECS)

Cloudera Manager provides tools for managing and monitoring the CDP Private Cloud Embedded Container Service.

The Embedded Container Service (ECS) service enables you to run CDP Private Cloud Data Services by creating container-based clusters in your data center. In addition to the option to use OpenShift, which requires that you deploy and manage the Kubernetes infrastructure, you can also deploy a Embedded Container Service cluster, which creates and manages an embedded Kubernetes infrastructure for use with CDP Private Cloud Data Services. Installing, configuring, and managing OpenShift is not required. You only need to provide hosts on which to install the service and Cloudera Manager sets up the Embedded Container Service cluster and also provides management and monitoring of the cluster.

When you create an Embedded Container Service cluster, two new services are added to the cluster:

- Embedded Container Service (ECS) service. The ECS service has two roles:
- ECS Server -- runs on a single host in the Embedded Container Service cluster.
- ECS Agent -- runs on all hosts except the host running the Server role in the Embedded Container Service Cluster.
- Docker service. The Docker service has a single role:
  - Docker Server -- runs on all hosts in the Embedded Container Service Cluster.

#### **Configuring the Embedded Container Service**

You use Cloudera Manager to configure the Embedded Container Service and clusters.

#### Procedure

- 1. Open the Cloudera Manager Admin Console
- 2. From the Home page, Click on the Embedded Container Service Cluster
- 3. Click the Hosts, ECS service, or the Docker service links.
- 4. Click the Configuration tab.
- 5. Use the Filters or Search functions to locate the configuration property you are looking for.
- **6.** Enter your change.
- 7. Click Save Changes.

#### **Related Information**

Modifying Configuration Properties Using Cloudera Manager

#### Upgrading the RHEL Operating System to a new minor version

After installing CDP Private Cloud Data Services on a particular RHEL OS, you can now upgrade RHEL OS to a new minor version. For example, in a RHEL 8.x OS series, you can upgrade from RHEL 8.6 to RHEL 8.8 new minor version.

#### About this task

You must perform this task on all Embedded Container Service (ECS) hosts.

#### Before you begin

Verify the RHEL OS version by performing the following steps:

1. Log in to Cloudera Manager as an Administrator, then navigate to the ECS cluster.

- 2. Go to the Home Status tab.
- 3. Click the Actions menu to the right of the Embedded Container Service (ECS) cluster name and select Stop.
- **4.** Click the Stop option in the confirmation screen.

The Command Details window shows the progress of the services.

- 5. SSH into a ECS cluster host as a root user.
- 6. Verify the OS version by running the following command:

cat /etc/redhat-release

#### **Procedure**

1. Upgrade RHEL from the installed version to the desired minor version on the ECS host. Use the operating system upgrade procedures provided by your RedHat operating system vendor to download and upgrade RHEL.

For example, you can upgrade from RHEL 8.6 version to RHEL 8.8 minor version.

2. Verify the upgraded OS version by running the following command:

cat /etc/redhat-release

- 3. Log in to Cloudera Manager as an Administrator.
- 4. Go to the Home Status tab.
- 5. Click the Actions menu to the right of the Embedded Container Service cluster name and select Start.
- **6.** Click the Start option.

The Command Details window shows the progress of the services.

Wait for all the pods to start. The wait time depends on the number of nodes in the cluster.

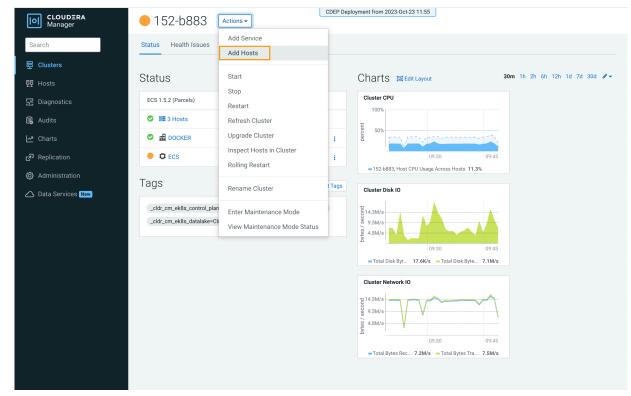
#### Adding hosts to a Embedded Container Service Cluster

You can add hosts to a Embedded Container Service (ECS) cluster to increase capacity and performance.

#### About this task

#### Procedure

1. On the Cloudera Manager home page, click the ECS Cluster, then select Actions > Add Hosts.



2. On the Add Hosts page, click Add Hosts to Cluster and select the ECS Cluster, then click Continue.

CLOUDERA Manager	Add Hosts	CDEP Deployment from 2023-Oct-23 11:55
		The Add Hosts Wizard allows you to install the Cloudera Manager Agent on new hosts. You can either keep the new hosts available to be added to a cluster in the future, or you can add new hosts to an existing cluster          Add hosts to Cloudera Manager         You can use these hosts later to create new clusters or expand existing clusters.         Add hosts to Cluster
🛱 Parcels		
🕱 Running Commands		
🛞 Support		
A admin		
7.11.3 《		← Back Continue →

**3.** On the Specify Hosts page, hosts that have already been added to Cloudera Manager are listed on the Currently Managed Hosts tab. You can select one or more of these hosts to add to the ECS cluster.

CLOUDERA Manager	Add Hosts	CDEP Deployment from 20	23-0ct-23 11:55			
	<ol> <li>Specify Hosts</li> <li>Install Parcels</li> <li>Inspect Hosts</li> </ol>	Specify Hosts Currently Managed Hosts (1/4 Selected) N These hosts do not belong to any clusters. Selected	ew Hosts ect some to form your c	luster.		
	4 Select Host Template	☐ Hostname (FQDN) ↑	IP Address	Rack	Version	Cores
	5 Deploy Client Config	dh-centos79m-1.vpc.cloudera.com	10.65.202.225	/default	None	8
		dh-centos79m-2.vpc.cloudera.com	10.65.203.223	/default	None	8
		dh-centos79m-3.vpc.cloudera.com	10.65.202.91	/default	None	8
		ecst-2.vpc.cloudera.com	10.65.203.79	/default	None	8
						1 - 4 of 4
🛱 Parcels						
🕱 Running Commands						
🐯 Support						
A admin						
7.11.3 《		Cancel			← Back	Continue →

You can also click the New Hosts tab to specify one or more hosts that have not been added to Cloudera Manager. Enter a Fully Qualified Domain Name in the Hostname box, then click Search.

**Note:** Click the pattern link under the Hostname box to display more information about allowed FQDN patterns.

CLOUDERA Manager	Add Hosts	CDEP Deployment from 2023-Oct-23 11:55
	<ol> <li>Specify Hosts</li> <li>Select Repository</li> <li>Select JDK</li> <li>Enter Login Credentials</li> <li>Install Agents</li> <li>Install Parcels</li> <li>Inspect Hosts</li> </ol>	Specify Hosts         Currently Managed Hosts (1/4 Selected)         Hosts should be specified using the same hostname (FQDN) that they will identify themselves with.         Hostname         esst:[1-2].vpc.cloudera.com         Hint: Search for hostnames or IP addresses using pattern T         SSH Port       22         Search         2 hosts scanned, 2 running SSH.
	8 Select Host Template	Expanded Query Hostname (FQDN) † IP Address Currently Managed Result
🛱 Parcels	9 Deploy Client Config	ecst-         ecst-         10.65.196.65         No         Host was successfully           1.vpc.cloudera.com         1.vpc.cloudera.com         scanned.
🕱 Running Commands		ecst- ecst- 10.65.203.79 Yes Host was successfully
🐯 Support		2.vpc.cloudera.com scanned.
A admin		
7.11.3 《		Cancel ← Back Continue →

After you have finished specifying the ECS hosts, click Continue.

7

**4.** On the Select Repository page, the applicable Cloudera Manager Agent repository location is selected by default. Click Continue.

CLOUDERA Manager	Add Hosts	CDEP Deployment from 2023-Oct-23 11:55
	<ul> <li>Specify Hosts</li> <li>Select Repository</li> <li>Select JDK</li> <li>Enter Login Credentials</li> <li>Install Agents</li> <li>Install Parcels</li> <li>Inspect Hosts</li> <li>Select Host Template</li> <li>Deploy Client Config</li> </ul>	Select Repository Cloudera Manager Agent Cloudera Manager Agent 7.11.3 (#46431848) needs to be installed on all new hosts. Repository Location Cloudera Repository Cloudera Repository      ttp://cloudera-build-4-us-west-1.vpc.cloudera.com/s3/build/46431848/cm7/7.11.3.2     Example: http://LOCAL_SERVER/cloudera-repos/cm7/7.11.3     Do not include operating system-specific paths in the URL. The path will be automatically derived. Learn more at How to set up a custom repository.
<ul> <li>Running Commands</li> <li>Support</li> <li>admin</li> </ul>		
7.11.3 《		Cancel ← Back Continue →

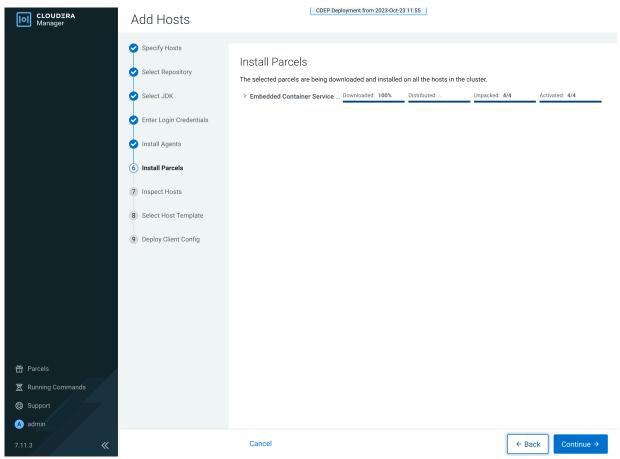
5. Select a JDK option on the Select JDK page, then click Continue.

CLOUDERA Manager	Add Hosts	CDEP De	loyment from 2023-Oct-23 11:55					
	Specify Hosts	Select JDK						
	Select Repository	CDH Version	Supported JDK Version					
	3 Select JDK	7.1.9 and above	OpenJDK 8, 11, 17 or Oracle JDK 8, 11, 17					
	4 Enter Login Credentials	7.1.1 to 7.1.8	OpenJDK 8, 11 or Oracle JDK 8, 11					
	5 Install Agents	7.0 and above	OpenJDK 8 or Oracle JDK 8					
	<ol> <li>Install Parcels</li> <li>Inspect Hosts</li> <li>Select Host Template</li> <li>Deploy Client Config</li> </ol>	6.3 and above	OpenJDK 8 or Oracle JDK 8					
		6.2	OpenJDK 8 or Oracle JDK 8					
		6.1 or 6.0	Oracle JDK 8					
		5.16 and above OpenJDK 8 or Oracle JDK 8						
		5.7 to 5.15	Oracle JDK 8					
		1 - 8 of 8 More details on supported JDK version. If you plan to use JDK 11 with CDH 7.1.x and above or JDK 17 with CDH 7.1.9 and above , you will need to install it manually on all hosts and then select the <b>Manually manage JDK</b> option below.						
		O Manually manage JDK						
		Please ensure that a supported JDK is already installed on all hosts. You will need to manage installing the unlimited strength JCE policy file, if necessary.						
		Install a Cloudera-provided version of OpenJDK						
🛱 Parcels			tall a supported version of OpenJDK version 8.					
🕱 Running Commands		Install a system-provided versio      By proceeding. Clouders will ins	n of OpenJDK tall the default version of OpenJDK version 8 provided by the Operating System.					
🛞 Support		by proceeding, bloddeld will his	an all actual relation of openable relation o provided by the openating dystelli.					
A admin								
7.11.3 《		Cancel	← Back Continue →					

6. On the Enter Login Credentials page, All hosts accept the same password is selected by default. Enter the user name in the SSH Username box, and type in and confirm the password. You can also select the All hosts accept the same private key option and provide the Private Key and passphrase.

CLOUDERA Manager	Add Hosts	l	CDEP Deployment from 2023-Oct-23 11:55		
<ul> <li>Parcels</li> <li>Running Commands</li> <li>Support</li> <li>admin</li> </ul>	<ul> <li>Specify Hosts</li> <li>Select Repository</li> <li>Select JDK</li> <li>Enter Login Credentials</li> <li>Install Agents</li> <li>Install Parcels</li> <li>Inspect Hosts</li> <li>Select Host Template</li> <li>Deploy Client Config</li> </ul>		dentials         is required to install the Cloudera packages. This installer will connect a nother user with password-less sudo/pbrun privileges to become root         root         Image: All hosts accept same password         All hosts accept same private key         Image: All hosts accept same private key	e root.	
7.11.3 🛛 🕊		Cancel		← Back	Continue →

7. The Cloudera Manager agents are installed, and then the Install Parcels page appears. The selected parcel is downloaded to the Cloudera Manager server host, distributed, unpacked, and activated on the ECS cluster hosts. Click Continue.



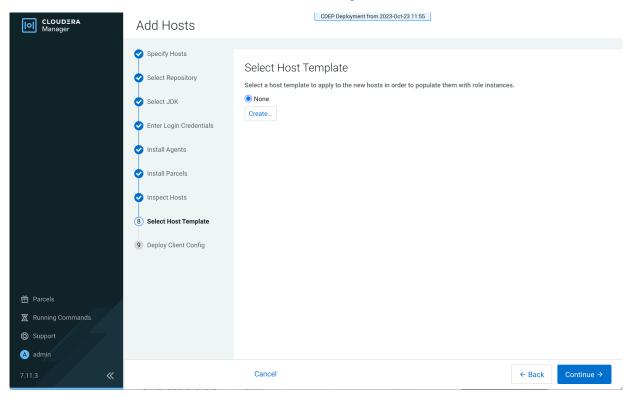
8. Review the Validations list on the Inspect Hosts page. If issues are detected, you can fix the issues, then click Run Again to repeat the host inspection. Click Continue.

