

# C cWatch

### Comodo cWatch Network Software Version 2.23

# Quick Start Guide

Guide Version 2.23.113018

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## cWatch Network – Quick Start Guide

cWatch Network is an advanced security intelligence and event management (SIEM) tool that features event log monitoring, powerful event querying, automatic assignment of incidents to personnel and more. The service allows managed security providers (MSPs) to provide comprehensive network monitoring services to their customers.

This tutorial briefly explains how to setup and start using cWatch Network.

- Step 1 Login to cWatch Administrative Console and change sub-domain
- Step 2 Add Customers and their Assets
- Step 3 Add Users and Assign to Customers
- Step 4 Deploy NXlog, Rsyslog and Network Monitoring Sensors
- Step 5 Configure Event Queries
- Step 6 Configure Correlation Rules
- Step 7 Manage Incidents and Cases
- Step 8 Generate Reports

#### Step 1 – Login to cWatch Administrative Console and change sub-domain

Each cWatch customer is given their own hosted portal which can be accessed using any internet browser. To login, open the cWatch URL provided during sign-up and enter your account username and password:

Username Login	Login	
•••••••• Login	Username	
•••••••• Login		
	•••••	Login

After first login you can change the sub-domain at anytime from the 'License and Subscription' interface. To do this:

- Click the 'Menu' button at top right
- Choose 'Administration' then click 'License and Subscription':

Administration > License and Subscription		≫ ≡
Contact Name developmentank	Details	
Contact Email	MSSP Name	
support.mssp@comodo.com	demo	
Admin User Name	Subdomain Name	
developmentank	demo	
License Key b3dd9b91-88ec-446a-b393-87ed35313527		Save
License Expiration Time 2020-11-06 10:29:18		
Creation Time 2016-02-13 16:12:10		
Maximum List Count 10		
Maximum List Content Count 1000		
Hot Data Storage Period 7 Day		
Log Volume 0.00 MB		

Subscription details, license information, live list count, data retention period and maximum log space are displayed on the left. If you want to increase these allowances, please contact Comodo and place a request.

_cone	💽 -   🦃 EN, 09:26   🔔 190 👲
	<u>ا</u> «
Lo	Dashboard
	Assets
	A Investigation
	₽ Rules
	Lincidents
Sankara	Lists
Sensor	C Reporting
/1.comoc	🚯 Administration
	Event Collection
	Phantom Settings Settings
axsensor_i	User Management
.36 %	License And Subscription

The 'Details' pane at the top right allows you to change your MSSP name and sub-domain name.

Details	
MSSP Name	
demo	
Subdomain Name	
demo	
	Save

- To change the MSSP service provider name, directly edit the name in the 'MSSP Name' field.
- To change the sub-domain name in the cWatch platform URL, directly enter the new sub-domain in the 'Subdomain Name' field.
- Click 'Save' for your changes to take effect.

From the next login the administrators and the users should use the new URL to access the console. The URL will have the following format: https://<new subdomain name>.mssp.comodo.com/ui/start

#### Step 2 – Add Customers and their Assets

The next step is to add your customers and their assets to cWatch in order to monitor their networks. Customer assets are the networks, endpoints and web servers from which logs will be collected.

#### To add a new customer

- Open the 'Asset Management' interface by clicking the 'Menu' button, then 'Assets' > 'Asset Management'.
- Click the 'Add' button at the bottom of the 'Customer List' pane on the left.

The 'Add Customer' pane will be displayed on the right:

mer List		Add Customer		
Name	Telephone	Name	Telephone	
Search customer			Telephone	
Chennai Techwriting	944517581	Locations		
Comodo Ank				
Test Benchmark1				
Test Benchmark2				
Test Benchmark3				
		+		
		Contacts		

- Enter the name of customer in the 'Name' field.
- Enter their contact number in the 'Telephone' field.



To add the location of the customer, click the 'Location' stripe and click the

button at the bottom.

	9677712345	
Locations		
Add Location		×
Country		
Address	Ŧ	
		Add
1		
(+)		
Contacts		

- Select the country in which the company is located, from the 'Country' drop-down
- Enter the address of the company in the 'Address' field.
- Click the 'Add' button.

The location will be added and displayed in the screen.

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ld Customer			
Name	Telephone		
Milkyway Inc.	9677712345		
Locations			
JSA			
15, Avenue Road, S	Sector 10, Washington		1
+			
Contacts			

- Repeat the process to add more locations for the customer.
- To add the contact details of the customer, click the 'Contacts' stripe and click the button at the bottom.

Name	Telephone	
Milkyway Inc	9677712345	
Locations		
Contacts		
	Add Contact person	×
	nua contact person	
	Name	
	John Smith	
	Email	
	fiatliena@milkyway.com	
	Telephone	
	+0123456789	
	Ad	a
9	<u>//</u>	

• Enter the Name, Email address and Phone number of the contact person in the 'Add Contact person' dialog and click 'Add'.

The contact will be added.

ld Customer			
Name	Telephone		
Milkyway Inc.	9677712345		
Locations			
Contacts			
John Smith Email: fiatliena@r	nilkyway.com , Telephone: +0	123456789	/
+			

- Repeat the process to add more contacts.
- Click 'Save' to add the contacts to cWatch.

The customer will be added and the 'Manage' control for the customer will be displayed at the bottom, which allows you to download Nxlog and Rsyslog config files.

The next step is to add assets and import web-servers and endpoints to cWatch Network for monitoring.

#### To add assets for a customer

- Open the 'Asset Management' interface by clicking the 'Menu' button, then 'Assets' > 'Asset Management'.
- Select the customer whose assets are to be added from the left.

Customer details will be shown on the right.

Click 'Manage' at the bottom:

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Assets > Asset Management	t i i i i i i i i i i i i i i i i i i i			<u>س</u>
stomer List		Customer Details		
Name	Telephone	Name	Telephone	
Q Search customer		Milkyway Inc.	9677712345	
Chennai Techwriting	9445175813	Locations		
Comodo Ank		USA	ector 10, Washington	/ 1
demo cust		rs, Avenue Road, s	ector 10, washington	2
Milkyway Inc.	9677712345			
Test Benchmark1				
Test Benchmark2				
Test Benchmark3				
	$\sim$			
		$\backslash$		
		+		
		Contacts		

The interface for adding customer's assets will open. It contains two tabs:

- Hard Assets Allows you to add networks and zones to be monitored by entering their start and end IP addresses.
- Soft Assets Allows you to add soft assets like services hosted from the network by specifying their URL, website and so on.

A default network will be available for the customer under the Hard Assets tab with its generated token. You can use this to add endpoints or create a new network with another name.

Assets	Action	
Network	à ₽ ≠ ± +	
← + Network		± Nxlog ± Rsysta

Hard Assets: Action - Controls			
(Å	Clicking this icon displays the authentication token and download buttons for the pre- configured RSYSLOG and NXLOG configuration script files for the network/zone in the lower right pane.		
A CONTRACTOR	Allows you to reset the authentication token for the network/zone and generate new one.		

	Once the token is changed, the old token becomes invalid. The cWatch Network server will not be able to collect logs from RSYSLOG and NXLOG utilities at endpoints with configuration script file containing the old token.
	Allows you to edit the name and IP address range of the network or the zone.
Ē	Allows you to delete the network or zone. Deleting a network also deletes the zones configured under it.
+	Allows you to add a zone to the network.

#### To add hard assets for a customer

- Select the customer from the left in the 'Asset Management' interface and click the 'Mange' button on the right pane.
- Click the 'Hard Assets' tab.
- Click the 'Network' button at the bottom of the right pane.

Assets		Actio	on				
Team 1		Â	P	P	Û	+	
First Shift		Â	₽	/	Û		
	Add Network	<					
	Name						
		]					
	Start IP	1					
	End IP						
	Add						
	7						
$ \longrightarrow $	<						
← (+ Networ	$\checkmark$						
Team 1 Token: 06517578ea9497db	871ed8da4dc7f90						
10051757020545700	n key:						

The 'Add Network' dialog will appear.

- Name Enter the name of the network in the field.
- Start IP Enter the start IP address if a range of endpoints are to be added. If a single endpoint is to be added, enter its IP address in both the 'Start IP' and 'End IP' fields.
- End IP Enter the end IP address if a range of endpoints are to be added. If a single endpoint is to be added, enter its IP address in both the 'Start IP' and 'End IP' fields.

• Click the 'Add' button.

The network will be added and a unique authentication token and agent activation key will be generated for the network. Clicking the 🗈 button in the new network row will display the token and the key at the bottom of the right pane.

• Repeat the process to add more networks.

