

CB Response Unified View User Guide

Unified View Version: 7.2

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About this Document

This document describes how to use CB Response Unified View. It assumes that you are familiar with CB Response server and its features.

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What this Document Covers

This document includes the following chapters:

Chapter	Description
Chapter 1, Introduction	Introduces Unified View concepts, architecture, and terminology.
Chapter 2, Installing a Unified View Server	Provides Unified View server requirements, and describes how to install Unified View and its configuration settings.
Chapter 3, Managing Clusters	Describes cluster management tasks in Unified View.
Chapter 4, Operating Contexts	Explains the concept of "operating context" in Unified View and its significance in using the product.
Chapter 5, Managing Users	Describes user management tasks for the user store in Unified View.
Chapter 6, Server Configuration Settings	Describes configuration settings for CB Response Unified View server.
Chapter 7, Command Line Tools	Describes the Unified View actions you can perform on the command line as an alternative to within the user interface.

Other Documentation

Visit the Carbon Black User eXchange to locate documentation for tasks that are not covered in this guide, as well as other documents that are maintained as a knowledge base for technical support solutions. Some of these documents are updated with every new release, while others are updated only for minor or major version changes. Documents include:

- CB Response Unified View User Guide (this document) Describes how to install and manage Unified View server.
- CB Response Unified View Release Notes Includes information about new and modified features, issues resolved, general improvements in this release, and known issues and limitations. It also includes required or suggested preparatory steps before installing the server.
- CB Response Operating Environment Requirements (OER) Describes performance and scalability considerations in deploying a particular version of CB Response. Note that in earlier releases, this was called the Server Sizing Guide.
- CB Response Server/Cluster Management Guide Describes how to install and manage a CB Response server/cluster. This guide is for on-premises CB Response installations only.
- CB Response User Guide Describes the CB Response product and explains how to use all of its features and perform administration tasks.

- CB Response Release Notes Provides information about new and modified features, issues resolved and general improvements in the release, and known issues and limitations. It also includes required or suggested preparatory steps before installing the server.
- CB Response Server Configuration (cb.conf) Guide Provides all of the cb.conf configuration file functions, descriptions, and parameters for the CB Response server (not the Unified View server).
- CB Response Integration Guide Provides information for administrators who are responsible for integrating CB Response with various tools, such as Cb Protection, EMET, VDI, and SSO.

Community Resources

The Carbon Black User Exchange website at https://community.carbonblack.com provides access to information shared by Carbon Black customers, employees and partners. It includes information and community participation for users of all Carbon Black products.

When you log into this resource, you can:

- Ask questions and provide answers to other users' questions.
- Enter a "vote" to bump up the status of product ideas.
- Download the latest user documentation.
- Participate in the Carbon Black developer community by posting ideas and solutions or discussing those posted by others.
- View the training resources available for Carbon Black products.

You must have a login account to access the User Exchange. Contact your Technical Support representative to get an account.

Contacting Support

For your convenience, Carbon Black Technical Support offers several channels for resolving support questions:

User Exchange: https://community.carbonblack.com

• Support Home Page: https://www.carbonblack.com/resources/support/

• Email: support@carbonblack.com

Phone: 877.248.9098Fax: 617.393.7499

Reporting Problems

When you contact technical support, provide the following information to the support representative:

Required Information	Description
Contact	Your name, company name, telephone number, and email address
Product version	Product name and version number
Hardware configuration	Hardware configuration of the server or computer the product is running on (processor, memory, and RAM)
Document version	For documentation issues, specify the version of the manual you are using. The date and version of the document appear on the cover page, or for longer manuals, after the Copyrights and Notices section of the manual. The month of release also appears in the footers on each page.
Problem	Action causing the problem, error message returned, and any other appropriate output
Problem severity	Critical, serious, minor, or enhancement

Chapter 1

Introduction

This chapter introduces you to CB Response Unified View and explains basic concepts.

Sections

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Overview

CB Response Unified View provides a single interface for process and binary searches across multiple CB Response clusters, returning a unified set of results. From the search results, you can drill down to process analysis and binary details pages. You also can open a connection to a single CB Response instance, which might be a single server or a cluster of servers.

Note

To simplify presentation in this document, all CB Response instances that Unified View accesses are described as "clusters," but the information provided is valid for single-server instances as well.

The Unified View server has its own user store, and a configuration store for the servers it queries. However, it does not store any of the queried data on the server.

There are two types of user in Unified View: administrators and non-administrators. A Unified View administrator can determine which of the available CB Response clusters to include in the Unified View deployment and also create and manage user accounts on the Unified View server.

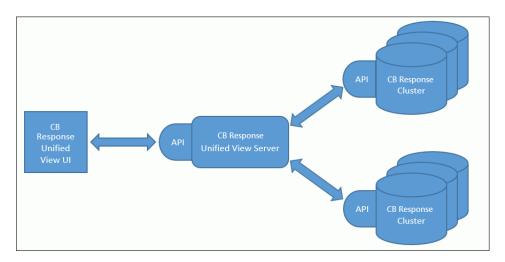
Connections between Unified View and the clusters it draws data from are accomplished using API keys for user accounts on each cluster.

Architecture

CB Response Unified View runs on a separate server from the CB Response clusters it manages. It provides a graphical front end that does the following:

- · Manages queries to the Unified View server
- Runs those queries against each configured CB Response cluster
- Merges the results into a unified set

The following figure illustrates the architecture of a Unified View deployment, which uses a modified version of the CB Response user interface.



Terminology

This document uses the following terms:

- An instance refers to either a single CB Response server (and the sensors it monitors), or multiple CB Response servers in one clustered configuration.
- A cluster refers to a single- or multi-server instance of CB Response.
- A standalone instance refers to CB Response not connected to Unified View.

Logging

Unified View rotates log files on a daily basis and stores them for 7 days. The server generates logs from two sources:

- nginx Logs basic access and error logs that are stored in /var/log/cb/nginx/access.log and error.log, respectively. The logs contain the basic HTTP requests made to the Unified View server for the API.
- **uvservices** (the Unified View service) Generates and stores in /var/log/cb/uvservices the following log files:

Log file	Description
startup.log	Captures output that is generated before the logging framework starts up.
access.log	Not currently used.
debug.log	General log file that includes status of pool workers and end-user activity.