CLOUDERA Manager	Add Hosts		CDEP Deployment from 2023-Oct-23 11:55				
	Specify Hosts	Inspect	Hosts				
	Select Repository		Validations				
	Select JDK	Status	Description				
	<ul> <li>Enter Login Credentials</li> </ul>	0	Inspector ran on all 4 hosts.				
		0	Individual hosts resolved their own hostnames correctly.				
	Install Agents	0	No errors were found while looking for conflicting init scripts.				
	Install Parcels	0	No errors were found while checking /etc/hosts.				
		0	All hosts resolved localhost to 127.0.0.1.				
	Inspect Hosts	0	All hosts checked resolved each other's hostnames correctly and in a timely manner.				
	O Oslast Hast Tamalata	0	Host clocks are approximately in sync (within ten minutes).				
	8 Select Host Template	0	Host time zones are consistent across the cluster.				
	9 Deploy Client Config	0	No users or groups are missing.				
		0	No conflicts detected between packages and parcels.				
		0	No kernel versions that are known to be bad are running.				
		•	No problems were found with /proc/sys/vm/swappiness on any of the hosts.				
			Transparent Huge Page Compaction is enabled and can cause significant performance problems. Run 'ec /sys/kernel/mm/transparent_hugepage/defrag' and 'echo never > /sys/kernel/mm/transparent_hugepage disable this, and then add the same command to an init script such as /etc/rc.local so it will be set on sys The following hosts are affected: > View Details	/enabled" to			
		0	Hue Python version dependency is satisfied.				
<ul> <li></li></ul>		٨	Starting with CDH 6, PostgreSQL-backed Hue requires Psycopg2 version to be at least 2.5.4, see the docur more information. The following hosts are missing a compatible version of the Psycopg2 library: > View Details	nentation for			
		0	A compatible version of the operating system is installed on the hosts in a Private Cloud Containerized Clu	ster			
🛞 Support		0	Ports 80 and 443 are available for use on the hosts in a Private Cloud Containerized Cluster.				
A admin							
7.11.3 《		Cancel	← Back	ontinue →			

9. The Select Host Template page lists available host templates. Click Create.



The following three steps describe how to create a host template to assign the Docker Server and Ecs Agent role groups to the new host. You can also select None and add these role instances after adding the new host to the cluster, as described at the end of this topic.



**10.** On the Create New Host Template pop-up, enter a template name and select the Docker Server and Ecs Agent role groups, then click Create.

CLOUDERA Manager	Add Hosts		CDEP Deployment from 2023-Oct-23 11.55			
	Create New Host T	emplate For 152-b883			×	
	Template Name	ecsworker				
	Select Role Groups to Inclu	ude:				
	Service Name	Role Groups				
	₩ 🖷 DOCKER					
	V Docker Server	Docker Server Default Group	~			
	V 🛱 ECS					
	Ccs Agent	Ecs Agent Default Group	~			
	Ecs Server					
					1 - 2 of 2	
🛱 Parcels				Cancel	Create	
🗶 Running Commands						,
🛞 Support						
A admin						
7.11.3	«					- Back Continue →

11. On the Select Host Template page, select the new template, then click Continue.

CLOUDERA Manager	Add Hosts	CDEP Deployment from 2023-Oct-23 11:55	
	<ul> <li>Specify Hosts</li> <li>Select Repository</li> <li>Select JDK</li> <li>Enter Login Credentials</li> <li>Install Agents</li> <li>Install Parcels</li> <li>Inspect Hosts</li> <li>Select Host Template</li> <li>Apply Host Template</li> <li>Deploy Client Config</li> </ul>	Select Host Template Select a host template to apply to the new hosts in order to populate them with role instanc None e cesworker Create Start newly created roles after applying the host template.	es.
🛱 Parcels			
🕱 Running Commands			
🛞 Support			
A admin			
7.11.3		Cancel	← Back Continue →

#### 12. The Apply Host Template page appears. After the roles have successfully started, click Continue.

CLOUDERA Manager	Add Hosts	CDEP Deployment from 2023-	Oct-23 11:55		
<ul> <li>Parcels</li> <li>Running Commands</li> <li>Support</li> <li>admin</li> </ul>	<ul> <li>Specify Hosts</li> <li>Select Repository</li> <li>Select JDK</li> <li>Enter Login Credentials</li> <li>Install Agents</li> <li>Install Parcels</li> <li>Instell Parcels</li> <li>Select Host Template</li> <li>Apply Host Template</li> <li>Deploy Client Config</li> </ul>	Apply Host Template Start Roles on Hosts When Free Comm Status © Finished @ Dec 12, 10:20:41 PM Successfully started all the roles on selec Completed 3 of 3 step(s). © Show All Steps O Show Only Failed Steps > @ Wait for Service Commands > @ Wait for Service Commands > @ Wait for Service Commands > @ Starts all the roles on the selected hosts.	O 48.4s	Dec 12, 10:20:41 PM Dec 12, 10:20:41 PM Dec 12, 10:20:41 PM	99ms 100ms 48.25s
7.11.3 《		Cancel		← Back	Continue →

- CDEP Deployment from 2023-Oct-23 11:55 CLOUDERA Manager Add Hosts Specify Hosts Deploy Client Config Select Repository Deploy Client Configuration Command Select JDK Status 🛇 Finished Context 152-b883 🗗 🛗 Dec 12, 10:26:12 PM 🥝 59ms Successfully deployed all client configurations. Enter Login Credentials Completed 1 of 1 step(s). Install Agents Show All Steps
   Show Only Failed Steps O Show Only Running Steps > 📀 Execute DeployClusterClientConfig for {} in parallel. Dec 12, 10:26:12 PM 57ms Install Parcels Inspect Hosts 这 Select Host Template Apply Host Template 10 Deploy Client Config 🛱 Parcels 🕱 Running Commands 🔺 admin Cancel ← Back
- **13.** The Deploy Client Config page appears. After all client configurations have been successfully deployed, click Finish.

14. The new host is listed on the ECS cluster Hosts page.

CLOUDERA Manager	152-b883				CDEP Deployment from 2023-Oct-23	11:55				
Search	Hosts	Configu	uration	Add Hosts	s Review Upgrade Status	Inspect Hosts ir	Cluster	Inspect	Cluster Network Perfor	mance
── Clusters ── Hosts	Q Search				Filters		L	.ast Update	d: Dec 12, 10:29:36 PM	итс 👩
፵ Diagnostics	Filters		Acti	ons for Selec	ted -				Columns: 11 S	elected -
😰 Audits	✓ STATUS			Status	Name	IP	Roles	Tags	Commission State	Last He
🛃 Charts	Good Health	4		0	dh-centos79-1.vpc.cloudera.com	10.65.203.160	2 Roles		Commissioned	
<b>ج</b> ع Replication	> CLUSTERS			۲	dh-centos79-2.vpc.cloudera.com	10.65.194.119	2 Roles		Commissioned	
🚯 Administration	> CORES			٢	dh-centos79-3.vpc.cloudera.com	10.65.194.114	2 Roles		Commissioned	
🛆 Data Services New	> COMMISSION STATE			۲	ecst-1.vpc.cloudera.com	10.65.217.129	2 Roles	1 Tag	Commissioned	
	> LAST HEARTBEAT									1 - 4 of 4
	> LOAD (1 MINUTE)									
	> LOAD (5 MINUTES)									
	> LOAD (15 MINUTES)									
	> MAINTENANCE MODE									
	> UPGRADE DOMAIN									
	> RACK									
	> SERVICE									

**15.** If your ECS hosts are running the CentOS 8.4, OEL 8.4, RHEL 7.9, or RHEL 8 operating systems, you must install iptables on all the ECS hosts.

For CentOS 8.4, OEL 8.4, or RHEL 8, run the following command on each ECS host:

yum --setopt=tsflags=noscripts install -y iptables

For RHEL 7.9, run the following command on each ECS host:

yum install -y iptables

**16.** If you did not apply a host template to assign roles, perform the following steps to assign the Docker Server and Ecs Agent role groups to the new host.

To assign the Docker Server role group:

a. Click DOCKER on the ECS cluster home page, select Instances, then click Add Role Instances.

CLOUDERA Manager	152-b883				ODEP Deployment	IL II UIII 2023"UGL"2	5 11.00			
Search	📀 🖷 DOCKER	Actions 🔻								
뛷 Clusters	Status Instances Configur	ation C	ommands	Charts	s Library Audits	s Quick Links	· •			
00 Hosts										
☑ Diagnostics	Q Enter search terms (hostnam	e, host ID,	IP address,	cluster n	ame, rack, health	C Filters		I	ast Updated: Dec 13,	6:40:46 PM UTC 🖸
🚯 Audits			Actions	for Selec	oted 🗸				Add Role Instar	Role Groups
🗠 Charts	Filters			Status	Role Type	T 04	ate Ho	ostname	Commission State	Role Group
Replication	✓ STATUS									
Administration	Good Health	4		0	Docker Server	St		n-centos79- vpc.cloudera.com	Commissioned	Docker Server Default Group
🛆 Data Services New	> COMMISSION STATE			0	Docker Server	St	arted dr	n-centos79-	Commissioned	Docker Server
	> MAINTENANCE MODE						1.vpc.cloud		com Default	
	> RACK ID			0	Docker Server	St	arted dr	n-centos79-	Commissioned	Docker Server
	> ROLE GROUP						2.	vpc.cloudera.com		Default Group
	> ROLE TYPE			0	Docker Server	St	arted ec	ost-	Commissioned	Docker Server
	> STATE						1/	vpc.cloudera.com		Default Group
	> HEALTH TEST									1 - 4 of

**b.** On the Add Role Instances to DOCKER page, click Select hosts.

CLOUDERA Manager	Add Role Instances to DOCKER									
	<ol> <li>Assign Roles</li> <li>Review Changes</li> </ol>	Assign Roles You can specify the role assignments for your new roles here. You can also view the role assignments by host. View By Host Docker Server × 4 Select hosts								

c. On the Hosts Selected pop-up, select the new host, then click OK.

	hosts for a new or existing role. The ho patible version of the software installed		e hosts that are	not valid candidates;	these include hosts that a	re unhealthy,	members of c	ther clusters, or hav	e an
<b>Q</b> Er	iter hostnames: host01, IP addresses or	rack							
<b>~</b>	Hostname	IP Address	Rack	Cores	Physical Memory	Existing R	oles	Added Roles	
~	dh-centos79-1.vpc.cloudera.com	10.65.203.160	/default	8	30.8 G	iB 👖 DS	🖨 ES	d DS	
~	dh-centos79-2.vpc.cloudera.com	10.65.194.119	/default	8	30.5 G	iB 🛃 DS	Ö EA	<mark>₫</mark> DS	
~	dh-centos79-3.vpc.cloudera.com	10.65.194.114	/default	8	30.8 G	iB 🛃 DS	C EA	de DS	
~	ecst-1.vpc.cloudera.com	10.65.217.129	/default	8	30.8 G	ib 🛃 DS	Ö EA	d DS	
	ecst-2.vpc.cloudera.com	10.65.221.113	/default	8	30.8 G	iВ		료 DS	
									1 - 5

**d.** On the Assign Roles page, click Continue.

CLOUDERA Manager	Add Role Instance	es to DOCKER	
	<ol> <li>Assign Roles</li> <li>Review Changes</li> </ol>	Assign Roles You can specify the role assignments for your new roles here. You can also view the role assignments by host. View By Host Docker Server × (4 + 1 New) ecst-2.vpc.cloudera.com +	
<ul> <li></li></ul>			
Support			
A admin			
7.11.3 《		Cancel	← Back Continue →

e. On the Review Changes page, click Finish.

CLOUDERA Manager	Add Role Instances to DOCKER											
	<ul> <li>Assign Roles</li> <li>Review Changes</li> </ul>	Review Changes  No additional configurations are required.										
<ul> <li>Parcels</li> <li>Running Commands</li> <li>Support</li> </ul>												
<ul> <li>admin</li> <li>7.11.3</li> </ul>		Cancel	← Back Finish →									

**f.** The new host is listed on the Docker Instances page.

CLOUDERA Manager	152-b883				CUEP Deployment from	2023-007-23 11:5	2		
Search	📀 🖷 DOCKER 🏼 🖉	ctions 🗸							
뮫 Clusters	Status Instances Configura	tion C	ommands	Charts	Library Audits Qu	iick Links 👻			
睅 Hosts									
☑ Diagnostics	Q Enter search terms (hostname	, host ID, I	P address	, cluster na	ame, rack, health s	Filters		Last Updated: Dec 13	7:00:56 PM UTC 🙄
😰 Audits			Action	s for Selec	ted 🗸			Add Role Insta	ances Role Groups
Charts	Filters			Status	Role Type Tags	State	Hostname	Commission State	Role Group
ැනි Replication	✓ STATUS		-						
🚱 Administration	Good Health Stopped	4 1		0	Docker Server	Started	dh-centos79- 3.vpc.cloudera.com	Commissioned	Docker Server Default Group
🛆 Data Services New	> COMMISSION STATE			۲	Docker Server	Started	dh-centos79-	Commissioned	Docker Server
	> MAINTENANCE MODE		-				1.vpc.cloudera.com		Default Group
	> RACK ID			0	Docker Server	Started	dh-centos79- 2.vpc.cloudera.com	Commissioned	Docker Server Default Group
🛱 Parcels	> ROLE GROUP		-	-			2.vpc.cioudera.com		
🕱 Running Commands	> ROLE TYPE			0	Docker Server	Stopped	ecst- 2.vpc.cloudera.com	Commissioned	Docker Server Default Group
🐯 Support	> STATE								· · ·
	> HEALTH TEST			0	Docker Server	Started	ecst- 1.vpc.cloudera.com	Commissioned	Docker Server Default Group
A admin									1 - 5 of 5
7.11.3 《									1-3015

To assign the ECS Agent role group:

a. Click ECS on the ECS cluster home page, select Instances, then click Add Role Instances.

CLOUDERA Manager	152-b883				CDEP Deployr	nent from 20	23-Oct-23 11:55				
Search	● CCS Actions -	ჟ									
<b>뮫</b> Clusters	Status Instances Configurat	ion C	ommand	s Charts	Library Audits	s Web L	II 👻 Quick Link	S 🔻			
🖽 Hosts	Hosts										
Diagnostics A This entity is currently running with an outdated configuration. Restart the service (or the instance) for the changes to take effect.											
🕼 Audits 🛛 Q Enter search terms (hostname, host ID, IP address, cluster name, rack, health sta) C Filters Last Updated: Dec 13, 7:07:48 PM UTC C											
🗠 Charts			Actio	ns for Selec	ted -				Add Role Instan	ces Role Groups	
Replication آه	Filters					-	a				
🐼 Administration	✓ STATUS			Status	Role Type	Tags	State	Hostname	Commission State	Role Group	
🛆 Data Services New	Good Health	4	4		0	Ecs Agent		Started	dh-centos79- 3.vpc.cloudera.com	Commissioned	Ecs Agent Default Group
	> COMMISSION STATE				Ecs Agent		Started	dh-centos79- Commissione	Commissioned	Ecs Agent	
	> MAINTENANCE MODE							2.vpc.cloudera.com		Default Group	
	> RACK ID			0	Ecs Agent		Started	ecst-	Commissioned	Ecs Agent	
🛱 Parcels	> ROLE GROUP							1.vpc.cloudera.com		Default Group	
Running Commands	> ROLE TYPE			0	Ecs Server		Started with	dh-centos79-	Commissioned	Ecs Server	
	> STATE						Outdated Configuration	1.vpc.cloudera.com		Default Group	
🐯 Support	> HEALTH TEST						Sonngaradon			1 - 4 of 4	
A admin										I - 4 0T 4	
7.11.3											

b. On the Add Role Instances to ECS page, in the Ecs Agent box, click Select hosts.