#### To add a zone to a network

Click the + button in the row of the network.

The 'Add Zone' dialog will appear.

ssets		Action
Team 1		🖻 🖉 🖉 📋 🕂
First Shift		₫ ₽ ≠ ₫
Team 2		ù 🖉 🖉 🛍 🧲
	Start IP End IP	Add

- Name Enter the name of the zone in the field.
- Start IP Enter the start IP address if a range of endpoints are to be added for the zone. If a single endpoint is to be added, enter its IP address in both the 'Start IP' and 'End IP' fields.
- End IP Enter the end IP address if a range of endpoints are to be added for the zone. If a single endpoint is to be added, enter its IP address in both the 'Start IP' and 'End IP' fields.
- Click the 'Add' button.

The Zone will be added to the network and a unique authentication token will be generated for the zone. Clicking the button in the row of the new zone will display the token and the key at the bottom of the right pane.

Now that you have added endpoints to be monitored in the Hard Assets area, the next step is to run the Nxlog and Rsyslog configuration files on endpoints with Nxlog and Rsyslog utilities. See **Step 4** for more details.

The 'Soft Assets' interface allows administrators to create and manage a list of important URLs, domains or IP addresses, which acts as a reference list for the operators/administrators/analysts. If items displayed in this screen are affected by an incident, the operator/administrator/analyst may decide to, for example, escalate the incident from high to critical.

#### To add soft assets for a customer

- Open the 'Asset Management' interface by clicking the 'Menu' button, then 'Assets' > 'Asset Management'.
- Select the customer whose assets you wish to add from the left.

The Customer Details pane will open in the right.

- Click 'Manage' at the bottom left of the right pane and choose the 'Soft Assets' tab.
- Click the 'Add' button from the bottom of the right pane.

Hard Assets	Soft Assets
Ip Address 10.108.17.100	2
<b>URL</b> https://dither	cons.com
	Add Soft Asset ×
	Soft Assets URL
	Value
	Add
← (+ Ad	d

The 'Add Soft Asset' dialog will be displayed.

• Choose the type of soft asset that you want to add from the 'Soft Assets' drop-down.

Add Soft As	set	×
Soft Assets		
URL	Da	•
URL		
Domain		
Website		
Ip Address	5	
		Auu



- Enter the value for the selected soft asset in the 'Value' field.
- Click the 'Add' button.

The soft asset will be added to the list for the customer.

#### Step 3 – Add Users and Assign to Customers

You can add and manage users who are assigned to customers to address incidents, cases and malicious events on customer networks. These technician users can access only the dashboards, events and incidents pertaining to the customers assigned to them. 'Correlated Incidents' and 'Cases' belonging to a customer will be automatically routed to users assigned to the particular customer.

#### To add a user

 Click the 'Navigational Menu' button from the top right, choose 'Administration' from the options and then click 'User Management'.

		Customer List:	
Name	Role	Add User ×	Telephone
Harry	Mssp user		944517581
John Smith	Mssp user	Username	
erdem	Mssp user	Username	<b>96777</b> 1234
		Contact Email	
	/	Contact Email	
		Password	
	/	Confirm Password	
		****	
		Role	
	/	MSSP_USER 🗸	
		Region	
		Africa/Abidjan (0:00) 🗸 🗸	
		Language	
		English 🗸	
		Save	

Click the 'Add' button at the bottom of the User List pane at the left.

- Username Enter the username for the user.
- **Password** Enter the password for the user to login to cWatch network. The password should be of at least 8 characters in length and should contain at least one uppercase letter, one lowercase letter and one numeral.
- **Contact Email** Enter the email address of the user to which alerts will be sent for incidents.
- **Role** Select the role to be assigned for the user. Currently only one role, 'MSSP\_User' is available. More roles will be added in future releases.



- **Region** Select the region and time zone of the user from the drop-down.
  - Language Select the language to be shown when the user logs into cWatch.
- Click the 'Save' button.

The user will be added and displayed under 'User List'.

#### To assign a user to customer(s)

- · Choose the user to be assigned to customer(s) from the 'User List' at the left.
- Select the customer(s) to whom you want to assign the user from the list on the right.

		Custo	mer List:		
Name	Role		Customer	* Telephone	Username
Duncan	Mssp user		Chennai Techwriting	9445175813	Harry, John Smith
Harry	Mssp user		Comodo Ank		Harry, John Smith, erdem
John Smith	Mssp user		Milkyway Inc.	9677712345	Harry, John Smith
erdem	Mssp user	2	Test Benchmark1		Harry
			Test Benchmark2		
		V	Test Benchmark3		
			demo_cust		

Click 'Save'

A confirmation dialog will open.



· Click 'Yes' to confirm the assignment.

#### Step 4 – Deploy Nxlog, Rsyslog and Network Monitoring Sensors

After adding customers and their endpoints to cWatch as explained in **Step 2**, you have to configure them to send logs to cWatch. Comodo cWatch Network features agent-less log collection from Windows/Linux endpoints connected to customer networks via the NXLog and Rsyslog utilities. The NXLog utility (for Windows) and the Rsyslog utility (for Linux) need to be configured to send logs to the cWatch Network server. **Click here** for more details about deploying script files.

To enlarge the scope of log collection and for specific purposes, you can also deploy Comodo Networking Monitoring Sensors on the network. Click here for more detail.

Scripts can be configured and deployed in two ways:

- Pre-configured script files You can download ready-made configuration script files with all parameters
  pre-configured for a specific customer/network from the 'Hard Assets' interface. This is the most convenient
  way of configuring NXLog and RSYSLOG utilities at the endpoints to send logs to the cWatch Network
  server.
- Manually configure NXLOG and RSYSLOG scripts You can download configuration scripts for Rsyslog
  and NXLog and manually set the parameters such as network authentication token, name of product from
  which the logs are to be collected and so on. These scripts can be used to configure Rsyslog and NXLog
  utilities at Linux and Windows based endpoints to send logs to the cWatch Network server.

#### To configure NXLog and Rsyslog using pre-configured script files

The following sections explain more about:

- Configure the NXLOG Utility
- Configure the RSYSLOG Utility

#### Configure the NXLOG Utility

Please make sure NXLOG utility is installed on the machine which is to be configured to send logs to cWatch.

#### To download the NXLOG Configuration File

- Open the 'Asset Management' interface by clicking the 'Menu' button, then 'Assets' > 'Asset Management'.
- Select the customer from the left hand side pane.

The 'Customer Details' pane will open at the right.

- Click 'Manage' at the bottom left of the right pane and choose the 'Hard Assets' tab.
- Choose the network/zone you wish to configure from the right hand side pane and click the 🗈 button in the row of the network/zone.

The authentication token, the authentication key and the download buttons for the NXLOG and RSYSLOG configuration script files for the selected network/zone will be displayed at the bottom of the right pane.

• Click the NXLOG configuration file download button as shown in the screenshot below and save the file:

Assets	Action
▼ Team 1	(a) 𝒫 𝒴 +
First Shift	Ê <i>₽ ♪</i> Î
▼ Team 2	
Second Shift	
← + Network	
← + Network Team 1 Token: a06517578ea9497db871ed8da4dc7f90 Team 1 Activation key:	
developmentank CUST0f87f107b3c1450cbc5a4bb95a641a6e	578dc04ef98e45c0b8717c565a04dbaa

Replace the NXLOG configuration file at the location C:\Program Files (x86)\nxlog\conf\nxlog.conf or C:\Program Files\nxlog\conf\nxlog.conf in the endpoints\webservers with the downloaded configuration file.

All settings in the configuration file including network token for the selected network/zone are pre-configured and will instruct the NXLOG utility to send logs to the cWatch Network server. cWatch will receive and store the logs under

the respective customer/network for monitoring and incident reporting.

#### **Configuring RSYSLOG Utility**

- You can download a pre-configured RSYSLOG config script from the admin console. Each script is generated for a specific customer/network.
- The script will configure RSYSLOG utilities installed on Linux machines to send logs to the cWatch Network.
  - Please make sure the RSYSLOG utility is installed on the target machine.

#### To download the RSYSLOG Configuration File

- Open the 'Asset Management' interface by clicking the 'Menu' button, then 'Assets' > 'Asset Management'.
- Select a customer from the left hand pane.

The 'Customer Details' pane will open at the right.

- Click 'Manage' at the bottom left of the right pane and choose the 'Hard Assets' tab.
- Choose the network/zone whose endpoints are to be configured, from the right hand side pane and click the 🗈 button in the row of the network/zone.

The authentication token, the authentication key and the download buttons for the NXLOG and RSYSLOG configuration script files for the selected network/zone will be displayed at the bottom of the right pane.

