Содержание

Detecting SSH bruteforce attacks using triggers in QoE

Triggers are used to search data in QoE Stor by specified parameters. When a trigger fires, one of the following actions can occur:

- notification in GUI
- HTTP action
- email delivery

Required SSG DPI options:

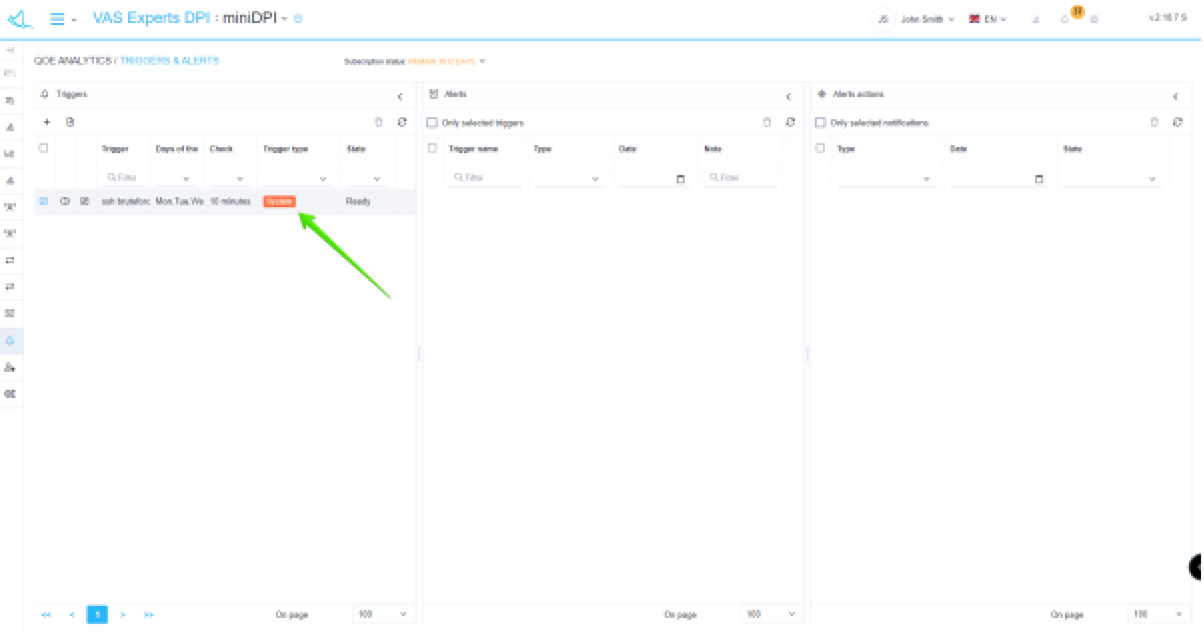
- Statistics gathering and analysis on protocols and directions
- Subscriber notifications

Required additional modules:

- DPIUI2 (GUI - Graphical User Interface)
- Implementation and administration

System trigger for detecting SSH bruteforce attacks

The trigger for detecting SSH bruteforce attacks (name — "ssh bruteforce") is a system trigger and is available in "QoE analytics" → "Triggers and notifications" (disabled by default).


VAS Experts DPI : miniDPI
John Smith
EN
QOE ANALYTICS / TRIGGERS & ALERTS
Triggers
Alerts
Alerts actions
Only selected triggers
Only selected notifications
On page
100

Trigger	Days of the	Check	Trigger type	State
ssh brutefoc	Mon,Tue,We	10 minutes	System	Ready

General trigger information

- Trigger name: "ssh bruteforce";
- Days of week — all;
- Check frequency — 10 minutes;
- Trigger activation frequency — 0;
- Start/end dates and times can be set if needed.

> Every day, a check will be performed every 10 minutes according to the conditions described below.

Queries

For this trigger a non-editable query is preset with the following parameters:

- Table to scan: Raw full netflow → Tables → Attacks detection → Ssh bruteforce;
- Period from: now - 30 minutes
- Period to: now - 20 minutes

Conditions

- Add two "+" fields
- Link – AND
- Function – avg
- Series in field 1 – session lifetime to subscriber <= 20 (ms)
- Series in field 2 – number of sessions per subscriber >= 1500

> We set the trigger conditions: average duration of SSH sessions to a subscriber is less than 20 ms and the number of SSH sessions for the subscriber is greater than 1500 for the analyzed period.

Error handling

- In "If no errors" — no data
- In "If error or timeout" — save last state

With this configuration, if there are no errors, no data is saved; if errors occur, information about suspicious activity is saved.