**Important:** Be sure to click Select hosts in the Ecs Agent box – do not click the link in the Ecs Server box.

CLOUDERA Manager	Add Role Instance	es to ECS	201.11011.2022/00/23 11.33
	<ol> <li>Assign Roles</li> <li>Review Changes</li> </ol>	Assign Roles You can specify the role assignments for you You can also view the role assignments by h Ecs Server × 1 Select hosts	

c. On the Hosts Selected pop-up, select the new host, then click OK.

	patible version of the software installed iter hostnames: host01, IP addresses or							
	Hostname	IP Address	Rack	Cores Physical Memo	ory	Existing Ro	les	Added Roles
	dh-centos79-1.vpc.cloudera.com	10.65.203.160	/default	8	30.8 GiB	<b>∰</b> DS	🗘 ES	
<b>V</b>	dh-centos79-2.vpc.cloudera.com	10.65.194.119	/default	8	30.5 GiB	🖽 DS	Ö EA	C EA
<b>V</b>	dh-centos79-3.vpc.cloudera.com	10.65.194.114	/default	8	30.8 GIB	🖽 DS	Ö EA	C EA
<b>V</b>	ecst-1.vpc.cloudera.com	10.65.217.129	/default	8	30.8 GiB	🖽 DS	Ö EA	C EA
	ecst-2.vpc.cloudera.com	10.65.221.113	/default	8	30.8 GiB	🖽 DS		C EA
								1 - 5 c

**d.** On the Assign Roles page, click Continue.

CLOUDERA Manager	Add Role Instance	es to ECS	ent from 2023-Oct-23 11:55	
	<ol> <li>Assign Roles</li> <li>Review Changes</li> </ol>	Assign Roles You can specify the role assignments for yo You can also view the role assignments by Ecs Server × 1 Select hosts		
<ul> <li>➡ Parcels</li> <li>➡ Running Commands</li> <li>➡ Support</li> </ul>				
<ul> <li>▲ admin</li> <li>7.11.3</li> </ul>		Cancel		← Back Continue →

e. On the Review Changes page, click Finish.

CLOUDERA Manager	Add Role Instance	CDEP Deployment from 2023-Oct-23 11:55	
	<ul> <li>Assign Roles</li> <li>Review Changes</li> </ul>	Review Changes	
		No additional configurations are required.	
🛱 Parcels			
🕱 Running Commands			
🛞 Support			
A admin			
7.11.3 《		Cancel	← Back Finish →

**f.** The new host is listed on the ECS Instances page.

CLOUDERA Manager	152-b883				CDEP Deploy	ment from 2	023-0ct-23 11:55				
Search	etions -	Մ									
<b>뮫</b> Clusters	Status Instances Configur	ation C	ommands	Charts	Library Audits	Web U	I 👻 Quick Links	•			
및 Hosts											
Diagnostics Diagnostics Diagnostics											
Audits           Q Enter search terms (hostname, host ID, IP address, cluster name, rack, health stat)         Filters         Last Updated: Dec 13, 7:32:41 PM UTC         C											
🗠 Charts			Action	s for Selec	ted -				Add Role Instar	nces Role Groups	
പ്പ Replication	Filters		-								
Administration	✓ STATUS			Status	Role Type	Tags	State	Hostname	Commission State	Role Group	
🛆 Data Services New	Good Health Stopped	4 1		0	Ecs Agent		Started	dh-centos79- 3.vpc.cloudera.com	Commissioned	Ecs Agent Default Group	
	> COMMISSION STATE			۲	Ecs Agent		Started	dh-centos79- 2.vpc.cloudera.com	Commissioned	Ecs Agent Default Group	
	> MAINTENANCE MODE									· · ·	
	> RACK ID			0	Ecs Agent		Stopped	ecst- 2.vpc.cloudera.com	Commissioned	Ecs Agent Default Group	
🛱 Parcels	> ROLE GROUP										
	> ROLE TYPE			0	Ecs Agent		Started	ecst- 1.vpc.cloudera.com	Commissioned	Ecs Agent Default Group	
🕱 Running Commands	> STATE										
🐯 Support	> HEALTH TEST			0	Ecs Server		Started with Outdated	dh-centos79- 1.vpc.cloudera.com	Commissioned	Ecs Server Default Group	
A admin							Configuration			· · · · · ·	
7.11.3 《										1 - 5 of 5	

17. Restart the ECS cluster by clicking the ECS Restart icon, or by selecting Actions > Restart on the ECS cluster home page.

CLOUDERA Manager	● 152-b883 Actions -	CDEP Deployment from 2023-Oct-23 11:55	
Search	Status Health Issues Configuration -		
<b></b> Clusters			
면 Hosts	Status	Charts 🖾 Edit Layout	30m 1h 2h 6h 12h 1d 7d 30d ♂▼
☑ Diagnostics	ECS 1.5.2 (Parcels)	Cluster CPU	
🚯 Audits	📀 🗮 4 Hosts		
🗠 Charts	Stale Configuration: Restar	teo 50%	
ھی Replication	• 🛱 ECS • • 2 · U	10:15 10:30	
🚱 Administration	Taga	uration: Restart needed b883, Host CPU Usage Across Hosts 5%	
▲ Data Services (New)	_cldr_cm_ek8s_control_plane=e3645176-6c22-4158-99af-88ead8bf49 _cldr_cm_ek8s_datalake=Cluster 1	Cluster Disk IO	
🛱 Parcels			
🕱 Running Commands			

**18.** Click ECS on the ECS cluster home page, then select Actions > Unseal Vault.

CLOUDERA Manager	152-b883		CDEP Deployn	nent from 2023-Oct-23 11:55
Search	🛑 🛱 ECS 👔	Actions -		📢 30 minutes preceding Dec 12, 10:47 PM UTC 🕨 💓 🕍
曼 Clusters	Status Instances	Start Stop	ibrary Au.	udits Web UI - Quick Links -
興 Hosts 丞 Diagnostics	Health Tests	Restart Rolling Restart	eate Trigger	Charts 🛛 Edit Layout 30m 1h 2h 6h 12h 1d 7d 30d 🎤 -
Audits Charts	Kubernetes Health Firing alerts for Kub	Add Role Instances	uppress	Informational Events @
යු Replication	DaemonSet rollout i	Rename	uppress	80 0.5
<ul> <li>Administration</li> <li>Data Services New</li> </ul>	Firing alerts for Lon over 90% of the cap	Delete	ume is me is	10:30 10:45
	over 90% of the cap rollout is stuck., Dae	Enter Maintenance Mode	emonSet stuck.	Important Events and Alerts @
	Show 5 Good	Unseal Vault Update Ingress Unseal Vault in ECS aft	er Vault componen	2
	Status Summ	Refresh ECS		10:30 10:45
	Ecs Agent	Create Environment S Good Health		Alerts 0 Critical Events 0 Important Events 0
	Ecs Server	I Good Health		
	Hosts	4 Good Health		

# Starting, stopping, restarting, and refreshing Embedded Container Service Clusters

Procedures to start, stop, restart, and refresh Private Cloud Experience clusters

#### Starting a Embedded Container Service Cluster

#### Procedure

- 1. On the HomeStatus tab, click the Actions Menu to the right of the Embedded Container Service cluster name and select Start.
- **2.** Click the Start button that appears in the next screen to confirm. The Command Details window shows the progress of starting services.

#### **Results**

When the All services successfully started message appears, the task is complete and you can close the Command Details window.

#### Stopping a CDP Private Cloud Data Services Cluster

#### Procedure

- 1. On the HomeStatus tab, click the Actions Menu to the right of the Embedded Container Service cluster name and select Stop.
- **2.** Click the Stop button in the confirmation screen. The Command Details window shows the progress of stopping services.

#### **Results**

When the All services successfully stopped message appears, the task is complete and you can close the Command Details window.



**Note:** The cluster-level Stop action does not stop the Cloudera Management Service. You must stop the Cloudera Management Service separately.

#### **Restarting a Embedded Container Service Cluster**

#### Procedure

- 1. On the HomeStatus tab, click the Actions Menu to the right of the cluster name and select Restart.
- 2. Click the Restart button that appears in the next screen to confirm. The Command Details window shows the progress of stopping services. When the All services successfully started message appears, the task is complete and you can close the Command Details window.
- 3. Click ActionsUnseal Vault

#### **Refreshing a Embedded Container Service Cluster**

#### Procedure

To refresh a cluster, in the HomeStatus tab, click the Actions Menu to the right of the cluster name and select Refresh Cluster.

#### **Monitoring Embedded Container Service Clusters**

Procedures to monitor Embedded Container Service clusters Related Information Monitoring Services Monitoring Clusters Docker Server Health Tests ECS Health Tests ECS Agent Health Tests ECS Server Health Tests Docker Server Metrics ECS Agent Metrics ECS Server Metrics

#### **Viewing Health Status**

#### Procedure

- 1. Open the Cloudera Manager Admin Console.
- 2. From the Home page, Click on the Embedded Container Service cluster.
- 3. Click on the ECS or Docker service.

#### Results

The Service status page displays the Health Test, Status Summary and Health History of the services.

#### **Viewing the Kubernetes Dashboard**

#### About this task

The Kubernetes Dashboard displays configuration and other information about the embedded Kubernetes infrastructure used in the Embedded Container Service cluster. Although you can make configuration changes using the dashboard (if you have the appropriate permissions), you should not make any changes using the dashboard. Cloudera Support may use the dashboard to diagnose problems with the cluster.

#### Procedure

- 1. In the Cloudera Manager Admin Console, go to the ECS service.
- **2.** Click Web UIECS Web UI

#### **Results**

The Kubernetes Dashboard displays.

#### Viewing the Private Cloud Management Console

#### Procedure

- 1. In the Cloudera Manager Admin Console, go to the ECS service.
- **2.** Click Web UIConsole

#### Results

The CDP Management Console displays.

#### Performing maintenance on an Embedded Container Service cluster

You can perform maintenance on the nodes in your ECS cluster by shutting down the nodes one at a time while keeping your Data Services running with slightly diminished capacity.

#### Before you begin

• The containerized cluster must be configured for ECS Server high availability.

- You must be able to log into the nodes as root or have sudo privileges.
- The node to be maintained must have a status of Ready. A status of NotReady may suggest the node is having other complicating issues. Run the following command on an ECS server node to verify status of the nodes.

```
/var/lib/rancher/rke2/bin/kubectl --kubeconfig=/etc/rancher/rke2/rke2.yaml
get nodes
```

#### Procedure

- 1. Inform Kubernetes that it should no longer use this node for any new pods. This process is called cordon and Kubernetes tracks the node status as Ready,SchedulingDisabled.
  - a) Run the following command to list the nodes:

```
/var/lib/rancher/rke2/bin/kubectl --kubeconfig=/etc/rancher/rke2/rke2.ya
ml get nodes
```

b) Run the following command for the node you are taking off line:

```
/var/lib/rancher/rke2/bin/kubectl --kubeconfig=/etc/rancher/rke2/rke2.ya
ml cordon **node-name**
```

c) Run the following command to verify the node status shows Ready, Scheduling Disabled:

```
/var/lib/rancher/rke2/bin/kubectl --kubeconfig=/etc/rancher/rke2/rke2.ya
ml get nodes
```

2. Inform Kubernetes to evict this node's Data Services pods and cleanly detach any storage volumes. This allows the pods to be started up on other Ready nodes in the cluster and any replica volumes are migrated. The process is invoked by the drain command:

```
/var/lib/rancher/rke2/bin/kubectl --kubeconfig=/etc/rancher/rke2/rke2.yaml
drain *node-name* --delete-emptydir-data --ignore-daemonsets --pod-select
or='app!=csi-attacher,app!=csi-provisioner,app!=longhorn-admission-webho
ok,app!=longhorn-conversion-webhook,app!=longhorn-driver-deployer'
```

You will see a message

"WARNING: ignoring DaemonSet-managed Pods:....

You can ignore this warning.

You will see repeating messages like this:

```
error when evicting pods/"instance-manager-r-xxxxxxxx" -n "longhorn-syst
em" (will retry after 5s): Cannot evict pod as it would violate the pod's
disruption budget.
```

This is normal, after several iterations those pods will be evicted and the drain is completed.

- **3.** Log in to the Cloudera Manager Admin Console.
- **4.** Go to the ECS service page and verify that the Vault is not sealed. This information displays in the Health Tests section.
- 5. If the Vault is sealed, click ActionsUnseal Vault.
- 6. Click the Action menu next to the ECS cluster and select Stop.
- 7. Shutdown ECS roles.
  - a) Click the Instances tab.
  - b) Select the hosts where the ECS Agent role is running and click ActionsStop.
  - c) Select two of the hosts running the ECS Server role is running and click ActionsStop.

- **8.** Perform the maintenance.
- 9. Reboot the hosts.
- 10. Log in to the Cloudera Manager Admin Console.
- 11. Click the Action menu next to the ECS cluster and select Start.
- **12.** Uncordon the node to start the Data Services by running the following command:

```
/var/lib/rancher/rke2/bin/kubectl --kubeconfig=/etc/rancher/rke2/rke2.yaml
uncordon **node-name**
```

13. Run the following command to verify that the node status is Ready:

/var/lib/rancher/rke2/bin/kubectl get nodes

14. Click ActionsRefresh ECS Cluster.

#### **Configuring a containerized cluster with SELinux**

You can configure a containerized cluster with SELinux to enable it to run the Embedded Container Service (ECS).

#### **Procedure**

- 1. Ensure that the hosts you use for the containerized cluster meet all hardware and software requirements for use with CDP Private Cloud Data Services.
- 2. Enable SELinux in Permissive mode by updating the /etc/selinux/config file on all ECS hosts by running the following commands:

```
sed -i 's/SELINUX=disabled/SELINUX=permissive/' /etc/selinux/config
reboot
```

**3.** Add the SELinux policies provided by RKE2 by installing the RPMs on all ECS hosts. Use the following commands:

```
yum localinstall -y http://mirror.centos.org/centos/7/extras/x86_64/Pack
ages/container-selinux-2.107-3.el7.noarch.rpm
wget https://github.com/rancher/rke2-selinux/releases/download/v0.8.stable
.2/rke2-selinux-0.8-2.el7.noarch.rpm
yum install -y rke2-selinux-0.8-2.el7.noarch.rpm
```

4. Uninstall the nscd service by running the following command on all ECS hosts :

yum erase -y nscd

- 5. Install a containerized cluster on all hosts. See Adding a CDP Private Cloud Data Services cluster.
- 6. Enable SELinux in Enforced mode by running the following commands on all ECS hosts:

setenforce 1

You can confirm that SELinux is running in Enforced mode by running the following command:

getenforce

- 7. Verify that the ECS cluster hosts are sending heartbeats to the Cloudera Manager server.
  - a) Open the Cloudera Manager Admin Console.
  - b) Click Hosts All Hosts .
  - c) Check the Last Heartbeat column for heartbeat status.
- 8. Verify that your workloads are functioning as expected.