Setup Summary

The following steps are needed to setup and use Unified View – they are described in detail elsewhere in this document:

- Install Unified View See Chapter 2, "Installing a Unified View Server," for full installation and upgrade instructions.
- Choose clusters Decide which CB Response clusters you want to connect to your Unified View.
- Collect cluster API keys for authentication For each CB Response cluster you
 plan to include, collect an API token from a user account on that cluster. This is
 necessary to authenticate the connection to Unified View and have the cluster appear
 as available. See "Add or Remove Clusters" on page 21 for details.
- Choose shared or per-user authentication For each CB Response cluster, decide
 whether you want all users authenticated using a shared API token or each user
 authenticated using their own token. The privileges of the cluster user whose token is
 used determine what information is displayed from that cluster in Unified View as well
 as what features are available when a Unified View user browses to the cluster. See
 "Authentication Method (API Token)" on page 22 for details.

Create Unified View users – As an administrator, create any additional Unified View
accounts needed at your site. You can designate any account as an administrator if
you choose, in which case the user will be able to create and modify user accounts
and add and delete clusters from Unified View. If you choose authentication via
individual API token for any cluster, inform new users that they will have to provide an
API token from their own account on that cluster to enable access to the cluster and
its information. See "Overview of Unified View User Accounts" on page 31 for details.

Chapter 2

Installing a Unified View Server

This chapter describes preparations and procedures for CB Response Unified View server installation and upgrades, and describes how to log in to a Unified View server.

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Upgrading from an Earlier Release	18
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Server Requirements

The Unified View server can be installed on a physical or virtualized server that meets the following requirements:

Server OS – A base install of one of the following:

- 64-bit CentOS OS 6, 7, or 8
- Red Hat Enterprise 6, 7, or 8

Unified View 7.0 has the same server OS requirements as CB Response Server 7.0. See the latest available *CB Response Operating Environment Requirements* (version 6.3 at the time of this publication) on the User Exchange for the minor versions of the operating systems that are supported for Unified View.

Memory and CPU – Depends on the size of your CB Response deployment:

- For ten or fewer CB Response servers and up to 100 concurrent end users:
 - 8 GB of RAM
 - 4 CPU cores
- For more than ten CB Response servers:
 - Minimum 16 GB of RAM
 - Minimum 8 CPU cores.

Storage – Because the Unified View server does not store search data and does not have substantial disk I/O requirements, a typical enterprise-level hard drive or equivalent is sufficient.

Note

Carbon Black recommends configuring at least 40 GB of log space in /var/log/cb.

CB Response servers – The Unified View server aggregates search results from at least one CB Response server (the minimum for a cluster). CB Response servers that provide results to this release of Unified View must meet the following requirements:

- CB Response server version 7.0 or newer.
- HTTPS query access to each underlying CB Response server.

Note

The Unified View server does not support HTTP proxies and must have direct HTTPS access to the servers.

 The ability to make HTTPS API queries to the RESTful API using the configured Cb Response port, usually 443.

Installing Unified View

This section describes how to perform a clean installation of Unified View (that is, on a system that has no previous version installed).

Note

This release of Unified View supports only 6-series CB Response servers and above. To manage 5-series CB Response servers and earlier with Unified View, you must use a separate CB Response Unified View (CB-Fed) version 1.1.0, available from the Carbon Black yum repository. You cannot manage CB Response 5- and 6-series servers from a single Unified View server.

This release of Unified View does not support in-place upgrades from the earliest Unified View versions, named CB-Fed v.1.x.x, but does allow you to upgrade from CB Response Unified View 6.1.3. See "Upgrading from an Earlier Release" on page 18.

To install Unified View on a new system:

1. Obtain the RPM installation package for CB Response.

If you are a CB Response on-premises customer, you received this RPM package when you installed the CB Response server.

If you do not have access to this file, or if you are a CB Response cloud customer, contact Carbon Black Technical support to obtain the file.

2. Install the RPM package using the following command:

```
sudo rpm -ivh carbon-black-release-<license
version>.<customername>.x86 64.rpm
```

This file adds CB Response SSL certificates and keys in the following directory:

```
/etc/cb/certs/
```

- 3. Remove the file CarbonBlack.repo from the /etc/yum.repos.d directory, or edit the file and set enabled=0.
- **4.** Create the following **new** repo file specific to Unified View:

```
/etc/yum.repos.d/CarbonBlackUnifiedView.repo
```

5. Edit the CarbonBlackUnifiedView.repo file to have the following contents:

```
[CbUnifiedView]
name=CbUnifiedView
baseurl=https://yum.distro.carbonblack.io/unifiedview/stable/
$releasever/$basearch/
gpgcheck=0
enabled=1
metadata_expire=60
sslverify=1
sslclientcert=/etc/cb/certs/carbonblack-alliance-client.crt
sslclientkey=/etc/cb/certs/carbonblack-alliance-client.key
```

6. For EL6 and EL7 servers, run the following command:

```
$ sudo yum install cb-unifiedview
```

For EL8 servers, run the following commands:

```
$ sudo yum module disable postgresql redis
$ sudo yum install cb-unifiedview
```

- 7. Type **y** to confirm that you want to install the available packages comprising the Unified View installation.
- **8.** Initialize the Unified View server using the following script:

```
/usr/share/cb/cbinituv
```

This script does the following:

- Presents the End User License Agreement (type yes to accept).
- Sets up the initial administrator account with the username and other values that you specify.
- Completes the operating environment for Unified View server (firewall, database, encryption key).
- **9.** Start services by typing **y** at the prompt. Or, you can start services later by using the following command:

```
service cb-unifiedview start
```

CB Response Unified View server installation is now complete.

You can log into the Unified View server (through https://localhost or https://
<serveraddress>) using credentials for the initial administrator account you created
when you ran /usr/share/cb/cbinituv in the preceding procedure. See "Logging In
to Unified View" on page 19 for additional details and Next Steps.