• Click the RSYSLOG configuration file download button as shown below and save the file.

+
+
$\sim$
± Nxlog ± Rsyslog
17c565a04dbaa

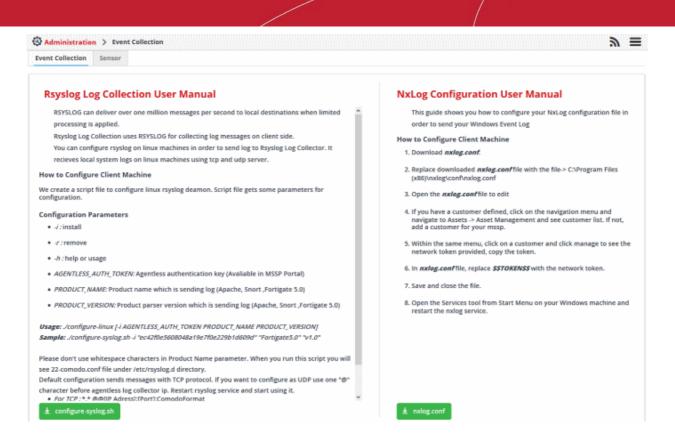
Run the script file on all required endpoints.

The script will configure the RSYSLOG utility to send logs to cWatch Network. cWatch will receive and store the logs under the respective customer/network for monitoring and incident reporting.

#### To manually configure Nxlog and Rsyslog

· Click the 'Menu' button from the top right, choose 'Administration' and then click 'Event Collection'

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The 'Event Collection' page contains instructions about downloading the scripts, setting the parameters and configuring the RSYSLOG/NxLOG utilities using the scripts.

Alternatively, you can download the script file for configuring the RSYSLOG utility from 'Administration' > 'Event Collection' interface, manually enter the parameters for the customer network to be monitored and run the script at the endpoints. See **Event Log Collection** for more details.

- In addition to event log collection, cWatch Network is capable of collecting log information from Comodo Network Monitoring Sensors.
- · These sensors listen on the customer's network using span/tap technologies.
- Sensor deployment is customized according to a customers network topology. Please contact Comodo to arrange sensor deployment.

#### **Deploying Comodo Network Monitoring Sensors**

In addition to agentless log collection, cWatch Network is capable of collecting log information from Comodo Network Monitoring Sensors. These sensors listen to customer networks using span/tap technologies and can be configured according to customer requirements. The deployment of sensors has to planned according to customers network topology and can be done in coordination with Comodo. Please contact your Comodo account manager for deployment of sensors on your network.

#### Step 5 – Configure Event Queries

After configuring NXLog, Rsyslog and Network Monitoring Sensors on networks and endpoints explained in **Step 4**, the logs start to flow to cWatch and are stored in the cWatch Network servers per customers' account. cWatch Network ships with built-in queries that are commonly used for event queries. You can use the built-in queries to search for events or configure new custom queries to meet your specific requirements.

#### To configure custom queries

- · Click the 'Menu' button at top right, choose 'Investigation' then 'Event Query'.
- Select the customer from the left pane under 'Customers' that you want to configure custom queries.

A Investigation >		@ ≡
Customers	New Query ×	
SOCUA	Query Builder	0
Q, Filter	and w +	
Queries X 20 (	Di	
• D Custom	^	
<>> New Query		
<>> Traffic INT to EXT		
Notification test query		
SSH Brute Force	📝 📕 📓 Save 🗎 Save As 🔝 Move 💿 Schedule	e O 🛱 Last 1 hours 🗸 Search
TestQuery	leven (energy) energy and the leven of the second sec	
<>> Sessionids		
<ul> <li>Projects</li> </ul>		
· D PCI DSS		
- D Linux		
<>> User_Logout_All		
User_Login_Unlock_Succes		
User_Modify_Password		
Vser_Login_All_Success		
<>> User_Login_TEST		
User_Privilege_Session		
User_Login_Privilege_Escal		
4> User_Login_Local_Failure		
User_Login_All_Failure		
User_Login_Local_Success		
User_Login_SSH_Success		
User_Login_Unlock_Failure		
<>> User_Logout_Local_Succes		
User_Login_Privilege_Escal		
C (1997) *** **	*	

The 'New Query' tab contains a query builder which allows you to create a new query for a selected customer. Any queries you create will be added to 'Custom queries'.

The left side panel displays a list of predefined queries and custom queries for the selected customer. The predefined query folders are in blue and custom query folders are in black. Before creating a query, you have to create a folder under which the query should be saved.

Click the folder button at the bottom on the left

Folder Name ×
Folder Name :
Network
Private
Add

- Folder Name Enter the name for the folder
- Private If you select this, the folder will be accessible only to you. The folder will have a lock icon indicating it is a private folder. This option is available only while creating a top level folder.
- Click 'Add'

The folder will be saved and displayed on the left side. You can save an event query under this folder.

An event query is built with a set of filter statements that are connected by Boolean operators, 'AND', 'OR' or 'NOT'. Each filter contains the following components.

#### 'Field Group' + 'Field' + 'Operator + 'Value'

- Field Group The group to which the 'Field' specified as the filter parameter belongs.
- Field The field in the event log entry by which you want to filter results. For example, if you choose 'Agent' field group, you can select 'agent\_id' or 'agent\_ip' as an event field. For full list of field groups and event fields, see 'Appendix 1 Field Groups and Event Items Description'.
- **Operator** Controls the relationship between the field and the specified value. Examples include 'Equals to', 'Does not equal to', contains, 'does not contain' and so on.
- Value The value for the field. Values can be entered manually or fetched from a pre-defined list which is managed in the Live List Management' interface. For example, if you choose a source IP (src\_ip) as the field to be searched from network events, you can manually enter the IP address of the source of the connection request or choose a Live List containing a list of specified source IP addresses.

When the query is run, events will be fetched from the database and checked against the filter statements one by one.

#### Examples:

i. To search for network connection events originating from an endpoint with IP address 10.100.100.100, build the filter statement as shown below:

'Source' + 'src\_ip' + '=' + '10.100.100.100'

ii. To search for network connection events originating from a set of endpoints whose IP addresses start with 10.100.100.xxx, build the filter statement as shown below:

iii. To search for network connection events originating from a set of endpoints whose IP addresses are defined in the 'Live List type' named 'Internal' under the 'Live List' named 'IP Blacklist', build the filter statement as shown below:

'Source' + 'src\_ip' + '[a]' + 'IP Blacklist' + 'Internal'

You can create more complex queries by adding more filter statements and linking them using 'AND', 'OR', or 'NOT'. For example:

• To search for network connection events originating from an endpoint with the IP 10.100.100.100, and destined for an endpoint with the IP 10.100.100.120, build the filter statements with the AND operator as shown below:

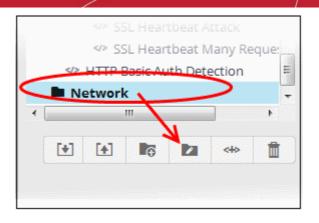
#### 'Source' + 'src\_ip' + '=' + '10.100.100.100'

#### AND

'Destination' + 'dst\_ip' + '=' + '10.100.100.120'

To create a new event query under the folder, select it and click the button

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A 'New Query' tab will be added and displayed on the right.

0

The next step is to add filters to the query.

- Choose the operator for the query filter statement from the drop-down in the 'Query Builder' pane. The options available are:
  - AND
  - OR
  - NOT

•

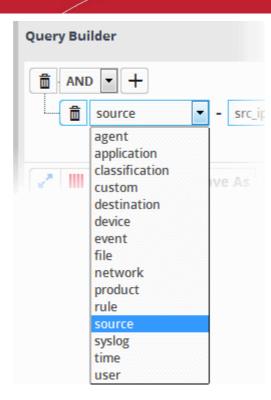
Click the + button to add a filter

The 'Field Groups' drop-down and 'Fields' drop-down will appear. The 'Fields' drop-down will contain options relevant to the 'Field Group' chosen from the drop-down at the left.

uery Builder	
AND + agent id +	
agent v - agent_id v +	
🖍 🛄 🔓 Save As 📑 Move 🕄 Schedule	O 🗃 Last 1 hours 🗸 Se

<image changed-050918>

• Choose the field group you wish to add to the filter from the 'Field Groups' drop-down.



The next field will display the fields available for the selected field group.

AND V +	Г		-	= [
Source Save Save	ve	src_city src_city src_country src_host		-
		src_ip_private src_loc src_mac src_port src_sd_1 src_sd_2 src_tr_jp src_tr_port		

**Tip**: Descriptions of each Field Group and the Field items under them are available in **Appendix 1 - Field Groups and Event Items Description**.