#### **Decommissioning ECS Hosts**

You can decommission ECS hosts and remove them from the cluster.

#### About this task

1. Cordon the node. Longhorn will automatically disable the node scheduling when a Kubernetes node is cordoned. Run the following command on any ECS Server host:

kubectl cordon [\*\*\*node\*\*\*]

2. Drain the node to move the workload to somewhere else. Run the following command on any ECS Server host:

```
kubectl drain [***node***] --ignore-daemonsets --pod-selector='app!=csi-at
tacher,app!=csi-provisioner' --delete-emptydir-data
```

3. Detach all the volumes on the node. Navigate to the ECS Service page on Cloudera Manager UI.

a. In the Web UI dropdown, select Storage UI to open the Longhorn UI.

b. Under the Volume tab in Longhorn UI, select the volumes on this node. Click Detach and select Yes on the screen prompt.

If the node has been drained, all the workloads should be migrated to another node already.

If there are any other volumes remaining attached, detach them before continuing.

**4.** Remove the node from Longhorn using the Delete in the Node tab. Or, remove the node from Kubernetes. Run the following command on any ECS Server host:

kubectl delete node [\*\*\*node-name\*\*\*]

Longhorn will automatically remove the node from the cluster.

5. Uninstall ECS and Docker artifacts from the host. Run below commands on the host:

```
cd /opt/cloudera/parcels/ECS/bin
./rke2-killall.sh # usually 2 times is sufficient
./rke2-uninstall.sh
rm -rf /ecs/* # assumes the default defaultDataPath and lsoDataPath
rm -rf /var/lib/docker_server/* # deletes the auth and certs
rm -rf /etc/docker/certs.d/* # delete the ca.crt
rm -rf /docker # assumes the default defaultDataPath for docker
```

6. Go to the Hosts page for the ECS Cluster, select that host, and under Actions for Selected, click Begin Maintenance (Suppress Alerts/Decommission)

#### **Dedicating ECS nodes for specific workloads**

You use Cloudera Manager to dedicate Embedded Container Service (ECS) cluster nodes for specific workloads. You can dedicate GPU nodes for CML workloads, and NVME nodes for CDW workloads.

#### Dedicating ECS nodes when creating a new cluster

- 1. Check the ECS installation requirements.
- 2. Add the new hosts to Cloudera Manager.
- **3.** In Cloudera Manager, click Hosts > All Hosts, then select one or more of the new ECS hosts.
- 4. Click the Configuration tab, then use the Search box to locate the node\_taint configuration property.

5. Select Dedicated GPU Node to dedicate the node for CML workloads, or select Dedicated NVME node to dedicate the node for CDW workloads.

When either of these options are selected, no other workload pods will be allowed to run on the dedicated node.

CLOUDERA Manager	Hosts Configurati	on	CDEP Deployment from	1 2023-3ep-20 08.23	
Search	Q node_taint				<b>Filters</b> History & Rollback
晕 Clusters 興 Hosts	Filters		Data Services: Restrict	Dedicated GPU Node	Show All Descriptions
🔀 Diagnostics	✓ SCOPE		workloads types	O Dedicated NVME Node	
🚯 Audits	All Hosts	1	© node_taint	○ None	
🛃 Charts	✓ CATEGORY			O Undo Add Host Overrides	
آھ <mark>ا</mark> Replication	Advanced Monitoring	1			1 - 1 of 1
🚯 Administration	Parcels Resource Management	0			
🛆 Data Services New	~ STATUS	_			
	<ul> <li>€ Error</li> <li>▲ Warning</li> <li>☞ Edited</li> <li>♥ Non-Default</li> <li>Include Overrides</li> </ul>	0 0 1 1 0			
🛱 Parcels					
🕱 Running Commands					
🛞 Support					
A admin					
7.11.3 🛛 🛠	1 Edited Value Reason for chang	e: Modifi	ed Data Services: Restrict workl	oads types	Save Changes(CTRL+S)

- 6. Click Save Changes.
- 7. Repeat the previous steps to add the other ECS hosts to Cloudera Manager and assign workload types.
- **8.** Follow the ECS installation procedure. When you reach the Specify Hosts page in the installation wizard, the hosts you added to Cloudera Manager appear. Select the hosts, click Continue, then proceed through the rest of the installation wizard.
- 9. After the installation is complete, the applicable workloads will only run on the specified dedicated nodes.

#### **Dedicating ECS nodes in an existing cluster**

- 1. Open the Cloudera Manager Admin Console.
- 2. On the Home page, click the ECS Cluster.
- 3. Click Hosts, select one or more of the ECS hosts, then click the Configuration tab.
- 4. Click the Configuration tab, then use the Search box to locate the node\_taint configuration property.

5. Select Dedicated GPU Node to dedicate the node for CML workloads, or select Dedicated NVME node to dedicate the node for CDW workloads.

When either of these options are selected, no other workload pods will be allowed to run on the dedicated node.

CLOUDERA Manager	Hosts Configurati	on	CDEP Deployment from	1 2023-Sep-20 08.23	
Search	Q node_taint				<b>Filters</b> History & Rollback
臣 Clusters					
<b></b> 理 Hosts	Filters				Show All Descriptions
			Data Services: Restrict	Dedicated GPU Node	0
🔂 Diagnostics	✓ SCOPE		workloads types	O Dedicated NVME Node	
😼 Audits	All Hosts	1	we node_taint	○ None	
🗠 Charts	✓ CATEGORY			C Undo Add Host Overrides	
رجی Replication	Advanced	1		Add Host overhues	
Pr- Replication	Monitoring	0			1 - 1 of 1
😚 Administration	Parcels Resource Management	0			
🛆 Data Services New	Recourse management				
	✓ STATUS				
	C Error	0			
	🔺 Warning	0			
	C Edited	1			
	* Non-Default	1			
	🗋 Include Overrides	0			
🛱 Parcels					
🕱 Running Commands					
🛞 Support					
A admin					
7.11.3		e: Modifie	ed Data Services: Restrict workl	oads types	Save Changes(CTRL+S)

- 6. Click Save Changes.
- 7. Repeat the previous steps to assign workload types to the other ECS hosts.
- 8. On the ECS Cluster landing page, click Actions > Refresh Cluster.
- 9. After the Refresh is complete, click Actions > Rolling Restart.

#### **Specifying racks for ECS clusters**

You use Cloudera Manager to assign Embedded Container Service (ECS) cluster hosts to a specific rack.

#### About this task

- All hosts in an ECS cluster must have the same assigned rack name and path structure. A configuration error will occur if the rack names do not match.
- ECS cluster hosts with no specified rack name are assigned the default rack name value. The default value means that no rack name has been specified for the ECS cluster hosts.

#### Specifying a rack name for an ECS cluster

1. In Cloudera Manager, select the ECS cluster, then click Hosts.

2. In the Hosts list, click the top checkbox to select all of the cluster hosts.

CLOUDERA Manager	152-b813			CDEP	Deployment fro	om 2023-Sep-26 08:29				Cust
Search	Hosts Configuration	Add	Hosts	Review L	lpgrade Statu	s Inspect Hosts in	n Cluster	Inspect Clus	ter Network Pe	erformance
뮫 Clusters										
堲 Hosts	<b>Q</b> Search					Filters	I	Last Updated:	Oct 1, 7:41:54	1 PM UTC 🙎
	Filters		Actio	ns for Seleo	eted (3) 🗸				Columns:	11 Selected -
😰 Audits	✓ STATUS			Status	Name		IP	Roles	Tags	Commission Stat
🗠 Charts	© Good Health	3		0	dh-centos7	79-1.vpc.cloudera.com	10.65.201.20	09 2 Roles		Commissioned
P Replication	> CLUSTERS			0	dh-centos7	79-2.vpc.cloudera.com	10.65.194.34	4 2 Roles		Commissioned
🚱 Administration	> CORES			0	dh-centos7	79-3.vpc.cloudera.com	10.65.200.38	3 2 Roles		Commissioned
🛆 Data Services New	> COMMISSION STATE									1 - 3 of 3
	> LAST HEARTBEAT									
	> LOAD (1 MINUTE)									
	> LOAD (5 MINUTES)									
	> LOAD (15 MINUTES)									
	> MAINTENANCE MODE									
	> UPGRADE DOMAIN									
	> RACK									
	> SERVICE									

3. Click Actions for Selected, then click Assign Rack.

CLOUDERA Manager	152-b813		CDEP Deployment from 2023-Sep-26 08:29				
Search	Hosts	Add H	losts Review Upgrade Status Inspect Hosts in Clust	er Ir	nspect Clust	er Network I	Performance
臣 Clusters							
₽₽ Hosts	<b>Q</b> Search		Filters	La	st Updated:	Oct 1, 7:47:5	4 PM UTC 🙎
☑ Diagnostics	Filters		Actions for Selected (3) -			Columns:	11 Selected -
😰 Audits			Assign Rack		Roles	Tags	Commission Stat
✓ Charts	✓ STATUS	-		.201.209	2 Roles		Commissioned
رمان Replication	Good Health	3	Regenerate Keytab	.194.34	2 Roles		Commissioned
🖉 Administration	> CLUSTERS		Apply Host Template	.200.38	2 Roles		Commissioned
	> CORES		Start Roles on Hosts	.200.30	2 Noies		1 - 3 of 3
🛆 Data Services New	> LAST HEARTBEAT		Stop Roles on Hosts				1-3013
	> LOAD (1 MINUTE)						
	> LOAD (5 MINUTES)		Begin Maintenance (Suppress Alerts/Decommission)				
	> LOAD (15 MINUTES)		End Maintenance (Enable Alerts/Recommission)				
	> MAINTENANCE MODE		Edit Tags				
	> UPGRADE DOMAIN		Remove From Cluster				
	> RACK > SERVICE		Remove From Cloudera Manager				
	SERVICE						

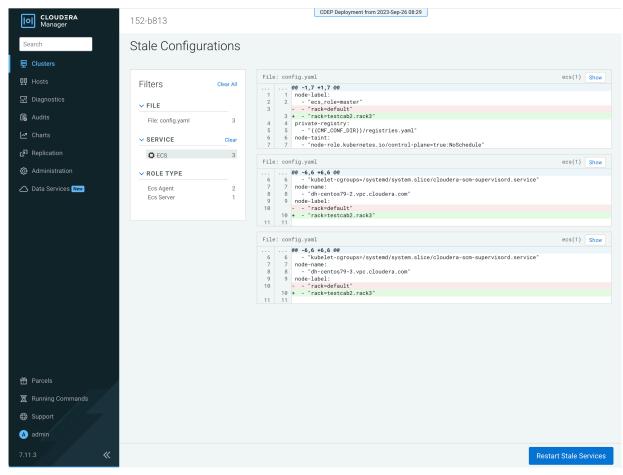
4. On the Assign Rack popup, enter a rack name in the New Rack box, then click Confirm.

CLOUDERA Manager	152-b813		CDEP Deployment	from 2023-Sep-26 08:29				
Search	Host	Assign Rack		×	ster In	spect Clust	ter Network F	erformance
🖶 Clusters								
민민 Hosts	Q Search	Host		Current Rack	Las	st Updated:	Oct 1, 7:55:5	4 PM UTC 🙎
Diagnostics	Filter	dh-centos79-[1-3].vpc.clo	oudera.com	/default			Columns:	11 Selected -
😰 Audits	✓ STA	New Rack	/testcab2/rack3	]		Roles	Tags	Commission Stat
🛃 Charts	♥ G		Deale memory and all the component of	identificant liter their method	5.201.209			Commissioned
جا Replication	> CLUS		Rack names are slash-separated For example, "/rack1" and "/cabin		5.194.34			Commissioned
🔅 Administration	> CORI		Changing the rack configuration r	night result in a transient	5.200.38			Commissioned
🛆 Data Services New	> COM > LAST		state of mis-replicated blocks in I are correctly placed using this ne	HDFS until the old blocks				
	> LOAC > LOAC > LOAC		Ca	ncel Confirm				
	> MAINTE	NANCE MODE						
	> UPGRA	DE DOMAIN						
	> RACK							
	> SERVIC	E						

**5.** Cloudera Manager detects this configuration change, and displays a Stale Configuration warning. You must restart the cluster in order for the updated configuration to take effect.

CLOUDERA Manager	● 152-b813 Actions -	CDEP Deployment from 2023-Sep-26 08:29	
Search	Status Health Issues Configuration -		
号 Clusters			
晅 Hosts	Status	Charts 🖾 Edit Layout 3	<b>0m</b> 1h 2h 6h 12h 1d 7d 30d ∥∕▼
☑ Diagnostics	ECS 1.5.2 (Parcels)	Cluster CPU	
😰 Audits	🛇 🧮 3 Hosts		
🗠 Charts	Stale Configuration: Restart	50%	
<b>ح</b> ا Replication	● 🛱 ECS           ● 1 🙂	07:45	
🚱 Administration		ration: Restart needed b813, Host CPU Usage Across Hosts 4.6%	
🛆 Data Services New	Tags	Cluster Disk IO	
	_cldr_cm_ek8s_control_plane=6060a72c-eed1-4915-8b8c-ad0a8eca3b _cldr_cm_ek8s_datalake=Cluster 1	000 9777K/s 488K/s 07:45	
		Total Disk Byt 25.6K/s Total Disk Byte 1.5M/s	
		Cluster Network IO	
		P0008 1.9M/s 1.9M/s 977K/s 07.45	
		Total Bytes Rec 3.1M/s Total Bytes Tra 3.7M/s	
🕱 Running Commands			
🛞 Support			

6. Click the Stale Configuration icon, then click Restart Stale Services and click through the Restart wizard.



7. When the Restart is complete, you can use the Assign Rack popup to confirm that the new rack name has been applied to the ECS cluster hosts.

CLOUDERA Manager	152-b813		CDEP Deploy	yment from 2023	3-Sep-26 08:29				
Search	Hosts	Assign Rack			×	Cluste			Network Performance
臣 Clusters									
₽₽ Hosts	<b>Q</b> Search	Host		Current Rack			Last l	Jpdated: Oo	et 2, 3:58:12 PM UTC 🥃
☑ Diagnostics	Filters	dh-centos79-[1-3].vpc.cld	oudera.com	/testcab2/ra	ack3				Columns: 11 Selected -
😰 Audits	✓ STATUS	New Rack					Roles	Tags	Commission State
🛃 Charts	🖉 Good I		Rack names are slash-sepa	rated identifier	a lika Univ patha	1.209			Commissioned
ැනි Replication	> CLUSTE		For example, "/rack1" and "/			4.34			Commissioned
(党) Administration	> CORES		Changing the rack configura	ation might res	ult in a transient	0.38			Commissioned
🛆 Data Services New	> COMMIS		state of mis-replicated bloc						
	> LAST HE		are correctly placed using th	his new rack co	onfiguration.				
	> LOAD (1								
	> LOAD (5			Cancel	Confirm				
	> LOAD (1								
	> MAINTENA	NCE MODE							
	> UPGRADE I	DOMAIN							
	> RACK								

**8.** You can also use the ECS Web UI to view cluster hose rack assignments. Select the ECS cluster, click ECS, then click Web UI > ECS Web UI . In the Web UI, select the CDP namespace, then click Nodes.