Upgrading from an Earlier Release

If you have CB Response Unified View 6.1.3 or later currently installed, you can upgrade to a newer version without uninstalling the previous version:

To upgrade Unified View from a 6.1.3 or later version:

1. On the server, stop the Cb Response Unified View services:

```
sudo service cb-unifiedview stop
```

2. (Optional) Clean the yum cache of metadata and packages:

```
yum clean all
```

3. Update the Cb Response Unified View services:

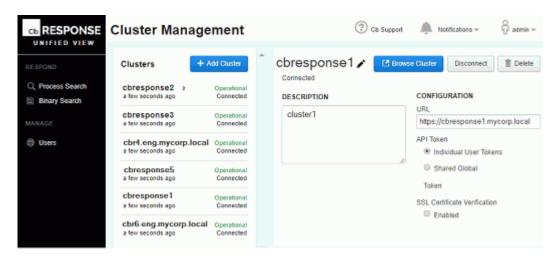
```
sudo yum upgrade cb-unifiedview
```

4. Restart the Cb Response services:

```
sudo service cb-unifiedview start
```

Logging In to Unified View

When you log into Unified View, Cluster Management appears as the landing page. The left-hand Clusters panel lists all clusters in your deployment – it will be blank the first time you log in. Once you have added clusters, you can select a cluster to view or edit its settings in the panel to the right.



To return to the Cluster Management page from anywhere in the multi-cluster context of Unified View, click the logo at the top of the navigation bar.



Next Steps

- See Chapter 3, "Managing Clusters," on page 20 for instructions on setting up clusters in your Unified View environment.
- See Chapter 4, "Operating Contexts," on page 25 for details about multi-cluster vs. single-cluster operating contexts in Unified View.
- See Chapter 5, "Managing Users," on page 30 for details about setting up user accounts in your Unified View environment.
- See Chapter 6, "Server Configuration Settings," on page 38 for instructions on customizing the configuration of your Unified View server.
- See Chapter 7, "Command Line Tools," on page 44 for instructions on using command-line options to manage users and clusters in Unified View.

Chapter 3

Managing Clusters

This chapter describes how to manage clusters in Unified View.

Sections

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Add or Remove Clusters	21
Cluster Configuration Settings	22
Cluster Health Status	24

Overview of Cluster Management

Unified View administrators can perform the following cluster management tasks:

- Add and remove clusters from Unified View, specify their authentication parameters, and configure SSL certificate settings. See "Add or Remove Clusters" below.
- Specify the type of API token for authenticating users to a cluster either shared or individual. See "Authentication Method (API Token)" on page 22.
- Specify the clusters that are available for searching in Unified View. See "Cluster Connection Status" on page 23.
- Monitor the operating (health) status of clusters. See "Cluster Health Status" on page 24.

Note

Administrators also manage Unified View users, as described in Chapter 5, 'Managing Users' on page 30.

Individual Unified View users, whether administrators or not, can specify how they manage clusters on the My Profile page, as follows:

- Set their own authentication credentials for clusters that require user authentication via individual API tokens.
- Specify which of the available clusters to enable (include) or disable (exclude) for personal searches. For details, see "Choose Clusters for Personal Global Searches" on page 37.

Add or Remove Clusters

Use the Cluster Management page in Unified View to add, modify, or remove clusters.

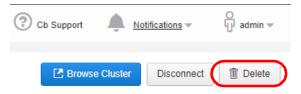
To add a cluster to Unified View:

- 1. Log in to Unified View using an administrator account.
- If you are viewing a single cluster through Unified View, click the browser tab for the multi-cluster view.
- **3.** If the Cluster Management page is not already showing, click the Carbon Black logo at the top left of the navigation bar.
 - If clicking this logo brings you to a HUD page, you are still in single-cluster view and should click on a different browser tab. There is no HUD page in Unified View.
- 4. In the list of clusters in the left pane, click Add Cluster.
- Complete settings in the Add Cluster dialog box as described in "Cluster Configuration Settings" on page 22.

To remove a cluster from Unified View:

- 1. If the Cluster Management page is not already showing, in multi-cluster mode, click the Carbon Black logo at the top left of the navigation bar.
- 2. Click to select the cluster to delete.

3. At the top of cluster details in the right pane, click Delete.



4. Confirm the deletion by clicking **Delete Cluster** in response to the Confirmation prompt.

Cluster Configuration Settings

Cluster settings include basic details, authentication method, connection status, and SSL certificate verification.

Basic Settings

Setting	Description
Name	Enter the name of the cluster.
Description	Optionally, enter a description of the cluster.
URL	Enter the URL for the cluster.

Authentication Method (API Token)

Setting	Description
API Token	In Unified View, users authenticate to clusters through API tokens instead of usernames and passwords. Select one of the following authentication methods for users to access the cluster through Unified View:
	• Individual User Tokens – Each user must obtain an API token from a user account on the cluster (such as their own account), and then add it to settings for that cluster on their My Profile page in Unified View. This option is useful if you want to limit users to no more access via Unified View than they would have by directly logging in to the cluster.
	Shared Global Token – All users can access the cluster using an API token entered at creation time (in the Add Cluster dialog box), or later, in cluster settings on the Cluster Management page. With this option, users can access the cluster without having to configure their own tokens. A shared token is convenient, for example, when all Unified View users require the same access to this cluster. It is not appropriate if you require different privileges on a cluster for different Unified View users.

Cluster Connection Status

Sidster Connection Otalus

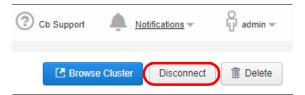
Description

Disconnect/ Connect

Setting

Click to specify the cluster's connection status, which determines whether the cluster is available for global searches in Unified View. Settings are as follows:

 Connect (the default) – The cluster is connected and available for all users to include in global process or binary searches. When the cluster is *connected*, the middle button at the top of the settings panel reads **Disconnect**:



The word "Connected" also appears in the following locations:



When the cluster is connected through the Cluster Management page, individual users can use My Profile to enable or disable the cluster for personal searches, without affecting access for other users.

 Disconnect – The cluster is disconnected and temporarily unavailable for global process or binary searches, but its configuration information is saved. When the cluster is disconnected, the middle button at the top of the settings panel reads Connect. Also, the word "Disconnected" appears in place of "Connected."

When the cluster is disconnected, users cannot enable or disable it in My Profile.

You can browse a cluster from Unified View whether it is connected or disconnected for searching.

See "Scope for Multi-cluster Searches" on page 28.

SSL Certificate Verification

Setting	Description
SSL Certificate	Specify whether the Unified View server verifies that the cluster certificate has a valid and trusted CA-signed SSL certificate.
Verification	 Do not select this option (leave it blank) if the cluster uses a self- signed certificate, such as a certificate that the CB Response server initialization script generates, and the SSL certificate used within the SSL handshake is not validated.
	Select Enabled to specify that the Unified View server verifies that the CB Response cluster certificate has a valid SSL certificate that is signed by a trusted CA.