The next step is to choose the relationship operator between the two fields.

• To choose an operator, click the drop-down between the two fields:

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Query Builder	
Image: AND v     +       Image: Source v     -       Image: Source v     -	
Save Save As Save Over Save As Save Save Save Save Save Save Save Save	= != *a* * <del>a*</del> ab* *ab
Results         Aggregations           Time: ( 2018-05-08 22:19:59 - 2018-05-09 06:19:59 ) To	
	1-10/13 Application Name

The types operators depends on the field chosen. The following table explains the various operator symbols:

Relation Operator	Description	Entering the value for the 'Field'
=	Equals to	<ul> <li>Events containing the same value will be identified by the query.</li> </ul>
		• Enter a value in the field to the right of the operator.
!=	Does not equal to	• Events that do not contain the value will be identified by the query.
		• Enter a value in the field to the right of the operator.
>	Greater than	The query will identify events that contain values greater than the entered value.
		• Enter a value in the field to the right of the operator.
		<ul> <li>Applies only to fields with numerical values. For example, port numbers.</li> </ul>
>=	Greater than or equal to	• The query will identify events that contain values equal to or greater than the entered value.
		• Enter a value in the field to the right of the operator.
		<ul> <li>Applies only to fields with numerical values. For example, port numbers.</li> </ul>
<	Less than	The query will identify events that contain values less than the entered value.
		• Enter a value in the field to the right of the operator.
		<ul> <li>Applies only to fields with numerical values. For example, port numbers.</li> </ul>
<=	Less than or equal to	The query will identify events that contain values

		equal to or lower than the entered value.
		• Enter a value in the field to the right of the operator.
		<ul> <li>Applies only to fields with numerical values. For example, port numbers.</li> </ul>
*a*	Contains	The query will identify events that contain the entered value somewhere in the string.
		<ul> <li>E.g - search for events with source IP addresses containing '123' anywhere in the address.</li> </ul>
		• Enter a value in the field to the right of the operator.
<del>*a*</del>	Does not contain	The query will identify events that do not contain the entered value anywhere in the string.
		E.g - search for events which don't contain '123' anywhere in source IP address.
		• Enter a value in the field to the right of the operator.
ab*	Starts with	The query will identify events that begin with the entered value.
		<ul> <li>E.g, - search for events with source IP addresses that start with '192'</li> </ul>
		• Enter a value in the field to the right of the operator.
*ab	Ends with	The query will identify events that end with the entered value.
		<ul> <li>E.g search for events with source IP addresses that end with '123'.</li> </ul>
		• Enter a value in the field to the right of the operator.
ŋil	Is Empty	Search for events in which the selected field is empty (does not contain any value).
		<ul> <li>E.g search for the events with no values in their source IP address fields, select 'Is Empty'.</li> </ul>
<u>nil</u>	Is Not Empty	<ul> <li>Search for events in which the selected field is not empty (contains a value of some kind).</li> </ul>
		<ul> <li>E.g - to search for the events with some IP addresses values in their source IP address fields, select 'Is Not Empty'.</li> </ul>
[a]	Is in List	Configure the filter statement to fetch values for the field from a pre-defined list containing specific values for the field type.
		Background:
		<ul> <li>Lists enable administrators to add and manage lists of values for different fields for use in queries and correlation rules.</li> </ul>
		<ul> <li>cWatch features three kinds of lists - Live Lists, Range List and IP Range.</li> </ul>
		Lists can be created and the values updated

		manually.
		<ul> <li>Live lists can be also be fetched from the output of correlation rules.</li> </ul>
		List updates will be immediately reflected in the     subside the rules in which they are used
		queries and the rules in which they are used.
		See Lists for more details on list management.
		On selecting [a] as the relation parameter, drop-down options will appear for the List and the List type:
		• [a] Malicious D V - ANY +
		ANY Phishing
		Schedule
		<ul> <li>the selected query field. The second drop-down shows the List Types within the selected 'List'.</li> <li>Choose the List to be used in the query filter from</li> </ul>
		the first drop-down.
		<ul> <li>Choose the sub list that contains the set of values to be included in the query filter from the second drop- down.</li> </ul>
		All the values contained in the list will be included as values for the Field specified in the filter statement.
<del>[a]</del>	Not in List Allows you to configure the filter statement to sear events that do not contain specific values from a p list.	
		On selecting 😝 as the relation parameter, drop-down options will appear for the List and the List type:
		Servers V - ANY V +
		den
		The first drop-down shows the Lists that contain values for the selected query field. The second drop-down shows the List Types within the selected 'List'.
		Choose the List to be used in the query filter from the first drop-down.
		<ul> <li>Choose the sub list that contains the set of values to be input as exclusions to the query filter from the second drop-down.</li> </ul>
		The results will display all events that do not contain the values in the lists.

If you are adding values for source parameters like source IP address, source port, source MAC etc., but wish to

reverse the parameter, click the switch icon it that appears to the right of the statement. The field group and the field selected will automatically switch from source to destination or vice-versa.

• For example, if you are specifying a live list containing values of source IPs for the source IP field, but want to change them to destination IPs, you can click the switch button.

Query Builder	0
AND • + source • - src_ip • [a] Black	dist v - Backdoor v +
Query Builder	0
AND • ± destination • - dst_ip • [a] Black	list 🗸 - Backdoor 🗸 🕂
🛃 🔛 🕞 Save 🔒 Save As 🛟 Move 🕄 Schedule	O 🗐 Last 1 hours 🔻 Search

- To add a sub-filter statement, click the 📩 button beside the filter and repeat the process.
- To set the relationship between each statement, use the drop-down menu.
- For example, the query below will return events whose source ends with 10.100 OR .com AND whose destination is 86.105.227.125

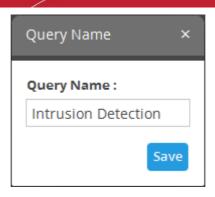
Query Builder	0
source - src_ip ab*	10.100 +
source 🔽 - src_host 🔽 ab*	com +
destination 🔽 - dst_ip 💌 =	86.105.227.125 +
🛃 📶 📓 Save 🚔 Save As 👬 Move 🔇 Schedule	O 🗰 Last 1 hours 💽 Search

Tip: You can update and refine a query by adding more filters once you have seen the results.

- To add more filter statements to the query, click the 📩 button and repeat the process.
- To delete a filter , click the 

   button beside it.
- · Click the 'Save' button in the 'Query Builder' screen.

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• Enter the name of the query in the 'Query Name' field and click the 'Save' button .

The 'Event Query' will be saved under the selected folder and displayed.

Note: If you didn't select a folder in the first step you will be asked to do so when saving the query.

	<ul> <li>SSL Heartbeat Many Rec</li> <li>HTTP Basic Auth Detection</li> </ul>	-ue	
•	Network		Ξ
<	Intrusion Detection	>	Ŧ
-	III	Þ	
	• •	t	

The next step is to run the event query. Before that, however, the 'Results' table must be checked and configured so that it is relevant to the event query. See 'Configure Results Table for a Query' for more details.

#### **Configure Results Table for a Query**

In order to display the event fields relevant to a specific query, the 'Results' table must first be configured.

• Select an event query from the left side and click the button from the 'Query Builder' pane.

The 'Result Fields Selection' dialog will be displayed.

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agent 🗸	agent_id 🗸 🕂		1
sult Fields			
central_time	Central Time		/
dvc_host	Device Host		
app_name	Application Name		
name	Name		
message	Message		
src_ip	Source IP		
src_port	Source Port		
dst_ip	Destination IP	1	*

The same 'Field Groups' and 'Fields' used for in the 'Query Builder' will be available for inclusion in the results table. By default a set of 'Result Fields' relevant to the query will be displayed.

• To add new 'Result Fields', click the 'Field Groups' combo box and select the field group.



Result Fields Selection		Result Fields Selection		
Available Fields Fo	r This Qu	Available Fields F	or This Que	ry
destination 🕞	dst_host	destination 💌	dst_host	- +
agent papplication classification custom		Result Fields	dst_host dst_ip dst_mac dst_port	
destination	centra/_1	central_time	dst_tr_ip	1991 <u></u>
device event	dvc_hos	dvc host	dst_tr_port	<u></u>
network product rule source syslog time				
user				

The next field will display the items available for the selected field group.

Select the required field from the drop-down and click the the button.