Note that in Kubernetes periods are used as separators (rather than slashes) in the rack name path. The leading slash is also not used in Kubernetes.

🛞 kubernetes	cdp - Q S	earch						+		0
Cluster > Nodes										
Deployments	Nodes									
Jobs Pods	Name	Labels	Ready	CPU requests (cores)	CPU limits (cores)	CPU capacity (cores)	Memory requests (bytes)	Memory limits (bytes)	Memory capacity (bytes)	Pod
Replica Sets		beta.kubernetes.io/arch: amd 64		()		()	(-)/	(-))	()	
Replication Controllers Stateful Sets		beta.kubernetes.io/os: linux								
Service	dh-centos79-3.vpc.cloudera.com	kubernetes.io/arch: amd64 kubernetes.io/hostname: dh-		6.07 (75.81%)	6.95 (86.88%)	8.00	8.82Gi (28.61%)	29.13Gi (94.54%)	30.81Gi	39 (
Ingresses N		centos79-3.vpc.cloudera.com kubernetes.io/os: linux		(	(,		(,	(******)		
Services N	[	rack: testcab2.rack3								
Config and Storage		Show less beta.kubernetes.io/arch: amd 64								
Config Maps N Persistent Volume Claims		beta.kubernetes.io/os: linux	True					28.98Gi (95.07%)	30.48Gi	
Secrets N		kubernetes.io/arch: amd64		7.92	7.55		13.78Gi			
Storage Classes	dh-centos79-2.vpc.cloudera.com	kubernetes.io/hostname: dh- centos79-2.vpc.cloudera.com		(99.01%)	(94.38%)	8.00	(45.21%)			48 (9
Cluster	Г	kubernetes.io/os: linux								
Cluster Role Bindings Cluster Roles	L	rack: testcab2.rack3 Show less								
Events N		beta.kubernetes.io/arch: amd 64								
Namespaces		beta.kubernetes.io/os: linux								
Network Policies N		ecs_role: master								
Persistent Volumes		kubernetes.io/arch: amd64								
Role Bindings N		kubernetes.io/hostname: dh- centos79-1.vpc.cloudera.com kubernetes.io/os: linux	_	7.97	11.35		11.36Gi	29.85Gi		57
Roles N Service Accounts N	dh-centos79-1.vpc.cloudera.com	node-role.kubernetes.io/contr		(99.63%)	(141.88%)	8.00	(36.88%)	(96.90%)	30.81Gi	(11
Custom Resource Definitions		ol-plane: true node-role.kubernetes.io/etc d: true								
Settings		node-role.kubernetes.io/mast er: true								
Settings	ſ	rack: testcab2.rack3								

#### Specifying a rack name when creating a new ECS cluster

Currently the ECS installation wizard does not enable you to assign rack names when creating a new ECS cluster. Therefore, you should first add the new set of ECS hosts to Cloudera Manager, and then assign the rack name in Cloudera Manager. You can then use the ECS installation wizard to create a new ECS cluster using these hosts.

- 1. Check the ECS installation requirements.
- 2. Add the new hosts to Cloudera Manager.

3. In Cloudera Manager, click Hosts > All Hosts, then select the hosts you just added.

CLOUDERA Manager	Home			L	CDEP Deployme	nt from 2023-Sep-26 08:29				
Search	All Hosts	(	Configur	ation	Add Hosts	Review Upgrade Status	Inspect All Host	Insp	ect Network	C Performance
뮫 Clusters	Q Search					Filters		et Undated	Oct 2 9:02	:05 PM UTC 👩
興 Hosts	Q search					Pliters	La	ist opuateu	. 001 2, 0.03	
🐱 Diagnostics	Filters		Actions	for Selec	ted (3) 🗸				Columns	s: 11 Selected ▼
😰 Audits	✓ STATUS			Status	Name		IP	Roles	Tags	Commission State
🗠 Charts	Good Health 9			0	dh-centos79	-1.vpc.cloudera.com	10.65.201.209	2 Roles		Commissioned
Replication آتو	> CLUSTERS			0	dh-centos79	-2.vpc.cloudera.com	10.65.194.34	2 Roles		Commissioned
🔅 Administration	> CORES			0	dh-centos79	-3.vpc.cloudera.com	10.65.200.38	2 Roles		Commissioned
🛆 Data Services New	> COMMISSION STATE			0	dh-centos79	t-1.vpc.cloudera.com	10.65.199.15			Commissioned
	> LAST HEARTBEAT			0	dh-centos79	t-2.vpc.cloudera.com	10.65.205.101			Commissioned
	> LOAD (1 MINUTE)			0	dh-centos79	t-3.vpc.cloudera.com	10.65.200.0			Commissioned
	> LOAD (5 MINUTES)		_	0				EE Dalaa		Commissioned
	> LOAD (15 MINUTES)			_		8-1.dhoyle711318.root.hwx.site				
	> MAINTENANCE MODE > UPGRADE DOMAIN			0	dhoyle71131	8-2.dhoyle711318.root.hwx.site	172.27.76.66	23 Roles		Commissioned
	> RACK			0	dhoyle71131	8-3.dhoyle711318.root.hwx.site	172.27.203.76	18 Roles		Commissioned
	> SERVICE									1 - 9 of 9

4. Click Actions for Selected, then click Assign Rack.

CLOUDERA Manager	152-b813		CDEP Deployment from 2	023-Sep-26 08:29				
Search	Hosts	Add H	Hosts Review Upgrade Status	Inspect Hosts in Cluste	er In	spect Clust	er Network I	Performance
뮫 Clusters								
₽₽ Hosts	<b>Q</b> Search			➡ Filters	La	st Updated:	Oct 1, 7:47:5	4 PM UTC 🖸
☑ Diagnostics	Filters		Actions for Selected (3) -				Columns:	11 Selected -
😰 Audits			Assign Rack			Roles	Tags	Commission Stat
🗠 Charts	STATUS	3	Assign Upgrade Domain Regenerate Kevtab		201.209	2 Roles		Commissioned
جم Replication	> CLUSTERS		Regenerate Reytab		194.34	2 Roles		Commissioned
🚱 Administration	> CORES		Apply Host Template		200.38	2 Roles		Commissioned
🛆 Data Services New	> COMMISSION STATE		Start Roles on Hosts					1 - 3 of 3
	> LAST HEARTBEAT		Stop Roles on Hosts					
	> LOAD (1 MINUTE)		Begin Maintenance (Suppress Alerts/Decommission)					
	> LOAD (5 MINUTES)		End Maintenance (Enable Alerts/Recommission)					
	> LOAD (15 MINUTES)							
	> MAINTENANCE MODE		Edit Tags					
	> UPGRADE DOMAIN							
	> RACK		Remove From Cluster					
	> SERVICE		Remove From Cloudera Manage	er				

5. On the Assign Rack popup, enter a rack name in the New Rack box, then click Confirm.

CLOUDERA Manager	Home		L	CDEP Deployment fro	m 2023-Sep-26 08:29					
Search	All Host	Assign Rack			Inspect All Hosts Inspect Network Perform					
E Clusters										
堲 Hosts	Q Search	Host			Current Rack			UCI 2, 8:07:	05 PM UTC  🤁	
- Diagnostics	Filters	dh-centos79t-[1-3].vpc.c	loudera.com		'default			Columns	: 11 Selected +	
😼 Audits	<b>✓</b> STATUS	New Rack	/testcab2/rack4	4		IP	Roles	Tags	Commission State	
🗠 Charts	Sood He					10.65.201.209			Commissioned	
ন্দ্রী Replication	> CLUSTER:				entifiers, like Unix paths. 3/rack4" are both valid.	10.65.194.34			Commissioned	
🔅 Administration	> CORES		Changing the second	le configuration mis	-he voorde in oekonolone	10.65.200.38			Commissioned	
🛆 Data Services 🔤	> COMMISS		Changing the rack configuration might result in a transien state of mis-replicated blocks in HDFS until the old block: are correctly placed using this new rack configuration.			10.65.199.15			Commissioned	
	> LAST HEA		are correctly placed using this new i		uck configuration.	10.65.205.101			Commissioned	
	> LOAD (5 N		Са			10.65.200.0			Commissioned	
	> LOAD (15				Confirm	172.27.173.77			Commissioned	
> MAINTENAN > UPGRADE DO		CE MODE			dhoyle711318.root.hwx.site	172.27.76.66			Commissioned	
		MAIN			dhoyle711318.root.hwx.site	172.27.203.76			Commissioned	
	> RACK									
	> SERVICE									

6. Follow the ECS installation procedure. When you reach the Specify Hosts page in the installation wizard, the hosts you added to Cloudera Manager appear. Select the hosts, click Continue, then proceed through the rest of the installation wizard.

CLOUDERA Manager	Add Private Cloud Containerized Cluster									
	Getting Started									
	Specify Hosts									
	Cluster Basics									
	3 Specify Hosts	Currently Managed Hosts (3/3 Selected) New Hosts These hosts do not belong to any clusters. Select some to form your cluster.								
	4 Assign Roles		Hostname (FQDN) ↑	IP Address	Rack	Version	Cores			
	5 Configure Docker Repository		dh-centos79t-1.vpc.cloudera.com	10.65.199.15	/testcab2/rack4	None	8			
	C. Our Course Data Overland		dh-centos79t-2.vpc.cloudera.com	10.65.205.101	/testcab2/rack4	None	8			
	6 Configure Data Services		dh-centos79t-3.vpc.cloudera.com	10.65.200.0	/testcab2/rack4	None	8			
	7 Configure Databases						1 - 3 of 3			
	8 Install Parcels									
	9 Inspect Cluster									
	10 Install Data Services									
	11 Summary									
60										
🛱 Parcels										
🕱 Running Commands										
🐯 Support										
(A) admin										
7.11.3		Са	ncel			← Back	Continue →			

35

7. After the installation is complete, you can use the Assign Rack popup or the ECS Web UI to view the rack assignments for the ECS cluster hosts.

CLOUDERA Manager	152-b813t		CDEP De	ployment from 202	3-Sep-26 08:29				
Search	Hosts	Assign Rack			Х	in Cluster		ster Network Performa	nce
🛱 Clusters									
興 Hosts	Q Search	Host		Current Rac	k	L	ast Updated	d: Oct 2, 9:38:58 PM UT	°C 😂
I 抷 Diagnostics	Filters	dh-centos79t-[1-3].vpc.c	/testcab2/	rack4			Columns: 11 Sele	cted -	
🔞 Audits	✓ STATUS	New Rack				Roles	Tags	Commission State	Las
<mark>∽ª</mark> Charts	🗢 Good He					.15 2 Roles		Commissioned	
년 <sup>7]</sup> Replication	> CLUSTERS		Rack names are slash-se For example, "/rack1" and			.101 2 Roles		Commissioned	
🔅 Administration	> CORES		Ohan ala a tha an dua a Ƙa		and the second second	.0 2 Roles		Commissioned	
🛆 Data Services 🔤	> COMMISS		Changing the rack configuration might result in a transie state of mis-replicated blocks in HDFS until the old bloc are correctly placed using this new rack configuration.		til the old blocks				
	> LAST HEA				onfiguration.				
	> LOAD (1 M								
	> LOAD (5 M		<b>Cancel</b> Confirm						
	> LOAD (15								
	> MAINTENANO	CE MODE							
	> UPGRADE DO	MAIN							
	> RACK								
	> SERVICE								

🛞 kubernetes	cdp – Q	Search							+ 4	• •
E Cluster > Nodes										
Daemon Sets	Nadaa									
Deployments	Nodes									
Jobs Pods	Name	Labels	Ready	CPU requests (cores)	CPU limits (cores)	CPU capacity (cores)	Memory requests (bytes)	Memory limits (bytes)	Memory capacity (bytes)	Pods
Replica Sets		beta.kubernetes.io/arch: amd 64		()	7.44 5.10	()	(-))	21.64Gi	(-)/	
Replication Controllers		beta.kubernetes.io/os: linux	True (						30.48Gi	49 (9.80%)
Stateful Sets		kubernetes.io/arch: amd64				8.00	26.18Gi (85.88%)			
Service	<ul> <li>dh-centos79t-</li> <li>2.vpc.cloudera.com</li> </ul>	kubernetes.io/hostname: dh- centos79t-2.vpc.cloudera.co		7.44 (93.03%)						
Ingresses N		m								
Ingress Classes		kubernetes.io/os: linux								
Services N		rack: testcab2.rack4								
Config and Storage		beta.kubernetes.io/arch: amd 64	True 7.62 (95.26						.) 30.48Gi	
Config Maps N		beta.kubernetes.io/os: linux								52 (10.40%)
Persistent Volume Claims N		kubernetes.io/arch: amd64						36.83Gi (120.83%)		
Storage Classes	<ul> <li>dh-centos79t- 3.vpc.cloudera.com</li> </ul>	kubernetes.io/hostname: dh- centos79t-3.vpc.cloudera.co		7.62 (95.26%)	8.35 (104.38%)	8.00	10.48Gi (34.40%)			
Cluster		m			. ,	,				
Cluster Role Bindings		kubernetes.io/os: linux								
Cluster Roles		rack: testcab2.rack4								
Events N		beta.kubernetes.io/arch: amd								
Namespaces		64 beta.kubernetes.io/os: linux								
Network Policies N		ecs_role: master								
Nodes Persistent Volumes		kubernetes.io/arch: amd64								
Role Bindings		kubernetes.io/hostname: dh- centos79t-1.vpc.cloudera.co								
Roles N	dh-centos79t-	m		6.40	9.40		8.91Gi	25.66Gi		
Service Accounts	1.vpc.cloudera.com	kubernetes.io/os: linux	True	(79.94%)	9.40 (117.50%)	8.00	(28.93%)	25.66Gi (83.30%)	30.81Gi	47 (9.40%
Custom Resource Definitions		node-role.kubernetes.io/contr ol-plane: true								
		node-role.kubernetes.io/etc d: true								
Settings		node-role.kubernetes.io/mast er: true								
About		rack: testcab2.rack4								

#### Adding a host to an ECS cluster with a previously specified rack name

When you add a host directly to an ECS cluster, there is no way to specify a rack name for the new host, so it will be assigned the default rack name. A configuration error will occur if you try to add a new host directly to an ECS cluster with a previously specified rack name, since the default rack name of the new host does not match the rack name previously assigned to the other cluster hosts.