Cluster Health Status

Every 30 seconds, Unified View gathers key health metrics from the managed clusters and aggregates the collected statistics into reports every five minutes. A five-day history of these reports is stored, beginning with the current time. The following statistics are stored in each interval:

- Average heartbeat time The average time value it takes for the Unified View server
 to query the info API endpoint on the cluster.
- Average query time The average time value for all non-heartbeat queries made to the cluster. This value can be zero if no queries are made against the server.

The Cluster Management page provides a high-level overview of all the clusters within Unified View. The overall health status of each cluster is determined by a combination of the average query time, heartbeat round-trip time, and number of errors. Health status is indicated by colored text as follows:

- Green Operational. Network communications to the CB Response server are working properly and API calls can go through.
- Yellow/Orange Unstable. Can connect to the CB Response server, but issues
 affecting network communication are detected. Possible cause might be failing SSL
 verification or query time delays.
- Red Unavailable. Cannot connect to the CB Response server. Possible cause might be wrong IP or blocked port, for example.

In the cluster settings panel of the Cluster Management page, the five most recent errors that occurred when communicating with the server appear, as well as the error count and time of the last query timeout.

The Unified View server stores the last 50 errors (the default) that occurred when the Unified View server queried the cluster. You can change the default number of stored errors with the server configuration setting UnifiedViewMaxNumberOfDbErrorLogs in cb.conf (see Chapter 6, "Server Configuration Settings" on page 38).

To export these errors to a CSV file, click the icon next to the Recent Errors section heading:



Chapter 4

Operating Contexts

This chapter describes the global and single-cluster operating contexts in Unified View.

Sections

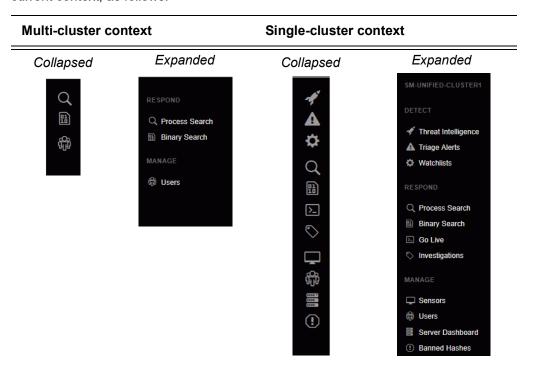
Topic	Page
Context Overview	26
Multi-Cluster Context	27
Single-Cluster Context	29

Context Overview

Unified View operates in either multi-cluster (global) context or single-cluster context. The operating context determines the information displayed, the operations available, and the scope to which the operations apply.

Cues in the user interface identify and help track the current context and, in the case of single-cluster view, the current cluster. For example:

- When an operation switches context, a new browser window opens to display the new view.
- In a given context, only the actions relevant to that context are available.
 For example, the navigation bar includes only the actions that are available in the current context, as follows:



In single-cluster context, the name of the current cluster appears in these locations:

In the title of the page.



At the top of the navigation bar (expanded).



Multi-Cluster Context

The available actions in multi-cluster context are as follows:

- Cluster management See Chapter 3, "Managing Clusters" on page 20.
- Process search and process analysis See "Process Search" on page 27.
- Binary search and binary details See "Binary Search" on page 28.
- User management See Chapter 5, "Managing Users" on page 30.

Process and binary searches in multi-cluster context apply to all data provided from all *included* clusters in Unified View. Included clusters are those connected in Cluster Management for each Unified View user, and included data from each cluster depends upon the permissions provided by the cluster API token for the user.

CB Response operations in Unified View multi-cluster context are similar to being logged directly into a single instance of CB Response, with some exceptions. For example, the Sensor Details page is unavailable in multi-cluster context, but if you click on a sensor name in multi-cluster search results, a single-cluster view opens in a separate tab and show the Sensor Details page on the cluster that the sensor reports to.

Process Search

To search for process activity across clusters in the Unified View (multi-cluster context), click **Process Search** in the navigation bar. On the Process Search page, perform the search the same as you would for single-instance CB Response. Results are from all included clusters in Unified View, subject to any limitations imposed by the cluster user account whose API token was used for authentication. Each returned process includes the cluster name and the sensor name.

In search results on the Process Search page, the following actions are available:

- To filter results to a specific cluster, click the name of the cluster using the Cluster filter in the left.
- To see details about a specific process, click the name of the process in the Process of the search results. The Process Analysis page (described in the next section) appears and displays a global-context view of process details.
- To see details about a sensor, click the name of the Host in the Endpoint column for a returned process. This displays the single-cluster view of the cluster this host reports to and shows the Sensor Details page.
- To go to the CB Response HUD page for one cluster (switching to single-cluster context), click the name of the cluster in the Endpoint column for a returned process.

Process Analysis

Unified View displays the Process Analysis page in multi-cluster context, although the process details are cluster-specific. The page is similar to the Process Analysis page in single-cluster context, with the following exceptions:

- Searches initiated by clicking a link on the page are performed across clusters in Unified View.
- Investigations are available in single-cluster context, but do not apply in multi-cluster context.
- CB Response Go Live is unavailable. It is, however, available in single-cluster context.

Binary Search

To search for binaries across the Unified View, click **Binary Search** in the navigation bar.

In the multi-cluster context for binary search, if a particular binary occurs on multiple clusters, it appears multiple times in the search results. For example, if four clusters report the same binary (based on its md5), the binary appears four times in the results.

Click on the binary in the search results to display the Binary Details page.

Binary Details

In Unified View, the Binary Details page displays aggregated information about the binary from across all clusters in Unified View. Similarly, links on the Binary Details page perform Unified View-wide searches across clusters.

Note

In some cases, CB Response clusters return conflicting Digital Signature Metadata status for a particular binary. This can happen because signature status is verified on the sensor level, and different environments (clusters) can have different certificate trust settings. When such a conflict occurs, you can see which cluster reported a particular status by clicking the signature status.