A new field will be added and you may provide a new label for the result field if required.

	dst_port	dst_port	i i
	type	type	i i
$\subset$	dst_host	dst_host	
Cance	1		Ok

- Enter a name for the field if required, by which the field should be displayed in the 'Results' screen.
- · Repeat the process to add more fields and click 'OK'
- To remove irrelevant fields, click the trash can icon beside it.

dst_host	dst_host	â
prod_name	prod_name	
Cancel		Ok

• Click the 'Ok' button

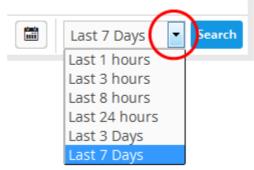


- Click the 'Cancel' button to revert the changes you made.
- Click the 'Save' button in the 'Query Builder' screen to save your changes.

You can also refer to Comdo built-in event queries to have a better insight about configuring different types of queries.

Now that you have configured and saved an event query, the next step is to run it.

- · Select an event query from the left.
- Select the period for which you want to run the query.
  - View recent events Select a period from the drop-down at the bottom right of the 'Query Builder' pane and click 'Search'. Options range from the past hour to the past 7 days.



View events over specific dates - Click the calendar button, enter the start and end dates and click 'Search'.

uery Builder						
- 📋 AND 🗸 🕂						
💼 agent	✓ - agent_id	- nii +				
	- agent_id					
- 📋 OR 🗸 🕂						
destination	v = dst_city	······ = 1	0.100.164.46 +			
a source	<ul> <li>src_city</li> </ul>	· · · · · · · · · · · · · · · · · · ·	0.100.164.46 +		-	
🖍 🏢 🔒 Save 🔒	Save As 🔒 Move	O Schedule				st 1 hours 🗸 😼
	Sure na ev more	• Schedule				st mours
esults Aggregations						
	2018-04-18 07-27	Time Range Selection		×		
ime: ( 2018-04-18 06:37:48		Time Range Selection 🛛 🔶				Source P
ime: ( 2018-04-18 06:37:48 Central Time 🗸	Device Hos		End (UTC)	×	Source IP	Source P
ime: ( 2018-04-18 06:37:48 Central Time - 2018-04-18 07:35:18.356	Device Hos SOCUA	Start (UTC)	End (UTC)		Source IP 10.100.164.35	Source P 59455
ime: ( 2018-04-18 06:37:48 Central Time 2018-04-18 07:35:18.356 2018-04-18 07:35:18.356	Device Hos SOCUA SOCUA	Start (UTC)			Source IP 10.100.164.35 10.100.164.35	Source P 59455 59455
ime: ( 2018-04-18 06:37:48 Central Time 2018-04-18 07:35:18.356 2018-04-18 07:35:18.356 2018-04-18 07:35:15.861	Device Hos SOCUA SOCUA SOCUA	Start (UTC)			Source IP 10.100.164.35 10.100.164.35 10.100.164.46	Source P 59455 59455 35484
ime: ( 2018-04-18 06:37:48 Central Time + 2018-04-18 07:35:18.356 2018-04-18 07:35:15.861 2018-04-18 07:35:15.655	Device Hos SOCUA SOCUA SOCUA SOCUA	Start (UTC)	2018-04-18 07:00:43		Source IP 10.100.164.35 10.100.164.35 10.100.164.46 10.100.164.46	Source P 59455 59455 35484 44337
ime: ( 2018-04-18 06:37:48 Central Time + 2018-04-18 07:35:18.356 2018-04-18 07:35:18.356 2018-04-18 07:35:15.655 2018-04-18 07:35:15.655	Device Hos SOCUA SOCUA SOCUA SOCUA SOCUA	Start (UTC) 2018-04-01 06:00:43 Warning:	2018-04-18 07:00:43	Be i	Source IP 10.100.164.35 10.100.164.35 10.100.164.46 10.100.164.46 10.100.164.46	Source P 59455 59455 35484 44337 44337
ime: ( 2018-04-18 06:37:48 Central Time + 2018-04-18 07:35:18.356 2018-04-18 07:35:15.861 2018-04-18 07:35:15.655	Device Hos SOCUA SOCUA SOCUA SOCUA	Start (UTC) 2018-04-01 06:00:43 Warning:	2018-04-18 07:00:43		Source IP 10.100.164.35 10.100.164.35 10.100.164.46 10.100.164.46	Source P 59455 59455 35484 44337
ime: ( 2018-04-18 06:37:48 Central Time 2018-04-18 07:35:18.356 2018-04-18 07:35:18.356 2018-04-18 07:35:15.655 2018-04-18 07:35:15.655 2018-04-18 07:35:02.149	Device Hos SOCUA SOCUA SOCUA SOCUA SOCUA SOCUA	Start (UTC) 2018-04-01 06:00:43 Warning: Live query mode will be disab	2018-04-18 07:00:43	Be i	Source IP 10.100.164.35 10.100.164.45 10.100.164.46 10.100.164.46 10.100.164.46 10.100.164.47	Source P 59455 59455 35484 44337 44337 22048
ime: ( 2018-04-18 06:37:48 Central Time 2018-04-18 07:35:18.356 2018-04-18 07:35:18.356 2018-04-18 07:35:15.861 2018-04-18 07:35:15.655 2018-04-18 07:35:02.149 2018-04-18 07:35:02.149	Device Hos SOCUA SOCUA SOCUA SOCUA SOCUA SOCUA SOCUA	Start (UTC) 2018-04-01 06:00:43 Warning:	2018-04-18 07:00:43	Be i	Source IP 10.100.164.35 10.100.164.35 10.100.164.46 10.100.164.46 10.100.164.46 10.100.164.47 10.100.164.47	Source P 59455 59455 35484 44337 44337 22048 22047

The 'Results' are displayed in the lower pane.

Select the 'Live' check box to search streaming data for the event query.

Note: The 'Live' option is not available for searches with specific start and end dates.

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lew Query × uery Builder							
uery builder							
AND V + AND V + agent Save	v - agent_id	v =# + Schedule				ast 8 hours	arc
esults Aggregations							
Central Time 🚽	Device Host	Application Name	Name	Message	Source IP	Source Po	irt
2018-04-18 08:49:13.107	SOCUA	NxSensor_conn			10.100.164.34	62792	
2018-04-18 08:49:12.420	SOCUA	NxSensor_files	SSL		34.231.200.228	0	
2018-04-18 08:49:11.272	SOCUA	NxSensor_ssl	TLSv12		10.100.164.34	62789	
2018-04-18 08:49:09.315	SOCUA	NxSensor_files	SSL		52.59.61.93	0	
2018-04-18 08:49:09.280	SOCUA	NxSensor_ssl	TLSv12		10.100.164.34	62788	
2018-04-18 08:49:05.308	SOCUA	NxSensor_dns	SRV		10.100.164.34	53411	
2018-04-18 08:49:03.428	SOCUA	NxSensor_files	SSL		52.59.61.93	0	
2018-04-18 08:48:53.323	SOCUA	NxSensor_conn			10.100.164.32	64097	
2018-04-18 08:48:48.970	SOCUA	NxSensor_conn			10.100.164.164	137	
2018-04-18 08:48:38.189	SOCUA	NxSensor_ssl	TLSv12		10.100.164.46	35630	
2018-04-18 08:48:38.046	SOCUA	NxSensor_conn			10.100.164.46	35630	
2018-04-18 08:48:38.044	SOCUA	NxSensor_dns	A		10.100.164.46	53159	
2018-04-18 08:48:38.044	SOCUA	NxSensor_dns	AAAA		10.100.164.46	53159	
2018-04-18 08-48-28 041	SOCUA	NySansor conn					

The lower pane has two tabs:

- **Results** The 'Results' tab displays log entries that match the query with the selected event fields as column headers (explained above). Click an event to view its details. More details on the 'Results Table' are available under 'View Results Table'.
- Aggregations The Aggregations tab allows you to group identified events and view aggregation results. More details on aggregations are available under 'View Aggregated Results'.

For more details about event queries such as scheduling, viewing detailed results and aggregated results, managing a query folder and more see **Configuring Event Queries**.

**Tips:** You can configure other features in cWatch that will help to perform a tagged search, provide value from lists and populate events from correlation and aggregation rules:

- Tagged Rule You can create rules to analyze events for criteria that you specify, then tag those events with labels of your choice. Matching events are then tagged and can be queried. See 'Managing Tagged Rules' for more details.
- Lists You can predefine values for fields, which then can be used as parameters in event queries and correlation rules. There are three types of lists, Live List, Range List and IP Range List in cWatch. See 'Lists' for more details.
- Correlation Rule A correlation rule can be configured from its Output Mappings section to generate a new event, which then can be queried. See 'Managing Correlation Rules' for more details.
- Aggregation Rule You can configure filters for two or more sub events that when the join condition is met, will create a new event. These aggregated events can be queried from the events query interface. See 'Managing Aggregation Rules' for more details.