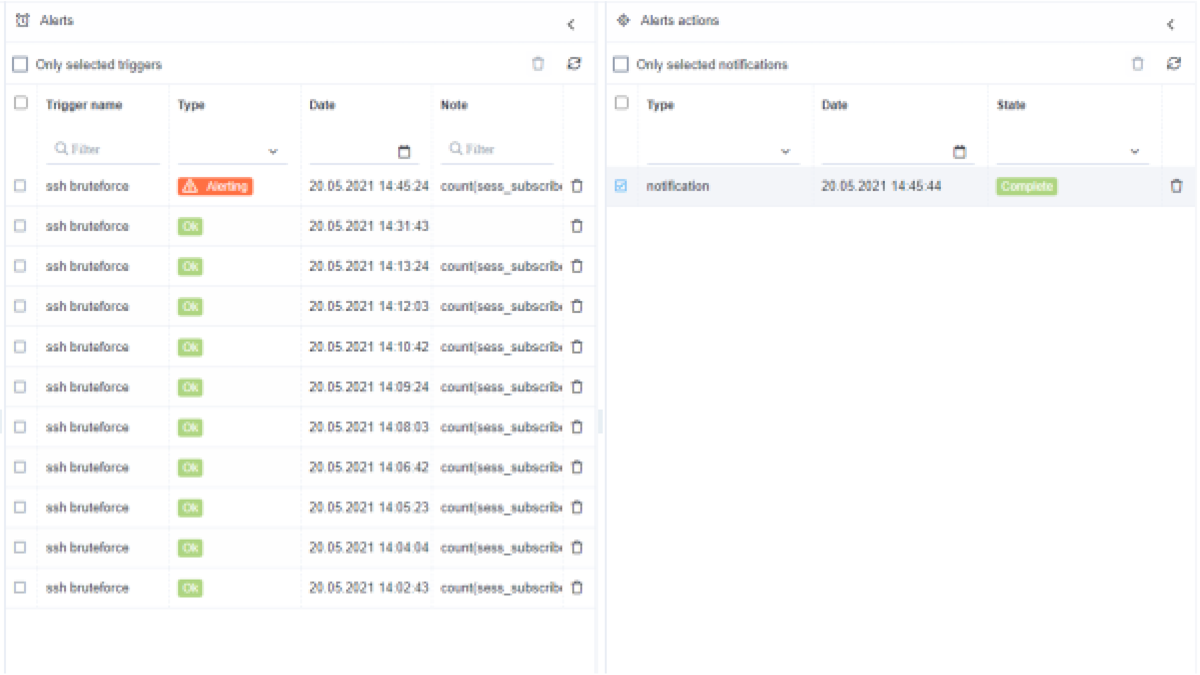
Actions

E-mail action

- Click the "</>" icon to auto-fill the form
- In the "To" field — specify the email address
- With this setup, when the trigger fires an email with the notification details (ID, trigger name, status, link to the report — saved state) will be sent to the specified address

Notification

- Click "</>" to auto-fill the form
- Select notification type — "Warning"
- This will create a notification in the SSG system