Scope for Multi-cluster Searches

All clusters added to Unified View are potentially available (connected) for global process and binary searches. However, several factors determine which clusters are available for searches and single-cluster views. Some factors affect all Unified View users and some are specific to individual users:

- Was the cluster added to Unified View? On the Cluster Management page, a
 cluster must be configured for connection to Unified View by an administrator before it
 becomes available. See "Add or Remove Clusters" on page 21 for more information.
- Is the cluster connection enabled for this Unified View server? On the Cluster Management page, administrators can temporarily disconnect a particular cluster for all users without deleting it. This prevents its data from being available in searches and also presents access via single-cluster view. Removing a cluster from searches temporarily can be helpful in certain situations, such as when you need to improve performance during heavy usage periods, to perform scheduled maintenance on a cluster, or to narrow searches to a particular set of clusters. See "Cluster Connection Status" on page 23 for more information.
- Is the cluster connection enabled for this user? On the My Profile/My Cluster page, individual users can enable and disable inclusion of available clusters in their own searches. See "Choose Clusters for Personal Global Searches" on page 37.
- What permissions does the API token provide on the cluster? The API token specifies the cluster user whose permissions are used for access to that cluster. If the cluster is set up to use a Shared Token for all users, that API token is specified on the Cluster Management page. If the cluster is set up to use Individual Tokens for each user, the token is specified on the user's My Profile/My Clusters page.
 - For a Unified View user to have access to data from a cluster, the user whose API token is used for authentication must have access to that data. Cluster user accounts can be set up to give the user access to some Sensor Groups and not others. In this

case, only data from the permitted Sensor Groups can be searched by the Unified View user authenticated through that API token. See the managing users chapters in the *CB Response User Guide* for details on user permissions are specified.

Single-Cluster Context

On the Cluster Management page in Unified View, clicking **Browse Cluster** to navigate to a particular cluster opens a new browser tab that displays that cluster's HUD page. In this view, no multi-context operations are available. Single-cluster context is also initiated when you click the cluster name on certain pages.

CB Response operations in the single-cluster context of Unified View are mostly the same as when logged directly into a standalone instance of CB Response, with the exceptions noted in "Operating Exclusions in Single-Cluster Context."

Note

In the single-cluster context of Unified View, clicking the logo at the top of the navigation bar displays the cluster's HUD (heads-up display) page instead of the Cluster Management page.

Operating Exclusions in Single-Cluster Context

You cannot perform the following actions in the single-cluster context of Unified View:

- Log out of CB Response on the cluster. The Logout command is unavailable in the single-cluster context of Unified View because authentication to the cluster is through a shared or individual API token, not a username and password.
- Modify your cluster user profile. The cluster user profile is unavailable in single-cluster context for the same reason that **Logout** is unavailable.
- · Request email notifications for threat intelligence hits.
- Request email notifications for watchlist hits.

To perform these actions on one cluster, you must log into that instance directly.

Features Limited by User Permissions in Single-Cluster Context

In addition to cluster console features that are never available from Unified View, some features are limited by the permissions of the user whose API token authenticates a cluster's connection to Unified View:

- If their token is from a global administrator for the cluster, Unified View users have privileges for all cluster console features not excluded by Unified View.
- If their token is from a non-administrator user for the cluster, and that user is limited to accessing only some Sensor Groups, the Unified View user will be similarly limited when using Browse Cluster.
- If their token is from a non-administrator user for the cluster, and that user is only
 allowed to view data but not take actions that affect the cluster or its sensors, the
 Unified View will be similarly limited when using Browse Cluster. See the managing
 users chapters in the CB Response User Guide for information about how
 permissions are controlled for cluster users.

Chapter 5

Managing Users

This chapter describes how to manage Unified View users.

Sections

Topic	Page
Overview of Unified View User Accounts	31
Unified View User Management Tasks	
Managing My Profile in Unified View	34

Overview of Unified View User Accounts

Unified View users are the administrators and security personnel who are responsible for the following activities:

- Configuring and monitoring CB Response clusters in Unified View.
- Creating and managing user accounts in CB Response Unified View.
- Performing process and binary searches on clusters in Unified View.
- Analyzing search results in Unified View, and drilling down to individual clusters to further investigate the returned data.

You must create separate user accounts specifically for Unified View. User accounts created on the CB Response clusters being viewed cannot be used to log in to the Unified View console.

There are two elements that determine what a user can do in Unified View:

- Access to Unified View user and cluster management features is determined by whether a Unified View user is configured as an Administrator. Non-administrator users can use the binary and process search features of Unified View, and browse to clusters they have been authenticated on.
- Access to each connected cluster and its information is determined on a per-user basis by the API token used to authenticate the connection to each cluster.

Permissions for User Management Tasks

The privileges required to perform different user management tasks varies by task type and location in Unified View or the clusters being viewed:

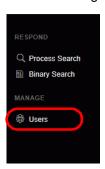
- User Management Page in Unified View Only a Unified View administrator can perform the following user management tasks:
 - View all user accounts
 - Modify user accounts
 - Add users
 - Delete users
 - Grant or remove administrator permissions
- Cluster Management Page in Unified View Only a Unified View administrator can require that users provide an individual API token to authenticate to a cluster.
- My Profile in Unified View All Unified View users can view and modify their own
 Unified View user profile on the My Profiles page. This includes providing API tokens
 to authenticate connections to clusters, if an individual is required.
- **User Management Page on a cluster** A Unified View user who is also has (and is authenticated with) a global administrator account on a cluster can manage individual cluster accounts from within Unified View.
- My Profile on a cluster The My Profile on a cluster cannot be modified through Unified View. A Unified View user with a user account on a managed cluster must log into the cluster directly to view or modify their own profile. (See "Operating Exclusions in Single-Cluster Context" on page 29.)

Unified View User Management Tasks

This section describes user management tasks a Unified View administrator performs.

To view Unified View users:

In the navigation bar of Unified View in a multi-cluster context, click Users (or its icon).



The User Management page lists all Unified View users in the left panel. Details about the selected user appear in the right.

To view or modify a Unified View user:

- 1. In the navigation bar, click **Users** to go to the User Management page.
- 2. In the list of users, search or scroll to locate the user to view or edit.
- Click the name of the user.Details about the user appear in the right-hand.
- 4. Review or modify user settings.
- 5. To save your changes, click **Save Changes** at the bottom of the page.