#### **Step 6 – Configure Correlation Rules**

- Admins can create correlation rules in order to identify potentially harmful events. A event that meets the conditions of a rule will generate an 'Incident'.
- A rule is created by adding rule definitions with groups of filter statements and aggregation parameters for aggregating the events that are detected by the rule.
- Incidents will be assigned to the admin responsible for the customer.

- The detection of events based on a rule is also created as an event, that could be queried from the 'Event Query' interface.
- You can configure the values to be fetched for the fields for the output events generated by the rule every time.
- This allows you to further refine queries and rules based on output events.

#### To create a correlation rule

- Select the customer from the 'Customers' drop-down on the left side.
- Select the appropriate rule category folder or create a new correlation rule folder under which you want to create a correlation rule.

Rules > Correlation Rules Management			<u></u>
Customers	- General		
SOCUA 🗸	Name	Category	Severity Activation
Q, Filter.	PHP Possible Local File In	clusion Attempt WEB TRAFFIC ANOMALIES	Low V Active
Correlation Rules X St O	Window Duration (minute	s) Window Mode	
🙏 GNU/Linux User-Agent Outbour ^	1	Fixed (30 min.)	
👶 Potential SSH Scan	Description		
Suspicious FTP 220 Banner on L     Possible SSH TUNNEL     Web Traffic Anomalies     MHTML Attempted Script Execu     PHP Possible Local File Indusion     Common Hex Pattern Heap Spr     Connection established to Span     WebShell Generic +*.tar.gz in Pl     SQL Injection detection     PHP Generic Remote File Includ     PDF With Embedded File		iss before 0.2f, with the PHP allow_url_fopen and register_globals code via a URL to the code in the LangCookie parameter.	variables enabled, allows remote attackers
A 152 WebShell Backdoor Comma A Muleblacket Scan activity A Executable served from Amazor Calification of the Internet serves (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	+ Definitions + Output Mappings + List Mappings		
			Deactivate Move Save Save As

By default, a built-in correlation rule will be selected and its parameters displayed on the right side. The left side panel displays a list of predefined rules and custom rules the selected customer. Before creating a correlation rule, you have to create a folder under which the rule should be saved.

Click the folder button at the bottom on the left. The 'Folder Name' dialog will appear.

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Folder Name	×
Folder Name :	
Network Rules	
Description	
Add	

- Enter a name for the rules folder in the 'Folder Name' field
- Enter a description for the category of rules to be added to the new folder
- Click the 'Add' button

The folder will be saved and displayed on the left side.

	User Ai Repe		ticatioi sk-Logi			
			_			
	Repe		-	n Target	[	
	SSP Def					
	Netwo	rk Rule	25	$\supset$		
•		m				Þ
	[+]	[ <b>†</b> ]	Ð		**	<b>İ</b>
			=0		••	ш

The relevant correlation rules can now be placed under the newly created folder.

• To create a correlation rule under a folder, select it and click the button.

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The configuration screen for creating the new rule will be displayed in the right hand side panel. It has four sections:

Name	Category CORRELATED	Severity	Activation Active
Window Duration (minutes) Window 1 Description			
Action			
🗹 Create Alarm 🕢 Send e-mail			
Create Alarm			
Create Alarm Send e-mail  Definitions Output Mappings			

- General Allows you to specify the name and description for the rule, category, select the severity level, window duration for rule, to set rule active or inactive and set whether or not to create an Incident when this rule is met.
- Definitions Allows to define the queries for the rule and select aggregation parameters for grouping identified events and more.
- **Output Mappings** Allows you to select the field values to be included in the output events generated based on the rule. The output events can be queried from the 'Event Query' interface (Optional).
- List Mappings Allows you to map live lists to which the selected field values of the events detected by the rule is to be updated (Optional).

General

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Click the 'General' Stripe to open the General Configuration area.

— General			
Name	Category	Severity	Activation Active
Access to Malware Site	MALWARE	Info 🗸	Acuve
Window Duration (minutes) Window Mode			
1 🗌 Fixed (30 min	.)		
Description			
Alert when a domain containing malware is a	ccessed		
Action  Create Alarm  Send e-mail			
+ Definitions			
+ Output Mappings			
+ List Mappings			
	(	Deactivate	Move Save Save As

- Name Enter a name for the rule
- Category Select the type of rule. These options can be customized in the 'Incident Category Management' interface. The default categories are:
  - Authentication Anomalies
  - Anomalies in privileged user account activities
  - Anomalies specific to endpoint and backend
  - Check for known APS
  - Correlated
  - DNS Request Anomalies
  - Malware Activity
  - Malware
  - Manual
  - Scheduled Query
  - Unusual Network Traffic
  - · Unpatched for Vulnerable Systems or applications
  - Web traffic anomalies
- Severity Choose the severity level that will be assigned to the incident that matches the rule. The options available are:
  - Info
  - Low
  - Medium
  - High

- Critical
- Window Duration (minutes) Enter the minimum duration (in minutes) for the event to be identified as an incident based on the rule.
- Activation Choose whether you want the rule to be active or inactive from the drop-down
- **Description** Enter an appropriate description for the rule. The description entered in this field will appear as the 'Summary' in the incident generated by the rule.
- **Create Alarm** Configure whether or not an 'Incident' is to be created and an alert is to be sent to the administrator, when the rule is met. If selected, the rule creates an incident and an output event which can be queried from the 'Event Queries' interface. Else the rule creates only the output event and does not create an Incident.
- Send e-mail Select this check-box if an email alert should be sent to the administrator when an incident is created.

#### Definitions

Each rule is constructed with a set of filter condition statement groups to identify the events and generate alarms. The definitions stripe allows to define filter statement groups and aggregation parameters for the rule. You can add filter statement groups by selecting saved queries and/or by manually defining them.

• Click the 'Definitions' stripe, to open the 'Definitions' area.

+ General	
- Definitions	
definition name	Ordered
+ Output Mappings + List Mappings	
T rist wahhing?	
	Deactivate Move Save Save As

• To add a filter statement group as a rule definition, enter a name for the rule definition.

The next step is to add the filter condition statement groups to the definition. This can be done in two ways:

- Select an Event Query and import the filter statement from it
- Manually define filter statements for the group

Selecting an Event Query and import filter statements:

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button after entering a name for the rule definition.

- Definitions											
Intrusion Event Rule	+ (*)								Ordered		
	Y										
	/										
ielect Query 🛛 💋											
Q Filter			OR	- 							
		-									
ueries	11 55 O	Η	Ô	event	18	type	23	=	Intrusion Detection	+	
49 BRO FTP		I H	â	classification	- 19	class_service		=	ips	+	
BRO Files				classification		class_service		= 1	ids	+	
Big Files	=			Classification	101 -	class_service		_	103		
🔻 🔤 Classification I	lased										
Web Events											
Intrusion Eve	nts										
	coons										
Antivirus Det											
Audit Events	its										
<ul> <li>Audit Events</li> <li>Network Events</li> </ul>	The second se										
<ul> <li>Audit Events</li> <li>Network Events</li> <li>Events With H</li> </ul>											
<ul> <li>Audit Events</li> <li>Network Events</li> </ul>	ts										

The 'Select Query' dialog will open with a list of pre-defined and custom event queries added for the customer in the left pane.

• Choose the query from the left pane.

The filter statements in the query will be displayed in the right pane.

• Click 'OK' to import the filter statements.

The rule definition will be added with the group of filter statements from the query .

efinitio										
ntrusion I	Event Rule	E)L	*							Ordered
	• Event Rule ×									
n OR	• +									
💼	event	•	type	•	=	Inti	rusion l	Detection	+	
💼	classification	•	class_service	•	=		ip	5	+	
💼	classification	-	class_service	-	=		id	s	+	
ggregati	ions		Selec	ted (a	t least	1) 🕕		Function		
agent.ag	ent_id		>			*	~	COUNT	•	
agent.ag	ent_ip on.app_name	L	<				~	Threshold		
applicatio	on.app_pid							1		
	tion.class_action tion.class_domai									
	tion.class_object					-				

You can edit the group by adding new statement(s), changing fields/values and/or removing existing statements. For more details on construction of the filter statements, see 'Manually defining filter statements for the group' given below.

• Repeat the process to add more definitions from event queries.

#### Manually defining filter statements for the group

Click the tube button after entering a name for the rule definition.

A tab to add the query fields for the definition will open.