Alerts

□ Only selected triggers

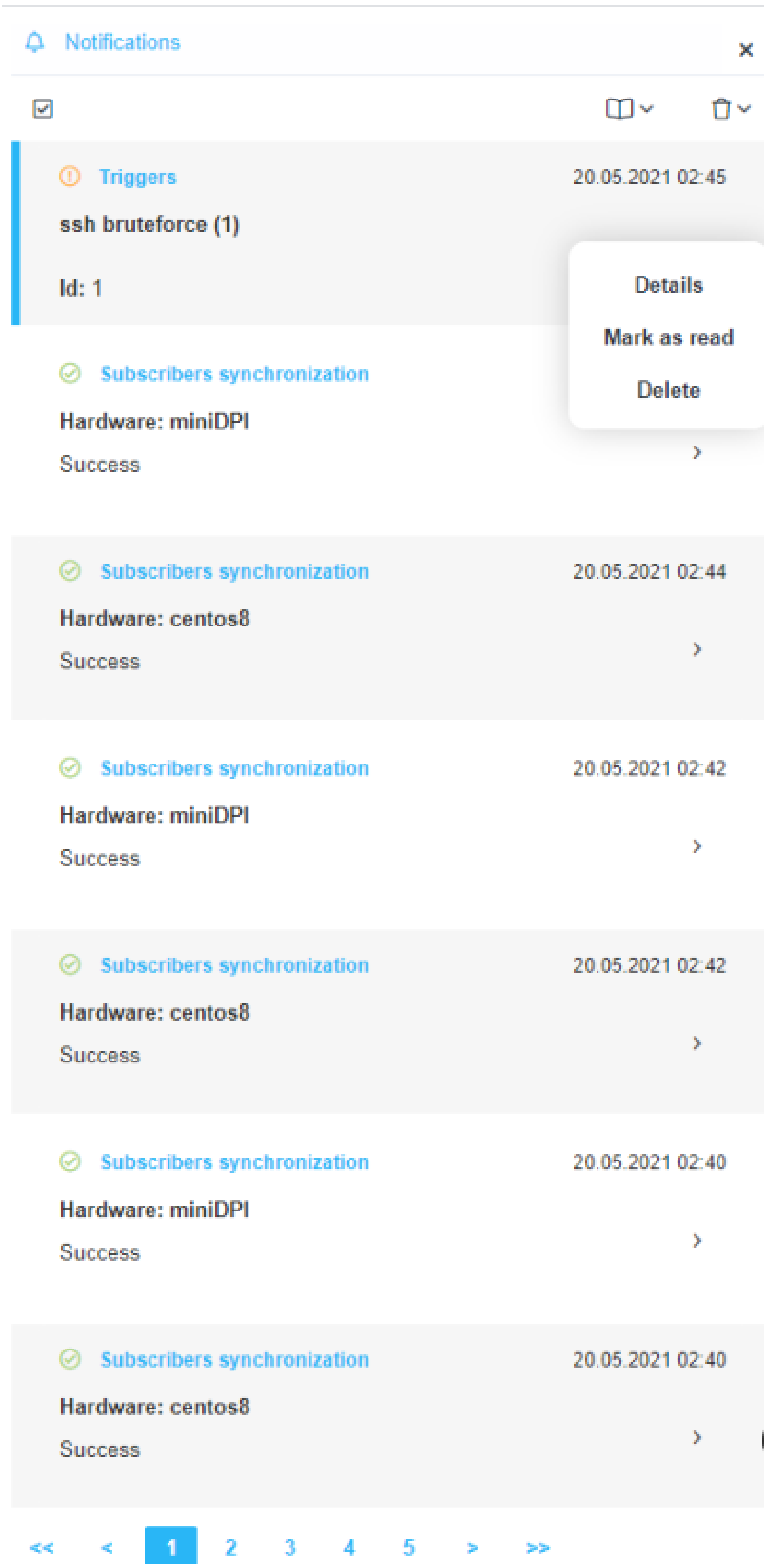
□	Trigger name	Type	Date	Note
□	ssh bruteforce	Alerting	20.05.2021 14:45:24	count(sess_subscrib
□	ssh bruteforce	Ok	20.05.2021 14:31:43	
□	ssh bruteforce	Ok	20.05.2021 14:13:24	count(sess_subscrib
□	ssh bruteforce	Ok	20.05.2021 14:12:03	count(sess_subscrib
□	ssh bruteforce	Ok	20.05.2021 14:10:42	count(sess_subscrib
□	ssh bruteforce	Ok	20.05.2021 14:09:24	count(sess_subscrib
□	ssh bruteforce	Ok	20.05.2021 14:08:03	count(sess_subscrib
□	ssh bruteforce	Ok	20.05.2021 14:06:42	count(sess_subscrib
□	ssh bruteforce	Ok	20.05.2021 14:05:23	count(sess_subscrib
□	ssh bruteforce	Ok	20.05.2021 14:04:04	count(sess_subscrib
□	ssh bruteforce	Ok	20.05.2021 14:02:43	count(sess_subscrib