To add a new Unified View user:

- 1. In the navigation bar, click **Users** to go to the User Management page.
- At the top of the page, click Add User.New User settings (blank) appear in the right.
- 3. Complete user settings as follows:

Setting	Description
First Name	Enter the user's first name.
Last Name	Enter the user's last name.
Username	Enter a username for the user.
Administrator	Click to specify if the user is an admin (Yes) or a non-admin (No , the default). You can change this setting later.
Password Confirm Password	Provide the user with an initial password. Enter it twice. The new user can change the password later.

4. Click Save Changes.

The new user now appears in the list of users.

To delete a Unified View user:

- 1. In the navigation bar, click **Users** to go to the User Management page.
- 2. In the list of users in the left-hand panel, search or scroll to locate the user you want to delete.
- 3. Click the name of the user.
- 4. At the bottom of the right, click Delete User.
- **5.** Click **OK** in the **Delete User** dialog box to confirm the deletion. The user no longer appears in the list of users.

Cluster Authentication

In addition to adding, deleting, and modifying Unified View user accounts, Unified View administrators determine whether each user must provide their own cluster API token to establish a connection with a cluster. Each cluster can be configured for either shared or individual user access:

- Shared API token If Shared Global Token is chosen for a cluster, all Unified View
 users access the cluster through the same, shared token that is specified in
 configuration settings for the cluster in Cluster Management. This is convenient, but it
 is not appropriate if you require different privileges on a cluster for different Unified
 View users.
- Individual API token If Individual User Tokens is chose for a cluster, each user
 accesses the cluster through a unique token that is obtained from a user account on
 the cluster and added to settings for the cluster in that users My Profile/My Clusters
 page.

Notes

- The authentication choice for each cluster affects all users. You cannot require some users to provide individual tokens with others authenticate using a shared token for the same cluster.
- There is no relationship between the API token for a Unified View user account and the API token for a user account on a cluster, even if they are for the same person. Only *cluster* API tokens can be used for Unified View authentication.

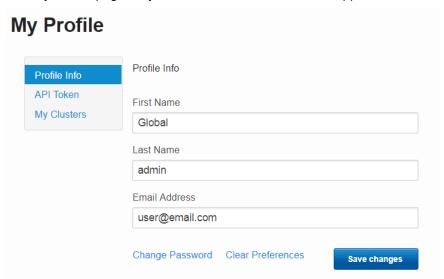
Managing My Profile in Unified View

All users can view their own information on the My Profile page in Unified View, and for most fields can modify information or settings.

To access the My Profile page:

 On the username menu in the upper right of the Unified View console, choose My Profile.

The My Profile page for your Unified View user account appears.



My Profile consists of three pages that are described in the following sections.

- Profile Info
- API Token
- My Clusters

Profile Info

On the Profile Info page in My Profile, you can view or modify your user settings, change your password, or clear user interface preferences.

To view or change your user details:

- 1. On the username menu in the upper right of the console, choose My Profile.
- 2. In the left panel, click on Profile Info and view or modify user settings as needed.

Setting	Description
First Name	Enter your first name.
Last Name Enter your last name.	
Email Address	Enter your email address.

Note that you cannot change your username.

3. Click Save Changes.

To change your password:

- 1. On the username menu in the upper right of the console, choose My Profile.
- 2. On the My Profile page, click the **Profile Info** link.
- 3. Click Change Password.
- 4. Complete the Change Password dialog.
- 5. Click **Save Changes** on the dialog and then again on the My Profile page.

Preferences

Unified View keeps track of search queries that each user saves and also tracks changes they make to the user interface, such as filter selections, sort order, and navigation bar format. These changes are saved between sessions as user preferences. Each time a user logs in, Unified View restores saved preferences from the user's last session.

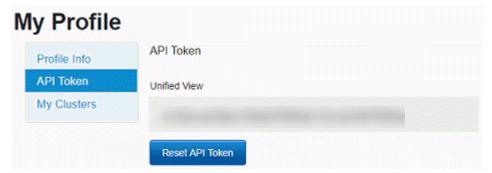
You can discard your preferences and reset the interface to the default settings.

To clear your user preferences:

- 1. On the username menu in the upper right of the console, choose My Profile.
- 2. On the My Profile page, click the **Profile Info** link.
- On the Profile Info page, click Clear Preferences.
 Unified View discards your preferences, including saved searches, and restores the default settings.
- 4. Click Save Changes.

Unified View User API Token

The API Token page in My Profile displays your API token for Unified View:



This token can be used in place of a user name and password in a script or custom application that integrates or interacts with the Unified View server API. In most cases, you can disregard this token. If at some point you are required to change it, use the following procedure.

Note that this is not the API token used to authenticate connections to clusters.

To reset your Unified View API token:

- 1. On the username menu in the upper right of the console, choose My Profile.
- 2. Click the API Token link.
- 3. On the API Token page, click Reset API Token.
- 4. Click Save Changes.

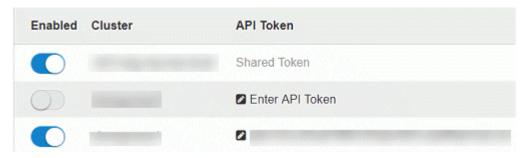
My Clusters

The My Clusters page in My Profile displays the following:

- A list of clusters known to this Unified View server. By default this shows all clusters, but a menu allows you to choose different subsets.
- The API Token authentication method and status for each cluster.
- Which clusters are included in or excluded from your personal global searches in Unified View.

To display the clusters available to you in Unified View:

- 1. On the username menu in the upper right of the console, choose My Profile.
- 2. On the My Profile page, click the My Clusters link.
- 3. The My Clusters page appears and, by default, lists all clusters that are included in Unified View.



Cluster Settings

The Enabled field in the My Clusters list can have the following settings:

- Enabled switch on (blue and white) These clusters are included in your global searches. You can change this setting in My Clusters.
- Enabled switch turned off (white) These clusters are manually excluded from your global searches. You can click the setting to Enabled to add data from this cluster to your searches.
- **Enabled switch deactivated (gray)** These clusters are excluded from your global searches for one of the following reasons:
 - They are missing an API token to provide cluster access but otherwise available
 for your global searches. Log in to the cluster itself, obtain the token from your My
 Profile page on that cluster, and add it to the row for that cluster on the Unified
 View My Clusters page.
 - They are disconnected from Unified View in Cluster Management and unavailable for any global searches. Connecting or disconnecting a cluster is done on the Cluster Management page and requires Unified View administrator privileges.