Therefore, you should first add the new ECS host to Cloudera Manager, and then use Cloudera Manager to assign the same rack name as the other ECS cluster hosts to the new host. You can then add the new host to the ECS cluster.

1. Check the ECS installation requirements.

2. Add the new hosts to Cloudera Manager. You can also access the Add Hosts wizard by clicking Hosts in the ECS cluster, and then clicking Add Hosts. Select Add hosts to Cloudera Manager.

CLOUDERA Manager	Add Hosts	CDEP Deployment from 2023-Sep-26 08:29
		The Add Hosts Wizard allows you to install the Cloudera Manager Agent on new hosts. You can either keep the new hosts available to be added to a cluster in the future, or you can add new hosts to an existing cluster  Add hosts to Cloudera Manager You can use these hosts later to create new clusters or expand existing clusters.
		Add hosts to Cluster       152-b813t
<ul> <li>         Parcels         又 Running Commands     </li> </ul>		
Support		
<ul> <li>A admin</li> <li>7.11.3</li> </ul>		← Back Continue →

3. In Cloudera Manager, click Hosts, then select the host you just added.

CLOUDERA Manager	Home				CDEP Deployment from 2023-Sep-26 08:29						
Search	All Hosts		Config	uration	Add Hosts Review Upgrade Status	Inspect All Hos	sts Inspect Netwo	rk Performance			
晕 Clusters 興 Hosts	<b>Q</b> Search				C Filters	L	ast Updated: Oct 3, 6:1.	6:28 PM UTC 2			
☑ Diagnostics	Filters		Actions for Selected (1) - Columns: 11 Selected -								
😰 Audits	✓ STATUS			tatus	Name	IP	Roles Tags	Commission State			
🗠 Charts	© Good Health	10		٢	dh-centos79-1.vpc.cloudera.com	10.65.201.209	2 Roles	Commissioned			
പ്പെ Replication	> CLUSTERS			٢	dh-centos79-2.vpc.cloudera.com	10.65.194.34	2 Roles	Commissioned			
🚱 Administration	> CORES			0	dh-centos79-3.vpc.cloudera.com	10.65.200.38	2 Roles	Commissioned			
🛆 Data Services New	> COMMISSION STATE			۲	dh-centos79a-1.vpc.cloudera.com	10.65.192.56		Commissioned			
	> LAST HEARTBEAT			۲	dh-centos79t-1.vpc.cloudera.com	10.65.199.15	2 Roles	Commissioned			
	> LOAD (1 MINUTE) > LOAD (5 MINUTES)			۲	dh-centos79t-2.vpc.cloudera.com	10.65.205.101	2 Roles	Commissioned			
	> LOAD (15 MINUTES)			0	dh-centos79t-3.vpc.cloudera.com	10.65.200.0	2 Roles	Commissioned			
	> MAINTENANCE MODE			٢	dhoyle711318-1.dhoyle711318.root.hwx.site	172.27.173.77	55 Roles	Commissioned			
	> UPGRADE DOMAIN			۲	dhoyle711318-2.dhoyle711318.root.hwx.site	172.27.76.66	23 Roles	Commissioned			
	> RACK			۲	dhoyle711318-3.dhoyle711318.root.hwx.site	172.27.203.76	18 Roles	Commissioned			
	,							1 - 10 of 10			

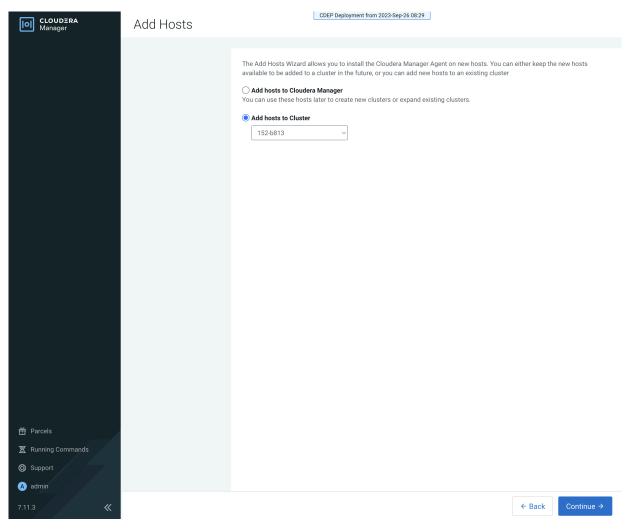
4. Click Actions for Selected, then click Assign Rack.

CLOUDERA Manager	Home		CDE	EP Deploymer	t from 2023-Sep-26 08:29			
Search	All Hosts		Configuration	dd Hosts	Review Upgrade Status	Inspect Al	Hosts Ins	spect Network Performance
号 Clusters 興 Hosts	Q Search				Filters		Last Update	ed: Oct 3, 6:21:58 PM UTC 😂
✓ Diagnostics	Filters		Actions for Selected (	1) 🗸				Columns: 11 Selected -
🔞 Audits	✓ STATUS		Assign Rack			IP	Roles T	ags Commission State
🗠 Charts		10	Assign Upgrade Domain Regenerate Keytab			10.65.201.209	2 Roles	Commissioned
رهی Replication	> CLUSTERS					10.65.194.34	2 Roles	Commissioned
🚱 Administration	CORES		Apply Host Template	Apply Host Template			2 Roles	Commissioned
🛆 Data Services New	> COMMISSION STATE		Start Roles on Hosts		10.65.192.56		Commissioned	
	> LAST HEARTBEAT		Stop Roles on Hosts			10.65.199.15	2 Roles	Commissioned
	> LOAD (1 MINUTE) > LOAD (5 MINUTES)		Begin Maintenance (Suppress Alerts/Decommission) End Maintenance (Enable Alerts/Recommission)			10.65.205.101	2 Roles	Commissioned
	> LOAD (15 MINUTES)					10.65.200.0	2 Roles	Commissioned
	> MAINTENANCE MODE		Edit Tags			172.27.173.77	55 Roles	Commissioned
	> UPGRADE DOMAIN		Remove From Cluste	or		172.27.76.66	23 Roles	Commissioned
	> RACK > SERVICE		Remove From Cloud		er	172.27.203.76	18 Roles	Commissioned
								1 - 10 of 10

5. On the Assign Rack popup, enter the same rack name assigned to the other ECS cluster hosts in the New Rack box, then click Confirm.

CLOUDERA Manager	Home			CDEP Deployment	rom 2023-Sep-26 08:29				
Search	All Hosts	Assign Rack			×	Inspect Al		Inspect Netwo	rk Performance
臣 Clusters							Loot Uni		
堲 Hosts	Q Search	Host			Current Rack		Last opt	1ated: Oct 3, 6:2	25:58 PM UTC 🥃
💀 Diagnostics	Filters	dh-centos79a-1.vpc.clou	idera.com		/default			Colum	ins: 11 Selected →
🐻 Audits	✓ STATUS	New Rack	/testcab2/	rack3			Roles	Tags C	commission State
<u>∽</u> Charts	🗢 Good Hea					55.201.209		с	commissioned
Replication	> CLUSTERS			are slash-separated , "/rack1" and "/cabin	i identifiers, like Unix paths inet3/rack4" are both valid.			с	commissioned
🔅 Administration	> CORES		Obeneine Ab	e seels eestien a	night result in a transient	55.200.38		с	commissioned
🛆 Data Services New	> COMMISSI		state of mis-		HDFS until the old blocks 55.192				ommissioned
	> LAST HEAP		are correctly	placed using this ne	v rack configuration.	55.199.15		с	commissioned
	> LOAD (1 M					55.205.101		c	ommissioned
	> LOAD (5 M			Car	Confirm	55.200.0		C	commissioned
	> MAINTENANO	CE MODE		dhoyle711318-1.dh	oyle711318.root.hwx.site	172.27.173.77		с	commissioned
	> UPGRADE DO	MAIN	] •		oyle711318.root.hwx.site	172.27.76.66		с	commissioned
	> RACK > SERVICE		)		oyle711318.root.hwx.site	172.27.203.76		c	commissioned

6. In the ECS cluster, click Hosts, then click Add Hosts. Select Add hosts to Cluster, then click Continue.



7. On the Specify Hosts page, select the new host, then click through the rest of the Add Hosts wizard.

CLOUDERA Manager	Add Hosts		CDEP Deploymen	nt from 2023-Sep-26 08:29			
CLOUDERA Manager	Add Hosts          1       Specify Hosts         2       Install Parcels         3       Inspect Hosts         4       Select Host Template         5       Deploy Client Config	Curre	CDEP Deployment ecify HOSts ntly Managed Hosts (1/1 Selected) shosts do not belong to any clusters Hostname (FQDN) 1 dh-centos79a-1.vpc.cloudera.com	New Hosts	luster. Rack /testcab2/rack3	Version	Cores 8 8 1-1 of 1
<ul> <li>Parcels</li> <li>Running Commands</li> <li>Support</li> <li>admin</li> </ul>							
7.11.3 《		Ca	ancel			← Back	Continue →

8. After the Add Host wizard is completed, the new host appears on the ECS cluster Hosts page.

CLOUDERA Manager	CDEP Deployment from 2023-Sep-26 08:29									
Search	Hosts	Configura	ation	Add Hosts	Review Upgrade Status	Inspect Hosts in	Cluster	Inspect C	luster Network Perform	nance
뮫 Clusters										
₽₽ Hosts	Q Search				C Filters			Last Updat	ed: Oct 3, 6:56:46 PM L	лтс 🙄
☑ Diagnostics	Filters		Actions for Selected (1) - Columns: 11 Select							
🔋 Audits	✓ STATUS			Status	Name	IP	Roles	Tags	Commission State	Last H
🗠 Charts	© Good Health	4		0	dh-centos79-1.vpc.cloudera.com	10.65.201.209	2 Roles		Commissioned	
Replication آهي	> CLUSTERS			0	dh-centos79-2.vpc.cloudera.com	10.65.194.34	2 Roles		Commissioned	
🚱 Administration	> CORES			٢	dh-centos79-3.vpc.cloudera.com	10.65.200.38	2 Roles		Commissioned	
🛆 Data Services New	> COMMISSION STATE			0	dh-centos79a-1.vpc.cloudera.cor	n 10.65.192.56			Commissioned	
	> LAST HEARTBEAT									1 - 4 of 4
	> LOAD (1 MINUTE)									
	> LOAD (5 MINUTES)									
	> LOAD (15 MINUTES)									
	> MAINTENANCE MODE									
	> UPGRADE DOMAIN									
	> RACK									
	> SERVICE									

41

**9.** You can use the Assign Rack popup to view the rack assignments for the ECS cluster hosts and confirm that the rack name for the new host matches the rack name of the other cluster hosts.

CLOUDERA Manager	152-b813		CDEP Deployment fro	m 2023-Sep-26 08:29				
Search	Hosts	Assign Rack		×	in Cluster		luster Network Perform	nance
呈 Clusters				^				
睅 Hosts	Q Search	Host		Current Rack		Last Updat	ted: Oct 3, 6:58:46 PM U	лтс 😂
☑ Diagnostics	Filters	dh-centos79-[1-3].vpc.cloude 1.vpc.cloudera.com	ra.com; dh-centos79a-	/testcab2/rack3			Columns: 11 Se	lected <del>+</del>
🗟 Audits	✓ STATUS	_			Roles	Tags	Commission State	Last H
🛃 Charts	© Good Hea	New Rack			09 2 Roles		Commissioned	
E <sup>27</sup> Replication	> CLUSTERS		ck names are slash-separated ide		4 2 Roles		Commissioned	
🚯 Administration	> CORES	Fo	For example, "/rack1" and "/cabinet3/	inet3/rack4° are both valid.	8 2 Roles		Commissioned	
🛆 Data Services New	> COMMISSI		anging the rack configuration mig		6		Commissioned	
	> LAST HEAP		ate of mis-replicated blocks in HD e correctly placed using this new r					1 - 4 of 4
	> LOAD (1 M							
	> LOAD (5 M							
	> LOAD (15 I > MAINTENA		Cance	el Confirm				
	> UPGRADE DOI	MAIN						
	> RACK							

## ECS unified time zone

You can synchronize the Embedded Container Service (ECS) cluster time zone with the Cloudera Manager Base time zone.

In CDP Private Cloud Data Services versions earlier than 1.5.2, containers running on an ECS Kubernetes cluster did not inherit the time zone settings from the Cloudera Manager Base host. In most cases, Kubernetes containers use Coordinated Universal Time (UTC) by default.

In Private Cloud Data Services 1.5.2 and higher versions, you can unify the time zone in the ECS cluster with the Cloudera Manager Base time zone. All workload pods in the ECS cluster run under the Cloudera Manager time zone, and workload logs on the ECS cluster are correlated with the Cloudera Manager Base logs. Timestamp-related SQL queries are also correlated.

- Unified time zone is enabled by default for new CDP Private Cloud Data Services 1.5.2+ installs.
- When upgrading from earlier versions of CDP Private Cloud Data Services to 1.5.2+, unified time zone is disabled by default to avoid affecting timestamp-sensitive logic.

You can enable or disable unified time zone using the following script in the ECS parcel:

bash /opt/cloudera/parcels/ECS/k8tz-webhook/configure-k8tz-webhook.sh -h

This script modifies the k8tz webhook settings.

Syntax:

configure-k8tz-webhook.sh [-i|-h]

Options:

- i This option enables the unified time zone feature
- No options To disable the unified time zone feature, run the configure-k8tz-webhook.sh script without any options.
- Use the -h flag to print Help information

To complete the process of enabling the unified time zone feature:

• Restart the workload pods where you want the Cloudera Manager Server timezone to be applied.

-OR-

• Initiate an ECS cluster rolling restart. This will inject the time zone information into all workload pods.

When the unified time zone feature is disabled, all running pods are not affected. To apply the new disabled setting so they run with the default UTC time zone, a pod restart or a rolling restart is required.

## Adjusting the expiration time of ECS cluster certificates

The RKE Kubernetes, Vault, and ECS webbook certificate expiration times are set to one year by default. To avoid certificate expiration errors, you may want to extend the expiration times.

#### About this task



This topic only applies to internal certificates within ECS. It does not apply to the ingress controller certificate.

- These steps describe how to adjust the expiration time of internal cluster certificates in an existing ECS cluster.
- For a new cluster, if the nodes have been added to Cloudera Manager before creating the ECS cluster, you can edit the cluster\_signing\_duration configuration property in Cloudera Manager before creating the ECS cluster.

#### Adjusting the expiration time of the RKE Kubernetes cluster certificate

- 1. In Cloudera Manager, select the ECS cluster, then click ECS.
- 2. Click the Configuration tab, then use the Search box to locate the cluster\_signing\_duration configuration property.