Alerts actions

□ Only selected notifications

□	Type	Date	State
☑	notification	20.05.2021 14:45:44	Complete

You can get a link to the report via the notifications menu



Triggers 20.05.2021 02:45
ssh bruteforce (1)
Id: 1

Subscribers synchronization
Hardware: miniDPI
Success

Subscribers synchronization 20.05.2021 02:44
Hardware: centos8
Success

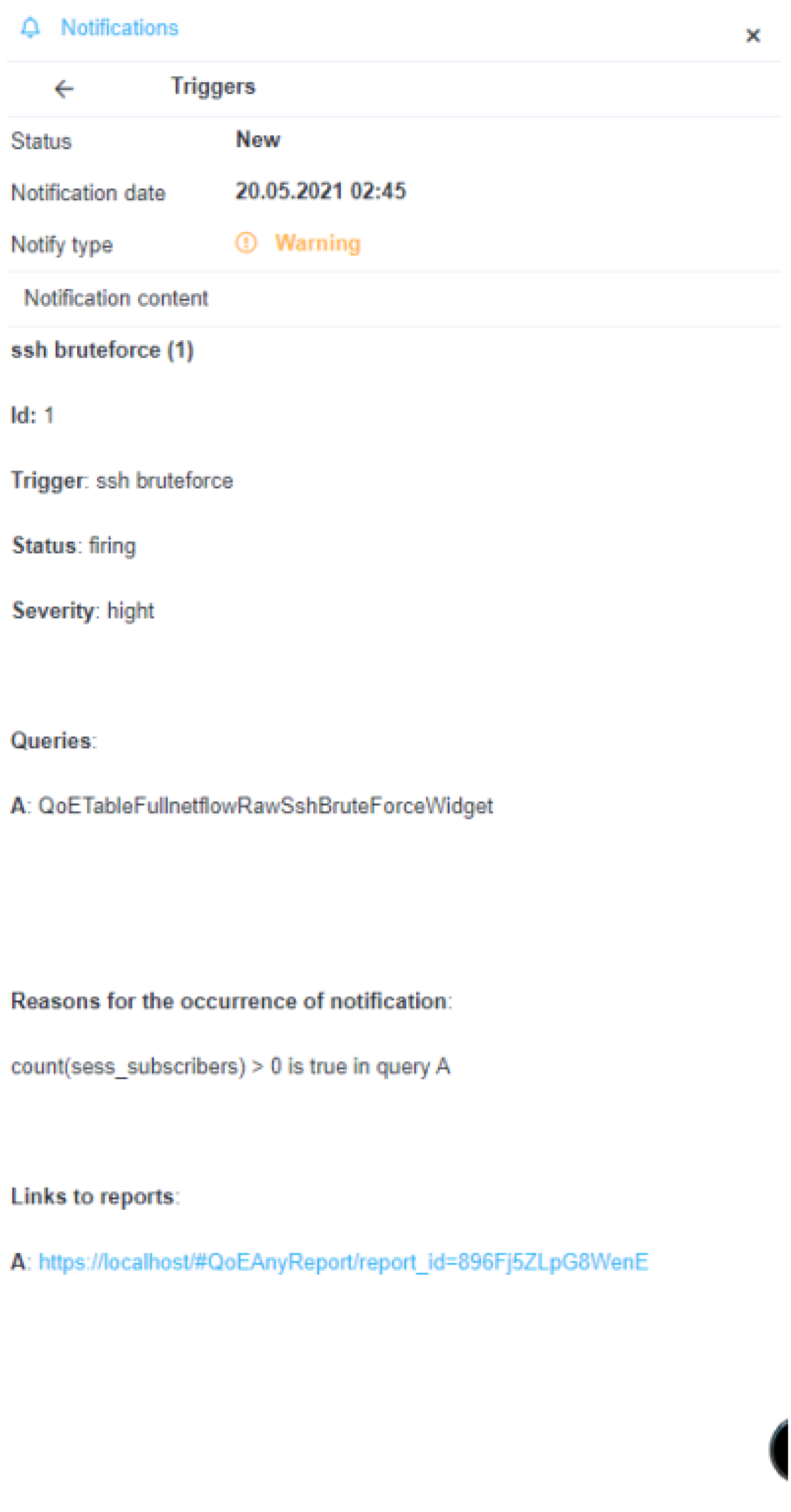
Subscribers synchronization 20.05.2021 02:42
Hardware: miniDPI
Success

Subscribers synchronization 20.05.2021 02:42
Hardware: centos8
Success

Subscribers synchronization 20.05.2021 02:40
Hardware: miniDPI
Success

Subscribers synchronization 20.05.2021 02:40
Hardware: centos8
Success

Select the notification Choose — "Details"



Status New

Notification date 20.05.2021 02:45

Notify type ⓘ Warning

Notification content

ssh bruteforce (1)

Id: 1

Trigger: ssh bruteforce

Status: firing

Severity: hight

Queries:

A: QoETableFullnetflowRawSshBruteForceWidget

Reasons for the occurrence of notification:

count(sess_subscribers) > 0 is true in query A

Links to reports:

A: https://localhost/#QoEAnyReport/report_id=896Fj5ZLpG8WenE

Follow the report link — the report will open in a new browser window.

HTTP action

Click "</>" to auto-fill the form. Choose the method most suitable for your ticket system and enter the URL.

⚠ Keep in mind — the numeric thresholds for sessions, incoming packets, etc., are given as averaged examples. Fine-tune thresholds based on your network specifics.