Each rule definition is built with a set of filter statements that are connected with Boolean operators like 'AND', 'OR' or 'NOT'. This is similar to building an event query. **Click here** to see the details.

You can add multiple query definitions for a single rule and these are tied together.

- To add a new definition, enter the name of the new definition and add the filter statements as explained above.
- If you want the rules engine to process the definitions of the rule in order, select the 'Ordered' check-box.

For example, under the first tab you can create a rule that checks for a brute force attack on a destination IP and in the second tab you can create a rule for intrusion detection. The rules engine checks for brute force attack and intrusion events and if any destination IP of the second tab matches the destination IP of the first tab, then an incident is created. Please note the number of selected aggregates should be equal for all the tabs in order to correctly define the fields in the '**Output Mappings**' section. For example, if you select 4 aggregate fields in the first tab, then all other tabs for the rule should also have 4 aggregate fields.

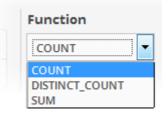
The next step is to select the field values based on which the events that meet the rule are to be aggregated to create the incident. For example if you want the rule to search the source details from where the event occurred, then you have to select the appropriate event value from the 'Aggregations' box and move it to the 'Selected' box.

- · Select the required values from the 'Aggregation' box and move them to the 'Selected' box by clicking the
  - > button.

Aggregations	Selected (at	least 1) 🚺		Function
rule.rule_name rule.rule_sig_id	Source.src	ip ^	~	COUNT
rule.rule_sig_name	▼		~	Threshold
source.src_host				1
source.sre_port				
source.src_tr_ip	-	▼		

- To remove a value added to the 'Selected' box by mistake, select it and click the button.
- To reorder in the values in the 'Selected' box, select them one by one and click the or buttons.

The next step is to define the 'Aggregation Function' and 'Aggregation Threshold' for the defined query. The 'Function' drop-down has three options:



- COUNT Select this if the incident is to be generated if the number of events that met the queries in the definition reach a certain number and enter the number in the Threshold field that appears on selecting this option.
- DISTINCT\_COUNT Choose this for the definition that checks for a range of events, for example, different source IPs to a single IP, choose the event items in the 'Distinct Field' combo boxes and enter the value in the 'Threshold' field.
- **SUM** Choose this for the definition that checks for a numeric value, for example, number of bytes transferred or the rule hit count, select the event item in the 'Sum (Count)' field and enter the value in the 'Threshold' field.

You can create any type of rules as required for your customers. For better insight into rules creation, please check out the built-in predefined rules on the left side of the 'Correlation Rules Management' screen.

#### **Output Mappings (Optional)**

- In addition to generating an 'Incident', cWatch Network generates a new event as output event every time events are detected as per a correlation rule.
- The output event can be queried from the 'Event Query' interface and its details can be used to generate further event queries for the customer.

- The 'Output Mappings' area allows you to define the values to be fetched for selected fields of the output event from the respective input events detected by the rule.
- You can choose only values that are common to all the input events that generated an 'Incident' as per the rule.
- This is optional and for full details, see 'Manage Correlation Rules'.

#### List Mappings (Optional)

- The 'List Mappings' area allows you to choose the live lists to which the selected field values of the events detected by the rule are to be automatically updated.
- This is optional and for full details see 'Manage Correlation Rules', 'Manage Live Lists' and 'Manage Live List Content'.
- You can also export and import correlation rules from one customer to another customer. See 'Manage Correlation Rules' for more details.

#### Step 7 – Manage Incidents and Cases

- cWatch will generate an 'Incident' when it identifies events which match a correlation rule.
- Incidents are assigned to the user who is handling/supporting the customer.
- · Incidents remain open until the user closes it.
- Admins can manually add incidents and assign them to users if certain tasks are required on a customer network.
- A series of incidents on the same network, assigned to the same user, can be grouped together as a 'Case'. The case can then be assigned to a user for collective investigation.
- The number of open incidents is shown beside the notification icon in the title bar.

#### Manage Incidents

#### To manage incidents

- Click the 'Menu' button > 'Incidents' > 'Incident Management'.
- The 'Incident Management' screen lists recent incidents along with details such as customer network, the user to whom it is assigned and so on.
- You can view incident details, reassign them to different users, add incidents to a case, close/re-open incidents and more.

lustomer	Туре		Incident	List ( Total Cou	ant: 0)						
A/I	✓ All	•	Date	<ul> <li>Name</li> </ul>	Case	Customer	Username	Priority	Status	Туре	Summary
ser	Status										
Л	✓ All	•									
iority		$\frown$									
1	•	Search									
	and a second	$\bigcirc$									

The 'Incident Management' screen:

Use the drop down menus on the left to view incidents:



- · Generated on the network of a specific customer
- Assigned to specific users
- Of a specific type, status or priority
- Click 'Search' to execute the query. You can combine filters to run more granular searches.
- Select 'All' for every drop-down and click 'Search' to reset the view to all incidents.

 Tip: To view a list of all incidents on all customer networks in this interface, click the notification icon on the title bar:

 Interface

 Interf

The example below shows all incidents from all customer networks.

Customer		Туре		Incident List ( Total C	ount: 1001 )							
All	~	All		Date 👻	Name	Case	Customer	Username	Priority	Status	Туре	Sum
User		Status		2016-04-19 23:56:41	Executables with Malware Signature		Comodo Ank	erdem	Info	Open	Correlated	Cre
All		All		2016-04-19 23:56:40	Pvs_Corr		Comodo Ank	erdem	Critical	Open	Correlated	Wh
	~	All	L.	2016-04-19 23:55:35	Pvs_Corr		Cornodo Ank	erdem	Critical	Open	Correlated	Wh
riority				2016-04-19 23:55:35	Executables with Mahware Signature		Comodo Ank	erdem	Info	Open	Correlated	Cre
All	•		Search	2016-04-19 23:51:02	Executables with Malware Signature		Comodo Ank	erdem	Info	Open	Correlated	Cre
			_	2016-04-19 23:51:02	Pvs_Corr		Cornodo Ank	SOCC	Critical	Open	Correlated	Wh
	Pri	ority		2016-04-19 23:50:53	Pvs_Corr		Cornodo Ank	SOCC	Critical	Open	Correlated	Wh
				2016-04-19 23:50:53	Executables with Malware Signature		Comodo Ank	SOCC	Info	Open	Correlated	Cre
				2016-04-19 23:49:45	Executables with Malware Signature		Cornodo Ank	erdern	Info	Open	Correlated	Cre
				2016-04-19 23:49:45	Pvs_Corr		Comodo Ank	SOCC	Critical	Open	Correlated	Wh
				2016-04-19 23:48:40	Pvs_Corr		Comodo Ank	erdem	Critical	Open	Correlated	Wh
				2016-04-19 23:48:40	Executables with Malware Signature		Cornodo Ank	erdem	Info	Open	Correlated	Cre
				2016-04-19 23:47:12	Executables with Malware Signature		Comodo Ank	erdem	Info	Open	Correlated	Cre
Critical: 53.35 %		- In	fo: 46.65 %	2016-04-19 23:47:12	Fvs_Corr		Comodo Ank	erdem	Critical	Open	Correlated	Wh
Ground State in		- 10	w: 0.00 %	2016-04-19 23:46:01	Executables with Malware Signature		Cornodo Ank	SOCC	Info	Open	Correlated	Cre
		Med	um: 0.00 %	2016-04-19 23:46:00	Pvs_Corr		Comodo Ank	SOCC	Critical	Open	Correlated	Wh
		High: 0.00 %		2016-04-19 23:43:49	Fvs_Corr		Comodo Ank	erdem	Critical	Open	Correlated	Wh
		0		page in a second second	Consistent of the Adamson Construction	1	Comodo Jolo	Leves	20464.0000	Occo.	Completed	100

From this interface you can:

- View the details of incidents
- Add and assign incidents to users
- Edit and Reassign an incident
- Delete an incident
- · Add incidents to cases

See 'Managing Incidents' for more details.

#### Manage Cases

- cWatch allows you to group related incidents into a 'Case'. The case can then be assigned to a user.
- Users can then take a holistic approach to remediating the component incidents of the case.
  - For example, an intruder may execute a 'Brute Force' attack to access a network, then try to identify
    vulnerable endpoints by performing a port scan. The brute force attack and port scans are added as
    separate incidents if appropriate correlation rules exist.
  - These incidents can be combined as a case and assigned to a user.

#### To manage cases

• Click the 'Menu' button at top-right, choose 'Incidents' then 'Case Management'.