**3.** The the cluster\_signing\_duration configuration property sets the expiration time for the RKE Kubernetes, Vault, and ECS webbook certificates, and is set to 1 year (365 days) by default. In the example below, the certificate expiration has been reset to 5 years (1825 days):

CLOUDERA Manager	153-b278	CDEP Deployment from 2024-Feb-13 10:50	
Search	CORECS Actions -		Feb 13, 9:17 PM UTC
뮫 Clusters	Status Instances Configuration	Commands Charts Library Audits Web UI 🕶 Quick Links 🕶	
- 興 Hosts			
🔀 Diagnostics	<b>Q</b> cluster_signing_duration	Filters Role Groups	History & Rollback
Audits			
🗠 Charts	Filters	Sho Cluster Signing Duration ECS (Service-Wide) 🤉 Undo	w All Descriptions
ہ <mark>ت</mark> ے Replication	✓ SCOPE	© cluster_signing_duration         1825	
🛱 Administration	ECS (Service-Wide) 1 Ecs Agent 0		1 - 1 of 1
🛆 Data Services New	Ecs Server 0		
	✓ CATEGORY		
	Main 1		
	Advanced 0 Monitoring 0		
	Performance 0		
	Ports and Addresses 0		
	Resource Management 0		
	Security 0		
	✓ STATUS		
	S Error 0		
20	A Warning 0		
🛱 Parcels	Edited 1		
🕱 Running Commands	* Non-Default 1		
	Include Overrides 0		
🛞 Support			
A admin			
7.11.3 <	1 Edited Value Reason for change:	Modified Cluster Signing Duration	e Changes(CTRL+S)
7.11.3	1 Edited Value Reason for change:	Modified Cluster Signing Duration	e Changes(CTRL+S)

- 4. Click Save Changes.
- 5. On the ECS Cluster landing page, click Actions > Refresh Cluster.
- 6. After the Refresh is complete, click Actions > Rolling Restart.
- 7. After the restart is complete, the certificate expiration time is reset to the new value. You can also use the CLI to verify the new certificate expiration setting:

```
[root@host-1 ~]# cat /proc/47803/environ
CDH_PIG_HOME=/usr/lib/pigLD_LIBRARY_PATH=:/opt/cloudera/cm-agent/libCMF
_AGENT_ARGS=CDH_KAFKA_HOME=/usr/lib/kafka
CONF_DIR=/var/run/cloudera-scm-agent/process/1546342871-ecs-ECS_SERVERCDH_
PARQUET_HOME=/usr/lib/parquet
PARCELS_ROOT=/opt/cloudera/parcelsPARCEL_DIRNAMES=ECS-1.5.2-b866-ecs-1.5.2
-b866.p0.46395126LANG=en_US.UTF-8
CDH_HADOOP_BIN=/usr/bin/hadoopCDH_KMS_HOME=/usr/lib/hadoop-kmsCGROUP_GROUP
_CPU=CMF_PACKAGE_DIR=/opt/cloudera/cm-agent/service
ORACLE_HOME=/usr/share/oracle/instantclientMGMT_HOME=/opt/cloudera/cmINV
OCATION_ID=04c94a229a2b4684a95f8ec63783c81e
JSVC_HOME=/usr/libexec/bigtop-utilsCDH_IMPALA_HOME=/usr/lib/impalaKRB5_C
ONFIG=/etc/krb5.conf
CDH_YARN_HOME=/usr/lib/hadoop-yarnCLOUDERA_POSTGRESQL_JDBC_JAR=/opt/clo
udera/cm/lib/postgresgl-42.5.1.jar
CDH_SOLR_HOME=/usr/lib/solrHIVE_DEFAULT_XML=/etc/hive/conf.dist/hive-defa
ult.xml
CLOUDERA_ORACLE_CONNECTOR_JAR=/usr/share/java/oracle-connector-java.jarC
GROUP_GROUP_BLKIO=system.slice/cloudera-scm-agent.service
```

```
CGROUP_ROOT_BLKIO=/sys/fs/cgroup/blkioCGROUP_ROOT_CPU=/sys/fs/cgroup/cpu,c
  puacctKEYTRUSTEE_KP_HOME=/usr/share/keytrustee-keyprovider
  CLOUDERA_MYSQL_CONNECTOR_JAR=/usr/share/java/mysql-connector-java.jarCMF_
  SERVER_ROOT=/opt/cloudera/cm
  CGROUP_ROOT_CPUACCT=/sys/fs/cgroup/cpu,cpuacctCDH_FLUME_HOME=/usr/lib/f
  lume-ng
  CATTLE_NEW_SIGNED_CERT_EXPIRATION_DAYS=1825
  <snip!>
[root@host-1 ~]# openssl x509 -in /var/lib/rancher/rke2/agent/serving-kubele
t.crt -noout -text
Certificate:
   Data:
       Version: 3 (0x2)
        Serial Number: 4005696761303552502 (0x379717fb376e51f6)
       Signature Algorithm: ecdsa-with-SHA256
        Issuer: CN = rke2-server-ca@1697759349
        Validity
            Not Before: Oct 19 23:49:09 2023 GMT
            Not After : Oct 17 23:49:10 2028 GMT
        Subject: CN = host-1.rke-1019.kcloud.cloudera.com
        Subject Public Key Info:
            Public Key Algorithm: id-ecPublicKey
                Public-Key: (256 bit)
                pub:
                    04:92:81:74:b8:fb:aa:6c:c5:9a:40:2c:5f:91:60:
                    35:16:9a:d5:41:b2:bf:d8:29:f4:ed:68:ed:cd:3d:
                    87:0e:59:db:27:26:c5:d8:a7:79:c7:23:8f:0b:71:
                    c2:f5:d4:36:fe:97:a9:b5:62:ee:9d:9b:6d:ed:25:
                    60:fd:26:3a:08
                ASN1 OID: prime256v1
                NIST CURVE: P-256
       X509v3 extensions:
           X509v3 Key Usage: critical
                Digital Signature, Key Encipherment
            X509v3 Extended Key Usage:
                TLS Web Server Authentication
            X509v3 Authority Key Identifier:
                keyid:26:8F:9F:A1:04:CE:2D:04:3A:03:11:87:9D:DF:5A:B7:5C:0
6:72:32
            X509v3 Subject Alternative Name:
                DNS:host-1.rke-1019.kcloud.cloudera.com, DNS:localhost, IP
Address:127.0.0.1, IP Address:10.17.130.15
    Signature Algorithm: ecdsa-with-SHA256
         30:46:02:21:00:fc:5c:89:ab:99:a6:79:33:a9:28:da:a8:47:
         52:cf:1f:43:13:8c:06:2e:23:67:4c:b4:b0:d6:e3:f9:b6:ad:
         50:02:21:00:c7:64:aa:86:97:5a:f3:12:7e:3f:a2:f1:ab:93:
         17:6c:3a:37:34:01:ef:ba:7f:08:85:70:2c:c9:40:e0:30:f5
```

#### Adjusting the expiration time of the Vault certificate

1. In Cloudera Manager, select the ECS cluster, then click ECS.

2. Click the Configuration tab, then use the Search box to locate the cluster\_signing\_duration configuration property.

**3.** The the cluster\_signing\_duration configuration property sets the expiration time for the RKE Kubernetes, Vault, and ECS webbook certificates, and is set to 1 year (365 days) by default. In the example below, the certificate expiration has been reset to 5 years (1825 days):

CLOUDERA Manager	153-b278	CDEP Deployment from 2024-Feb-13 10:50	
Search	COR ECS Actions -		Feb 13, 9:17 PM UTC
<b></b> E Clusters	Status Instances Configuratior	Commands Charts Library Audits Web UI 🕶 Quick Links 🕶	
. 即 Hosts			
🔀 Diagnostics	<b>Q</b> cluster_signing_duration	C Filters Role Groups	History & Rollback
😰 Audits			
🗠 Charts	Filters	Sho Cluster Signing Duration ECS (Service-Wide) Cluster	w All Descriptions
<b>حی</b> Replication	✓ SCOPE	% cluster_signing_duration   1825	-
🚯 Administration	ECS (Service-Wide) 1 Ecs Agent 0		1 - 1 of 1
🛆 Data Services New	Ecs Server 0		
	✓ CATEGORY		
	Main 1 Advanced 0		
	Monitoring		
	Performance 0 Ports and Addresses 0		
	Ports and Addresses 0 Resource Management 0		
	Security		
	✓ STATUS		
	S Error 0		
	A Warning 0		
🛱 Parcels	C Edited 1		
🕱 Running Commands	* Non-Default 1		
	Include Overrides 0		
🛞 Support			
A admin			
7.11.3 《	1 Edited Value Reason for change:	Modified Cluster Signing Duration Save	e Changes(CTRL+S)

- 4. Click Save Changes.
- 5. Contact Cloudera support and ask them to provide you with a copy of the rotate-vault-cert.sh file.
- 6. Copy the rotate-vault-cert.sh file to the ECS master host. Set JAVA\_HOME if needed.
- 7. Run the following command:

./rotate-vault-cert.sh APP\_DOMAIN

- 8. Unseal Vault.
- **9.** Restart all of the pods in the CDP namespace.
- **10.** If you are using a default self-signed ingress controller certificate, update the ingress controller certificate (follow the steps in the script output).
- **11.** You can use the CLI to verify the new certificate expiration setting:

```
root 49076 48970 2 16:49 ? 00:00:10 kube-controller-mana
ger
--flex-volume-plugin-dir=/var/lib/kubelet/volumeplugins --terminated-pod-
gc-threshold=1000 --permit-port-sharing=true
--allocate-node-cidrs=true --authentication-kubeconfig=/var/lib/rancher/
rke2/server/cred/controller.kubeconfig
--authorization-kubeconfig=/var/lib/rancher/rke2/server/cred/controller.
kubeconfig --bind-address=127.0.0.1
--cluster-cidr=10.42.0.0/16 --cluster-signing-duration=43800h
```

```
<snip!>
[root@host-1 ~]# openssl x509 -in vault.pem -noout -text
Certificate:
    Data:
        Version: 3 (0x2)
        Serial Number:
            db:b7:a7:c3:79:86:4c:54:e8:97:49:bf:99:3d:df:a9
        Signature Algorithm: ecdsa-with-SHA256
        Issuer: CN = rke2-server-ca@1697759349
        Validity
           Not Before: Oct 19 23:46:38 2023 GMT
            Not After : Oct 17 23:46:38 2028 GMT
        Subject: 0 = system:nodes, CN = "system:node:vault.vault-system.svc
; "
        Subject Public Key Info:
            Public Key Algorithm: rsaEncryption
                RSA Public-Key: (2048 bit)
                Modulus:
                    00:94:93:2e:9d:5c:01:5a:95:46:b2:9d:aa:23:c4:
                    4e:0f:92:07:7e:0e:3a:21:7d:ef:95:e8:09:d3:88:
                    38:ac:e9:9f:c2:36:37:04:56:43:87:3a:6f:34:08:
                    09:8f:3f:df:31:79:d6:12:db:78:f6:1c:9b:0e:c2:
                    d0:f5:25:50:86:37:d5:ff:f7:a0:82:6f:55:d1:ff:
                    03:54:f8:ce:8b:02:87:2d:af:3f:71:f8:c4:a9:f0:
                    24:50:7b:07:70:3d:7a:be:9d:41:f0:15:2f:56:c3:
                    d3:0d:1a:e1:87:8e:69:89:ff:bf:1b:f2:84:87:6c:
                    5e:f9:13:8b:2c:5c:de:64:9e:ae:de:6a:f0:7c:ae:
                    d9:01:41:aa:39:00:b3:2d:4f:5c:db:fb:2b:80:31:
                    88:b5:40:24:e1:06:08:c4:ad:82:70:a1:9e:4c:3e:
                    00:0d:61:d9:1a:5c:c7:11:a7:79:68:66:34:b2:c2:
                    e9:63:a8:5d:d1:13:be:e6:f1:8f:03:87:3d:be:eb:
                    b7:ce:a5:eb:56:81:37:5b:9d:ce:82:34:15:99:16:
                    4c:65:20:d9:df:e6:63:56:c2:49:79:e8:66:ce:c1:
                    01:9d:87:a2:ba:02:c0:7c:2b:e5:37:30:c5:23:bd:
                    87:a1:c8:2b:a9:49:be:67:31:22:8d:a4:68:f9:bd:
                    be:23
                Exponent: 65537 (0x10001)
       X509v3 extensions:
            X509v3 Key Usage: critical
                Digital Signature, Key Encipherment
            X509v3 Extended Key Usage:
                TLS Web Server Authentication
            X509v3 Basic Constraints: critical
                CA: FALSE
            X509v3 Authority Key Identifier:
                keyid:26:8F:9F:A1:04:CE:2D:04:3A:03:11:87:9D:DF:5A:B7:5C:0
6:72:32
            X509v3 Subject Alternative Name:
                DNS:vault, DNS:vault.vault-system, DNS:vault.vault-system.
svc, DNS:vault.vault-system.svc.cluster.local, DNS:vault.localhost.localdoma
in, DNS:*.apps.host-1.rke-1019.kcloud.cloudera.com, IP Address:127.0.0.1
    Signature Algorithm: ecdsa-with-SHA256
         30:46:02:21:00:d9:5e:38:fc:31:9b:5a:eb:fc:7d:c2:8f:b3:
         54:5e:28:f0:8f:00:eb:36:65:9f:d3:70:ae:a2:79:77:ee:b5:
         f7:02:21:00:f4:e8:6f:c9:bd:bb:92:9d:63:81:69:55:67:8b:
         8a:f3:a4:5d:c1:67:66:b0:40:ff:22:a6:c3:6f:4f:8e:b2:8e
```

#### Adjusting the expiration time of the ECS webhook certificate

**1.** In Cloudera Manager, select the ECS cluster, then click ECS.

2. Click the Configuration tab, then use the Search box to locate the cluster\_signing\_duration configuration property.

**3.** The the cluster\_signing\_duration configuration property sets the expiration time for the RKE Kubernetes, Vault, and ECS webbook certificates, and is set to 1 year (365 days) by default. In the example below, the certificate expiration has been reset to 5 years (1825 days):

CLOUDERA Manager	153-b278	CDEP Deployment from 2024-Feb-13 10:50	
Search	CONTRACTIONS -		Feb 13, 9:17 PM UTC
<b>呈</b> Clusters	Status Instances Configuration	Commands Charts Library Audits Web Ul 🕶 Quick Links 🕶	
- 興 Hosts			
☑ Diagnostics	<b>Q</b> cluster_signing_duration	C Filters Role Groups	History & Rollback
🔁 Audits			
🗠 Charts	Filters	Sho Cluster Signing Duration ECS (Service-Wide) Cluster	w All Descriptions
ළත Replication	✓ SCOPE	Image: signing_duration   1825	
🚱 Administration	ECS (Service-Wide) 1 Ecs Agent 0		1 - 1 of 1
🛆 Data Services New	Ecs Server 0		
	V CATEGORY		
	Main 1 Advanced 0		
	Monitoring 0		
	Performance 0		
	Ports and Addresses 0 Resource Management 0		
	Security 0		
	✓ STATUS		
	S Error 0		
	A Warning 0		
🛱 Parcels	Edited 1		
	* Non-Default 1		
🕱 Running Commands	Include Overrides 0		
🐯 Support			
A admin			
7.11.3 《	1 Edited Value Reason for change:	todified Cluster Signing Duration	e Changes(CTRL+S)