The API Token column in the My Clusters list shows one of the following:

- Shared Token if an administrator choose this authentication method for the cluster.
- An individual API token string specific to this Unified View user's access to the cluster
- Enter API Token if an individual token is required but not yet entered

Shared vs. individual token authentication is determined on the Cluster Management page and cannot be changed on My Profile.

To enable your Unified View access to a cluster:

- 1. While logged in to the Unified View console, choose **My Profile** on the username menu in the upper right of the console.
- 2. Click the My Clusters link.
- 3. If the API Token field for the cluster you want to add to your Unified View says *Enter API Token*, get an API token from a cluster user (not Unified View) and enter it in that field. The permissions of the user whose API token you are using will determine your access to that cluster and its data.
- **4.** Once you have entered an API token, or if the cluster is configured for a shared token, the Enabled slider shows blue and white (i.e., the button in the slider is on the right) when access is enabled. If that is not the case, click the button to the right to enable cluster access.

Once a cluster is enabled on a user's My Profile page, that user will have access to the cluster's data during searches and will be able to browse to that cluster through Unified View. Both of these capabilities are subject to privileges of the cluster user whose token was used for authentication. See the managing user accounts chapters in the *CB Response User Guide* for details about user permissions.

Filtering the Cluster List

You can filter the list of clusters in My Profile using the following methods.

• From the drop-down list, select one of the following criteria:

Setting	Description	
All available clusters (the default)	Show all clusters that are available to you for global searches.	
Clusters missing API tokens	Show only the clusters that need an API token to access the cluster from Unified View.	
Included clusters	Show only the clusters that are enabled and included in your global searches.	
Excluded clusters	Show only the clusters that are disabled and excluded from your global searches.	

• In the search box, type the name of a cluster.

Clusters matching the criteria in the drop-down list, and with a name starting with the characters you type appear in the list. The list of clusters narrows as you type.

Choose Clusters for Personal Global Searches

All clusters added to Unified View by an administrator are enabled by default for all users with a legitimate shared or individual API token for the cluster. However, each user can limit their global searches to a particular set of clusters by disabling those that they want search operations to skip.

To customize your global searches in Unified View:

- 1. On the username menu in the upper right of the console, choose My Profile.
- 2. Click the My Clusters link.
- Click to enable (include) or disable (exclude) clusters, as appropriate.

Chapter 6

Server Configuration Settings

This chapter describes configuration settings for the CB Response Unified View server.

Sections

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Nginx Service Settings	40
PostgreSQL (cb-pgsql service) Settings	41
Redis (cb-redis service) Settings	42
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Server Configuration Overview

The Unified View server configuration file is located in /etc/cb/cb.conf. The default values are appropriate for any Unified View. You do not need to change them.

Note

The settings shown here are for the cb.conf file on the Unified View server itself. The cb.conf file for the CB Response servers that report to the Unified View server have other settings that are not documented here.

Global Settings

The following settings control general configuration options for Unified View.

Name	Description
CbUser=cb	Service user account and group.
CbGroup=cb CbFileDescriptorLimit=80000	Sets the maximum number of file descriptors that each service process is allowed to keep open.
SSLCertFile=/etc/cb/certs/cb-server.crt SSLKeyFile=/etc/cb/certs/cb-server.key	SSL certificate and private key files to be used for HTTPS communications from the sensor to the enterprise server.
SSLUICertFile=/etc/cb/certs/cb- server.crt SSLUIKeyFile=/etc/cb/certs/cb-server.key	SSL certificate and private key files to be used for HTTPS communications from the user's web browser to the Unified View server.
ManageFirewall=True	Determines whether the CB Response Unified View configuration and setup tools will manage firewall configuration on your behalf. For manual firewall configuration, set this value to False .
	Note: This was Managelptables in pre-6.3.0 releases.
ShowGdprBanner	Determines whether the Unified View console displays a red banner indicating that it is an EU instance and therefore data sharing should be handled with extra care. If True, the banner is displayed. Not included in the default cb.conf file.
	Note: Clusters seen in Unified View view Browse Cluster may also show the banner in if it is configured on the cluster itself.

Nginx Service Settings

These settings specify configuration options for the Nginx service.

Note

Settings in this section are included so that Carbon Black Unified View server's internal components can read them. However, the Nginx service has a separate configuration file that has a format that prevents sourcing standard bash property files such as this one. Therefore, for any change in this section, you must make the corresponding change in the /etc/cb/nginx/conf.d/cb.conf file.

Name	Description
NginxWebApiHttpPort=443	TCP port on which Web UI/API HTTP endpoint listens.
FlaskSecret=[unique_string]	Private key for encrypting cookies that the CB Response Unified View web API uses.
CSRF_DISABLE=False	XSRF protection parameters.
CSRF_COOKIE_NAME=_xsrf_token	
CSRF_HEADER_NAME=X-XSRFToken	
SESSION_COOKIE_SECURE=True	Toggles the secure flag for the session cookie. If True (the default and recommended setting), requires https. If False, the session will work with either http or https.
FailedLogonLockoutCount=10	The number of times a user can fail authentication before the account is locked.
AccountUnlockInterval=30	The number of minutes before a locked account is unlocked.
UserActivityQuota=10000	The threshold at which the UserActivity table is
UserActivityQuotaDelta=.1	resized, based on the value of UserActivityQuotaDelta.
	For example, if <code>UserActivityQuota</code> is set to 10000, and <code>UserActivityQuotaDelta</code> is set to .1, when the database grows to 11000 it will shrink back to 10000. This ensures that at least 10,000 of the latest records remain available.
SSOConfig=/etc/cb/sso/sso.conf	Enables a Carbon Black Unified View Server integration that has an external single sign-on (SSO) provider by providing a path to an SSO configuration file.

Name	Description
MaxSyslogSenderMessageSize=1024	Configures the maximum syslog message size for cb-unifiedview syslog notifications. This setting does not automatically adjust the maximum message size setting in rsyslog configuration (default 1KB).
MaxCbLoggingMessageSize=2048	Configures the maximum syslog message size for cb-unifiedview log output under /var/log/cb. This configuration does not automatically adjust the maximum message size setting in rsyslog configuration (default 2KB).

PostgreSQL (cb-pgsql service) Settings

These settings specify options for the PostgreSQL data directory configuration.

Note

CB Response Unified View server runs its own instance of PostgreSQL on a non-standard port, and this instance hosts the CB database only.