User		Priority		Case List (	Fotal Count: S	0					
All	•	All		Date 🔻	Name	Customer	Username	Priority	Status	Description	Last Update Time
ustomer		Status		2016	Critical	Comodo Ank	socc	High	Open	All critical inci	2016-04-20 13:55:10
JI.		Open		2016	Malwa	Comodo Ank	SOCC	High	Open	Check malwar	2016-04-20 13:53:38
			Search	2016	Demo	Comodo Ank	erdem	Info	Open	To check case	2016-04-06 13:14:13

The left panel allows you to filter cases. The right panel shows case details as a table.

- To view all incidents without filtering, select 'All' in all the filter option drop-downs and click 'Search'.
- To view the cases created for a specific customer, assigned to a specific user, of specific, status and/or priority, select the option(s) from the respective drop-downs and click 'Search'.

From this interface you can:

- Create cases
- View details and update cases
- Edit cases
- Delete cases

See 'Manage Cases' for more details.

#### **Step 8 – Generate Reports**

- cWatch Network is capable of generating detailed event reports covering a wide range of security and productivity criteria.
- Reports can be generated for intervals ranging from one hour to one month and configured to be displayed as tables, pie charts and bar charts.
- The data for the reports are fetched from the event query results.
- You can use both pre-defined queries and custom queries added for a customer, or even create new custom queries to generate reports as required. See 'Query Management' for more details about configuring event queries.
- The 'Report Management interface lets you to configure and generate reports for selected customers.

#### To generate reports

- To open the 'Report Management' interface:
  - Click the hamburger button at top right
  - Select 'Reporting' then 'Report Management':

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GReporting > Report Mar	nagement		<u>ا</u> ال
Customers		Name	
Comodo Ank	~	Firewall Events	
Q Filter		Description	
Reports	# # O	Firewall event summaries.	
Audit Reports  Comodo Built-in Report  Firewal Events  Network Events	s		
Correlated Events Sonort Events Comodo Endpoint Secu intrusion Events	urity Events	Time Last 7 Days Report Elements	
Network Monitoring		Name	Туре
<ul> <li>MyDLP</li> <li>Comodo Dome Reports</li> </ul>		Products	6
+ 🖿 Comodo RDNS Report	8	Top 10 Source IPs	in the second
RDNS Events Summa Allowed by Category		Top 10 Target IPs	ida -
Blocked by Category		Top 10 Target Ports	la la
<ul> <li>Malicious Files</li> <li>Blacklisted Domain Accel</li> </ul>	ess	Top 10 Source Ports	in .
Endpoints Report     Suspicious & Malicious /     Web Access Report     Wraped Files     Network Reports     Network Reports	Activities		

The 'Report Management' screen will open:

The left-hand panel shows a list of predefined reports (those in blue) and custom queries added for the selected customer. The right hand panel shows the configuration area for report generation.

#### Generate reports for custom report queries

Before creating a custom report query, you have to create a report folder for the selected customer.

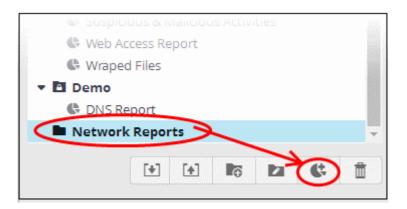
Click the button at the bottom of the left pane. You can also create a new top level folder. The Folder Name dialog will appear.

Folder Name ×
Folder Name :
Name
Private
Add

- Enter a name for the new folder in the 'Folder Name' field
- Select 'Private' if you want the folder accessible only to you. Note this option is only available when creating a top level folder.
- Click the 'Add' button

The newly created report folder will be listed. A lock icon will be displayed on the folder icon if the folder is created as a private folder.

To create a report query, select the folder and click the button



The configuration screen for creating the new report will be displayed in the right hand side panel.

- Enter a name for the report in the 'Name' field
- Enter an appropriate description for the report in the 'Description' text box
- Select the period for which events are to be included from the 'Time' drop-down. Options range from the previous hour to the entire previous month.

Time
Last 1 hours 💌
Last 1 hours
Last 3 hours
Last 8 hours
Last 12 hours
Last 24 hours
Last 3 Days
Last 7 Days
Last 1 Month

The next step is to add the component tables/charts to be included in the report. The events for populating the tables/charts are fetched from the query results.

• Select the type of report element that should be added, from the drop-down at the bottom of the 'Report Elements' area.

+	Pie Chart	۲
	Table 🎙	
Genera	Pie Chart	
	Bar Chart	
Creati	ion Time	_

- **Table** A 'Table' report is configured by selecting an event query from the list of queries added for the customer. The report will contain details of events that match the query in the selected time period.
- Pie Chart The report will contain a pie-chart showing the statistical summary of the events that are
  aggregated based on parameters configured for the chart.
- **Bar chart** The report will contain a bar-chart showing the statistical summary of the events that are aggregated based on parameters configured for the chart.
- After selecting the type of report element, click the \_\_\_\_\_ button beside it.

The 'Add' screen for the selected report element will be displayed. The interface allows to select an existing query or create a new query. For more details about creating report element, see 'Managing Reports'.

The configured report elements will be added to the list.

Report Elements					
Name	Туре				
Products	9				
Top 10 Source IPs	lin in the second se				
Top 10 Target IPs	<u>hit</u>				
Top 10 Target Ports	bit in the second se				
Top 10 Source Ports	juli -				

The 'Report Elements' area displays the list of report components added to the report.

- Name Displays the name of the report element
- **Type** Indicates the type of report element, whether table, pie or bar chart.

You can add as many report elements as required for a report.

- Click the 'Save' button to save all the report elements.
- You can save the report to another folder by selecting it and then clicking the 'Save As' button.

#### To manually generate a report

• Select the report from the list.

The details of the report with the list of report elements will be displayed in the configuration area at the right.

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lustomers	Name		
Comodo Ank	Network Event Report		
Q. Filter	Description		
	To generate network event reports		
Reports X 50 C			
G Firewall Events	*		
Network Events			
Correlated Events			
Short Events			
Comodo Endpoint Security Events	Time		
C Intrusion Events	Last 7 Days 💌		
C Network Monitoring			
MyDLP	Report Elements		
🕶 🖿 Comodo Dome Reports	Name		Туре
- Comodo RDNS Reports			
RDNS Events Summary	Network Event - Table Report		<b></b>
C Allowed by Category Report	Network Events - Pie Chart		0
Blocked by Category Report	F New York Street Destroy of the state of th		La
Malicious Files	Network Events - Bar Chart		<u></u>
Blacklisted Domain Access			
Endpoints Report			
Suspicious & Malicious Activities			/
Web Access Report	+ Table •		
Wraped Files			
Network Reports	Generated Reports		
Network Event Report	Creation Time	▼ File Type	Action
- El Demo			
ONS Report	2016-04-25 08:43:27	pdf	
(±) (±) 118 128 424 (±)			
	Show Last Generated Report		

The 'Generated Reports' area displays a list of reports generated manually or as per the schedule created for the report.

- Creation Time The date and time the report was generated.
- File Type Currently only PDF format is available for reports. Future releases will support RTF files also.
- Action Allows to delete the generated report.
- To generate the report instantly, click the 'Generate' button.

The report generation will be started and on completion, it will be added to the list under 'Generated Reports' and its time stamp will be added to the 'Creation Time' column.

- To download the report, clicking the time stamp under the 'Creation Time' column.
- To view the report instantly select the 'Show Last Generated Report' check box.

You can also schedule a report generation. For more details about generating reports, see 'Manage Reports'.

# **About Comodo Security Solutions**

Comodo Security Solutions is a global innovator of cybersecurity solutions, protecting critical information across the digital landscape. Comodo provides complete, end-to-end security solutions across the boundary, internal network and endpoint with innovative technologies solving the most advanced malware threats. With over 80 million installations of its threat prevention products, Comodo provides an extensive suite of endpoint, website and network security products for MSPs, enterprises and consumers.

Continual innovation and a commitment to reversing the growth of zero-day malware, ransomware, data-breaches and internet-crime distinguish Comodo Security Solutions as a vital player in today's enterprise and home security markets.

### About Comodo Cybersecurity

In a world where preventing all cyberattacks is impossible, Comodo Cybersecurity delivers an innovative cybersecurity platform that renders threats useless, across the LAN, web and cloud. The Comodo Cybersecurity platform enables customers to protect their systems and data against even military-grade threats, including zero-day attacks. Based in Clifton, New Jersey, Comodo Cybersecurity has a 20-year history of protecting the most sensitive data for both businesses and consumers globally. For more information, visit comodo.com or our **blog**. You can also follow us on **Twitter** (@ComodoDesktop) or **LinkedIn**.

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