- 4. Click Save Changes.
- 5. Contact Cloudera support and ask them to provide you with a copy of the rotate-webhook-cert.sh file.
- 6. Copy the rotate-webhook-cert.sh file to the ECS master host.
- 7. Run the following command:

./rotate-webhook-cert.sh APP\_DOMAIN

- **8.** Check for any pods in the Pending state whose status shows that they cannot tolerate the node-role.kubernetes.io/ control-plane toleration. Restart those pods.
- 9. You can use the CLI to verify the new certificate expiration setting:

```
root 49076 48970 2 16:49 ? 00:00:10 kube-controller-mana
ger
--flex-volume-plugin-dir=/var/lib/kubelet/volumeplugins --terminated-pod-
gc-threshold=1000 --permit-port-sharing=true
--allocate-node-cidrs=true --authentication-kubeconfig=/var/lib/rancher/
rke2/server/cred/controller.kubeconfig
--authorization-kubeconfig=/var/lib/rancher/rke2/server/cred/controller.
kubeconfig --bind-address=127.0.0.1
--cluster-cidr=10.42.0.0/16 --cluster-signing-duration=43800h
<snip!>
```

[root@host-1 ~]# openssl x509 -in ecs-tolerations-webhook-cert.pem -noout -t
ext
Certificate:

```
Data:
       Version: 3 (0x2)
       Serial Number:
           a5:31:94:f4:84:bb:3b:a2:a4:63:8d:ec:de:b5:37:53
       Signature Algorithm: ecdsa-with-SHA256
       Issuer: CN = rke2-server-ca@1697759349
       Validity
           Not Before: Oct 19 23:45:48 2023 GMT
           Not After : Oct 17 23:45:48 2028 GMT
       Subject: 0 = system:nodes, CN = "system:node:ecs-tolerations-webhook
.ecs-webhooks.svc;"
       Subject Public Key Info:
           Public Key Algorithm: rsaEncryption
               RSA Public-Key: (2048 bit)
               Modulus:
                    00:cc:12:e1:54:b8:aa:42:94:aa:11:a5:f7:35:0e:
                    0c:de:76:5b:d5:c6:c1:34:0b:b8:b7:2b:15:08:1d:
                    02:44:0f:2e:e1:17:dc:73:6a:e4:6c:df:5b:ac:43:
                    97:2e:34:73:f7:c9:6f:cf:c2:a8:52:79:b1:89:ea:
                    51:22:e1:41:b8:6a:ba:fd:22:a2:bf:a2:46:a4:8e:
                    f5:c6:2d:05:c3:a5:1d:6b:60:da:e8:40:a5:e1:e1:
                    5a:55:0e:94:2d:91:dd:71:d1:e9:aa:27:5d:e6:fc:
                    ea:5f:ea:c6:8e:52:71:27:ce:c2:a7:1b:10:ca:db:
                   db:27:c8:46:6d:14:d1:d0:b3:f5:ab:74:a9:63:8b:
                    71:83:31:eb:ad:87:1b:3b:8d:ff:ce:d0:7f:d1:1b:
```

### Configuring multiple Base clusters with one ECS cluster

You can configure one Embedded Container Service (ECS) cluster to work with multiple CDP Private Cloud Base clusters managed by separate instances of Cloudera Manager. In order to do this you must first create a combined truststore .pem file that contains the ECS Control Plane truststore .pem file appended with the certificate files of each of the CDP Private Cloud Base clusters.

#### About this task

Use the following steps to configure one ECS cluster to work with multiple CDP Private Cloud Base clusters:

- 1. Append the ECS Control Plane truststore .pem file with the certificate files from the additional CDP Private Cloud Base clusters.
- 2. Register an ECS environment with each of the additional CDP Private Cloud Base clusters.
- 3. Create data services within each environment.

# Step 1: Append the ECS Control Plane truststore .pem file with the certificate files from the Base clusters

**1.** On the ECS Control Plane, run the following kubectl command to get the contents of the configmap:

kubectl get configmap cdp-private-installer-truststore -n cdp -o yaml >
cdp-private-installer-truststore.yaml

**2.** Copy the truststorePEM content, decode it, and store it in a file. For example:

echo LS0tLS1CRUdJTiBDRVJUSUZJQ0FURS0tLS0tCk1JSURhakNDQWxJQ0NRRG5iNnhmK0d QR116QU5CZ2txaGtpRz13MEJBUXNGQURCWk1Rc3dDUV lEV1FRR0V3S1YKVXpFTE1Ba0dBMVVFQ0F3Q1EwRXhDekFKQmdOVkJBY01BbE5ETVEwd0N3WU RWUVFLREFSRFRFU1NNUXd3Q2dZRApWUVFMREFOQ1RGS XhFekFSQmdOVkJBTU1DaW91YUhkNExuTnBkR1V3SGhjTk1qTXhNVEV3TVRRME1qUXdXaGNOC k1qUXhNVEE1TVRRME1qUXdXakFWTVJNd0VRWURWUVFE REFvcUxtaDN1QzV6YVhSbE1JSUJvakF0QmdrcWhraUcKOXcwQkFRRUZBQU9DQVk4QU1JSUJp Z0tDQV1FQS91ZkJtK05IQTdWUTF1M05qK3ZoRGFRV0p

JcUhFbVcxOFlpYqpBQUdiYmlvYi9YYnY0aTRINU81MXV3SjJ1cWowaktUM3dBU310UG0yS0p 1RE9vVXMveWhJc0xuK3VOW1Mzd292CkNxSk5RcWpRT3 N2RUVITU5ZZ3JOWExMclhlbHZHTX14aG16bVFlSEhHTkZhcldENVkwd1laMVVIaG00a0pUUT UKTFhoZm1JVjJ1TUJieE4ySVB2WU1TV1AvYmo4ekF3a k500HQvVUhhaFRTeWljUktEWitsMGxoeGt0cHpzdmxmcQo4eXNCVTBBQ2MvbWp2bGNWS0xyN VVRSTRadVNFb2ZRK1QyaEpITEZNQ0N4bFJvcWN5aFo0 QmtlZmZwaUhIOGJHCm9kd2tSaHRRMVFJcFFxSklCLytCOWNZbkFjYlBFaHlXekh1TGlqak15 VTZOYWZ3SmpoTG1SVmptRmpWNzNvZmgKanJ4V1BtVyt FSDJZODRWK3RpOVdIZE5LQW9KNzU4bzZaSmJsc3ZBRVBNVytBVmw2c1FMTTFPZXN1UTNtczc xMwpWOENObFBWVEQ0UGdpaythOG1YV3FWZkVZN2F1V3 N1YnIwUkIyeFliWHBHd21WdWxrSjdYRURHOEpmN2hFNzRqCkRhMlJaeWN5YXdScGF3SXV2V1 kwWGtoSktOOTNBZ01CQUFFd0RRWUpLb1pJaHZjTkFRR UxCUUFEZ2dFQkFDcTcKSDU5R21nKy9iUVB3enhmUmF6d1hXM09mT3M1UjNnU0hGeDRmS1BXV lN5TjEwaW5Obmdxejd4R2dYVnBpRDdWNApQRGVXZFRZ MjdHN2w3ZHBjek1FS2ptN25XOUp3RW05S3dyRndWRWh00WEzNjVvUnhqTzA3Y09VanZYaEwy dkx1Cnk1eHRYZlJyZXlPalNmZDVxcnlKVlBoMDBHb0N UWTViMy9wK25saWJUUmNkY29mQkFTU0VhbnhaVDJoc1B2V3kKSG9PVkVGSm1rTnVxRHJhS2Y ySlFxRnR4aGs0MFIvUW9LVUpKUTgzUWIxZHBmWWVCdE 91WXRVNExmQWV3Y0RuRwpFWUQvYVp1b1gwU2cxRTRoRS9NaUNFN2R6ZzY4TVVPeWVBV1pCe1 JuMHBEZ1VtanpTOUNndi9GQ240MjV0QnR5Cis5anY1W it3TVNkd1VZL2VudEE9Ci0tLS0tRU5EIENFUlRJRk1DQVRFLS0tLS0KLS0tLS1CRUdJTiBDR VJUSUZJQ0FURS0tLS0tCk1JSURlekNDQW1PZ0F3SUJB Z01VQWRidE11Q3JycVRMY1UzRzhPakZRUW5YNGY4d0RRWUpLb1pJaHZjTkFRRUwKQ1FBd1dU RUxNQWtHQTFVRUJoTUNWVk14Q3pBSkJnTlZCQWdNQWt 0Qk1Rc3dDUV1EV1FRSERBS1RRekVOTUFzRwpBMVVFQ2d3RVEweEVVakVNTUFvR0ExVUVDd3d EUWt4U01STXdFUV1EV1FRRERBb3FMbWqzZUM1emFYUm xNOjRYCkRUSXpNVEV4TURFek1UTXpOVm9YRFRJMU1URXdPVEV6TVRNek5Wb3dXVEVMTUFrR0 ExVUVCaE1DV1ZNeEN6QUoKQmdOVkJBZ01Ba05CTVFzd 0NRWURWUVFIREFKVFF6RU5NQXNHQTFVRUNnd0VRMHhFVWpFTU1Bb0dBMVVFQ3d3RApRa3hTT VJNd0VRWURWUVFEREFvcUxtaDNlQzV6YVhSbE1JSUJJ akFOQmdrcWhraUc5dzBCQVFFRkFBT0NBUThBCk1JSUJDZ0tDQVFFQXczQXBYeXg4dkxXSVZq SlpLZzNpb29XcGdtNjZwN2gxWCtRWUVVZ0Q0VEc3dkZ 20GNUckkKdzlaZ1VpcW1zUTVJR1ZxRk51cEFpSFBteUxscD11d1RhTEthdm9IZ2pXU0p1K2d waUdiMHJiR1hkM3ltYkw5Rwp2Sm1pNmtPZW9SeHpQbk N5SVVEa3NmU3kzdE5pWlNRRFRubmhUWk9Zc2tmbDdZK1VYaVJVS2NBNExkWTBWSTVJCnpmR1 R0cW5qM0o4SnJ6d0dJd1NoK0ZNdHRyWFQ5WFI5bzVpL 0M2cWh0L1JwbEx3QTB6ZVlYSDhkNjl2Ykw4T1EKemREeXZ1cmptRXZjS3F1bGo4NU1CSTZwc VRGb21QcEp5VV1xS0cwN2U1WDN0QmZiVzk2QXdYT1BT SFd0QlpndwpyeTVFbzRxWVRJMGZmYlFCS3ZIVElzYTd3T0xmRzAvK3J3SURBUUFCb3pzd09U QUxCZ05WSFE4RUJBTUNCREF3CkV3WURWUjBsQkF3d0N nWUlLd1lCQlFVSEF3RXdGUVlEVlIwUkJBNHdESUlLS2k1b2QzZ3VjMmwwWlRBTkJna3EKaGt pRzl3MEJBUXNGQUFPQ0FRRUFtKzFZUlg5M2k1Q1FPQ1 FIVVZ2Y2M10WFMb2Y3SnJxcGNaN0NOaGJXMzc4Zgo3RTNpTjhBY1BNQ0dvZ11TeWFrblQxV1 kwdDNiVXhtSTFSdXdEUXNDU3U1MmlhYnhIVUhrOFBEQ jk5NTRxL3RtCkh4MXpVR0VURkZaZHdkb0dDMk14Ui9WdU9wbExza2hEc0ZJZmpaZC81clVrL 1QvMUxUaC8zMExBbGhPVzNtek8KZFJWWC9LR2QyWGZ3 SFNzQ3FRTFk4WGZQM0d3WHqrTmVUY09vTEQycXYvYW1kMnY1d1VtdXpONzErZjR3bXVvbwpa Z1JiYk9OSkMvdzVzV3MvWVRaODd1M1JNUWExd2qvckl YMk1QMzNTMG1SeHJkSX1peGMxamF6ZTYxWmRUUnk5Ck9NQ2RmZEpGNFE1RndmODdWSWpYZXd PemdOVnFJVGVNVW1vcy9HR0p0UT09Ci0tLS0tRU5EIE NFUlRJRklDQVRFLS0tLS0= | base64 -d > cdp-private-installer-truststore.pem

- **3.** Obtain the truststore .pem file from the first additional Cloudera Manager host from /var/lib/cloudera-scm-agent/ agent-cert/cm-auto-global\_cacerts.pem or /opt/cloudera/CMCA/trust-store/cm-auto-global\_cacerts.pem and copy the contents.
- **4.** Append the cdp-private-installer-truststore.pem file created previously with the contents of the Cloudera Manager .pem file.
- **5.** Repeat the previous two steps for all additional Cloudera Manager hosts you would like to register environments with.

6. Log in to the ECS cluster Management Console and click Administration > CA Certificates. Select Datalake in the CA Certificate Type drop-down, click Choose File, then select the appended cdp-private-installer-truststore.pem file and click Upload. Click Save to save your changes.

You can also use the following CLI commands to upload the cdp-private-installer-truststore.pem file and update the global truststore with the encoded certificate file content:

```
cat cdp-private-installer-truststore.pem | base64
cdp environments --set-environment-setting --settings truststorePEM=<base6
4 encoded CM cert> --no-verify-tls
```

#### Step 2: Register an ECS environment with each of the additional Base clusters

- 1. Log in to the ECS cluster Management Console and Register an environment for the first additional Base cluster using the applicable Cloudera Manager URL and credentials.
- 2. Repeat the previous step for the rest of the additional Base clusters.

#### Step 3: Create data services within each environment

Refer to the following topics to create the data services of your choice in each environment:

- Adding a Cloudera Data Engineering service
- Activate ECS environments (CDW)
- Provision an ML Workspace

## **GPU node labeling on ECS**

You can use NVIDIA Feature Discovery to generate labels for the set of GPUs available on ECS nodes. You can use these node labels to assign workloads to specific GPU devices. This feature is enabled by default on ECS.

#### Using GPU node labeling on ECS

Information about using GPU node labeling is available on the NVIDIA GPU feature discovery page.

#### **Known Issues and Limitations**

- GPU node labeling is only supported for GPU cards manufactured by NVIDIA.
- If an ECS node has multiple GPUs, not all of the GPUs will be labeled. The last GPU as per lspci will be labeled.
- If an ECS node is provisioned from a provisioner with virtual GPUs (AWS, Azure, etc.) the nodes will not be labeled with the GPU information.