Name	Description
PgSqlDataDir=/var/cb/data/pgsql	Used for storing pgsql data.
PgSqlPidFile=/var/run/cb/cb-pgsql.pid	Path to the PID file used for cb-pgsql service control.
PgSqlLogfilePath=/var/log/cb/pgsql/ startup.log	Path to the cb-pgsql startup log file, which captures any output that is generated before the logging framework starts up.
PgSqlHost="*"	Network interfaces on which cb-pgsql listens. Specify * to listen on all available interfaces. You can specify more than one interface by using a comma (,) separator.
PgSqlPort=5002	Listening port for cb-pgsql.
DatabaseURL=postgresql+psycopg2://cb:Uc0nllfkyLEVnRmJ@localhost:5002/cb	SQLAlchemy database URL to be used when connecting to PostgreSQL.

Redis (cb-redis service) Settings

These settings specify configuration options for the cb-redis service.

Name	Description
RedisPort=6379	Listening port for Redis (TCP).
RedisHost=localhost	Remote IP for creating Redis client (not the listening interface).

Unified View Settings

These settings control configuration options that are specific to Unified View.

Name	Description
UnifiedViewEnabled=True	Enables (True) or disables (False) Unified View.
UnifiedViewHost="[::]"	Host name for Unified View server.
UnifiedViewPort=5003	Listening port for Unified View.
UnifiedViewHealthCheckInterval=30	The interval (in seconds) between heartbeats to check that back-end clusters are functioning.
UnifiedViewMaxClustersPerMonitor=50	Maximum number of clusters per health check query.
UnifiedViewMaxNumberOfDbErrorLogs=50	Maximum number of error logs to store in the health monitoring database. This is the number of errors displayed in the Unified View console. All errors are logged to the error log.
UnifiedViewStatsAggregationInterval=300	The interval (in seconds) between calculations for average heartbeat and average query times.
UnifiedViewStatsAggregationToKeep=1440	The number health status intervals to store.
UnifiedViewRequestTimeout=120 # seconds	Number of seconds Unified View waits for a response when making a request.
UnifiedViewMaxClusterHealthFailures=5	Maximum number of failed API calls before a cluster health status is marked red (poor).
<pre>UnifiedViewUnstableAvgClusterHeartbeatTime = 5</pre>	The threshold after which average heartbeat time results in a yellow (fair) cluster health status.

Name	Description
<pre>UnifiedViewUnavailableAvgClusterHeartbeatTime = 10</pre>	The threshold after which average heartbeat time results in a red (poor) cluster health status.
UnifiedViewUnstableAvgClusterQueryTime = 60	The threshold after which average query time results in a yellow (fair) cluster health status.
UnifiedViewUnavailableAvgClusterQueryTime = 90	The threshold after which average query time results in a red (poor) cluster health status.

SSL Certificates

The SSL certificates that are used for the Unified View server are stored by default in / etc/cb/certs. The cbinituv script generates an initial set of certificates. These certificates can be changed to valid certificate authority (CA) certs.

The Unified View configuration file contains two configuration values:

- SSLCertFile
- SSLKeyFile

Chapter 7

Command Line Tools

This chapter describes Unified View command line tools.

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Command Line Tools

Unified View command line tools enable console users with sudo privileges to perform user and cluster tasks on the command line instead of the Unified View console or API.

The following tools are located in /usr/share/cb:

- cbuser Manages users for both Unified View server and CB Response clusters.
 See "User Commands" in the following section.
- cbuv-cluster Manages clusters for Unified View. See "Cluster Commands" on page 46.

To get a screen read-out of all options for a command, type the command followed by the commands option. For example:

cbuser commands

User Commands

For user-specific commands, enter <code>cbuser</code> plus one of the following options:

Options	Description
get	Queries and displays information about the user who is specified by one of the following arguments:
	• Username: -u /username
	or
	• User ID: -i /id
list	Lists all users in the Unified View server.
delete	Deletes the Unified View user who is specified by one of the following arguments:
	• Username: -u /username
	or
	• User ID: -i /id
add	Adds a new user as specified by the following arguments.
	Required:
	• Username: -u /username
	• First name: -f /first_name
	• Last name: -1 /last_name
	Optional:
	• Set password: -p /password.
	Otherwise, the user is prompted for a password.
	Create as Unified View global administrator: -g /
	is_admin

Options	Description
set	Changes the specified information about the user in Unified View.
	Name options:
	• Username: -u /username
	• First name: -f /first_name
	• Last name: -1 /last_name
	Admin options:
	Set as global administrator: -g /set_admin
	or
	Remove as administrator: -r /remove_admin
	Password options:
	• Set new password: -p /password
	or
	• Prompt for password: -P /prompt_password

Example:

```
cbuser add -u joe smith -f joe -l smith -p password -g
```

This adds the user Joe Smith as an administrator who has the specified password to the user store for the Unified View server.

Cluster Commands

To perform cluster-specific tasks from the command line, enter the command cbuv-cluster, followed by one of the following options:

Options	Description
get	Queries and displays configuration information about the cluster that is specified by one of the following arguments:
	• Cluster name: -c /cluster_name
	• Cluster ID: -i /id
list	Lists all the users from within the Unified View server.
delete	Deletes the cluster specified by one of the following arguments:
	• Cluster name: -c /cluster_name
	or
	• Cluster ID: -i /id

Options	Description
add	Adds a new cluster to Unified View using the specified parameters.
	Required arguments are:
	• Cluster name: -c /cluster_name
	• URL: -u,url
	Optional arguments are:
	• Description: -d /cluster_desc.
	• Enable SSL verification: -v /verify_ssl
	• Specify shared token: -s /shared_token.
	 Otherwise, if the token type for the cluster is shared, the user is prompted for the API token.
set	Changes information about a cluster in the Unified View according to one or more of the following arguments:
	• Cluster name: -c /cluster_name
	or
	• Cluster ID: -i /id
	• URL: -u,url
	• Description: -d /cluster_desc
	• Token type: -t /token_type, where token_type is either
	individual or shared.
	• Enable the cluster: -e /enable
	• Disable the cluster: -d /disable
	• Enable SSL verification: -v /verifiy ssl
	or
	Disable SSL verification: -n /no_verify_ssl

Example:

cbuv-cluster get -c acme

Retrieves and displays configuration information about the cluster named acme.