Blue Team: Summary of Operations

Table of Contents

Network Topology

The following machines were identified on the network:

- Kali
    - **Operating System**:
        - Debian Kali 5.4.0
    - **Purpose**:
        - The Penetration Tester
    - **IP Address**:
        - 192.168.1.90
- Capstone
    - **Operating System**:
        - Ubuntu 18.04
    - **Purpose**:
        - The Vulnerable Web Server
    - **IP Address**:
        - 192.168.1.105
- ELK
    - **Operating System**:
        - Ubuntu 18.04
    - **Purpose**:
        - The ELK (Elasticsearch and Kibana) Stack
    - **IP Address**:
        - 192.168.1.100
- Target 1
    - **Operating System**:
        - Debian GNU/Linux 8
    - **Purpose**:
        - The WordPress Host
    - **IP Address**:

- 192.168.1.110

Description of Targets

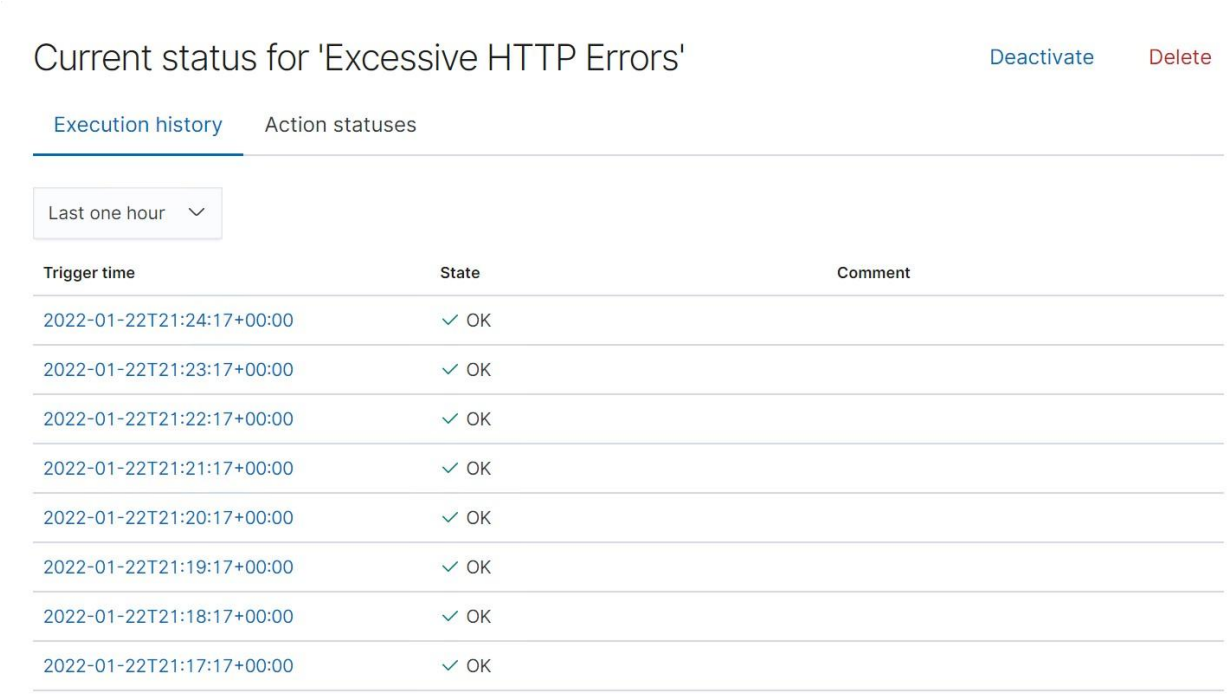
The target of this attack was: Target 1 (192.168.1.110).

Target 1 is an Apache web server and has SSH enabled, so ports 80 and 22 are possible ports of entry for attackers. As such, the following alerts have been implemented:

Monitoring the Targets

Traffic to these services should be carefully monitored. To this end, we have implemented the alerts below:

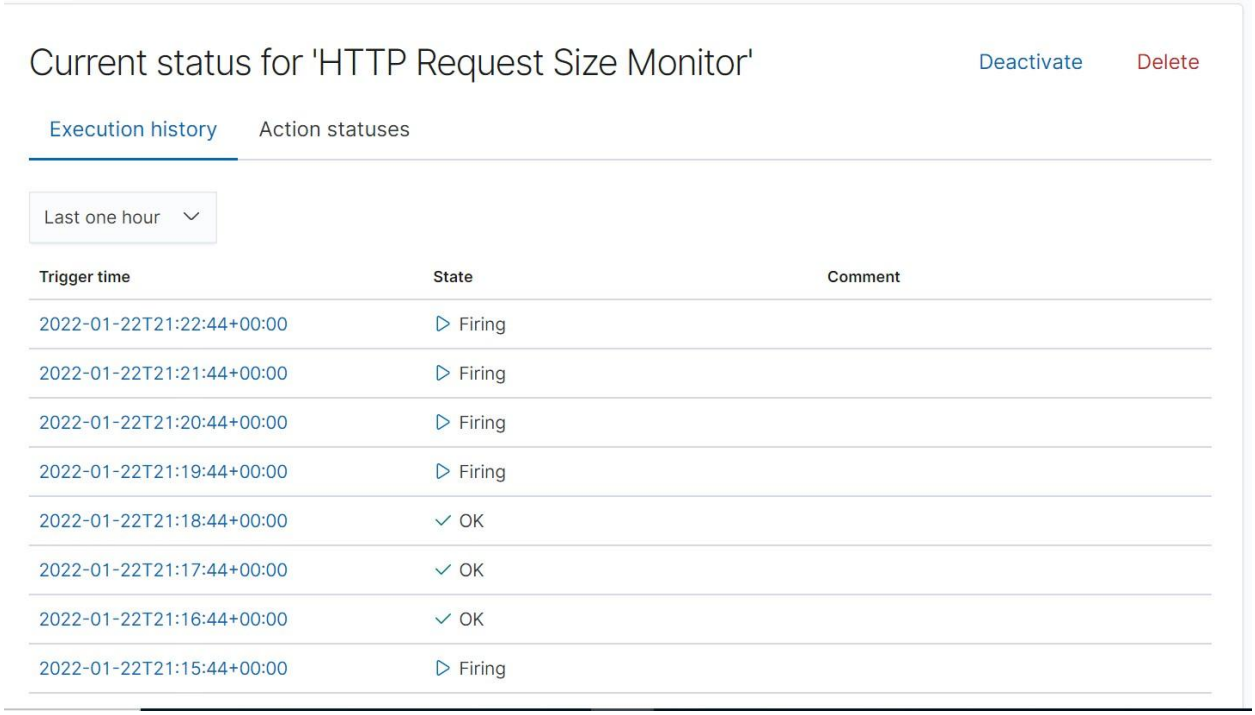
Excessive HTTP Errors



Excessive HTTP Errors is implemented as follows:

- **Metric**: WHEN count() GROUPED OVER top 5 ‘http.response.status_code
- **Threshold**: IS ABOVE 400
- **Vulnerability Mitigated**: Enumeration/Brute Force
- **Reliability**: This alert is highly reliable. Measuring by error codes 400 and above will filter out any other codes, which are generally for normal or successful responses. 400+ codes are also client and server errors, which are of more concern for us. This is especially important in the scenario of these error codes going off at a high rate

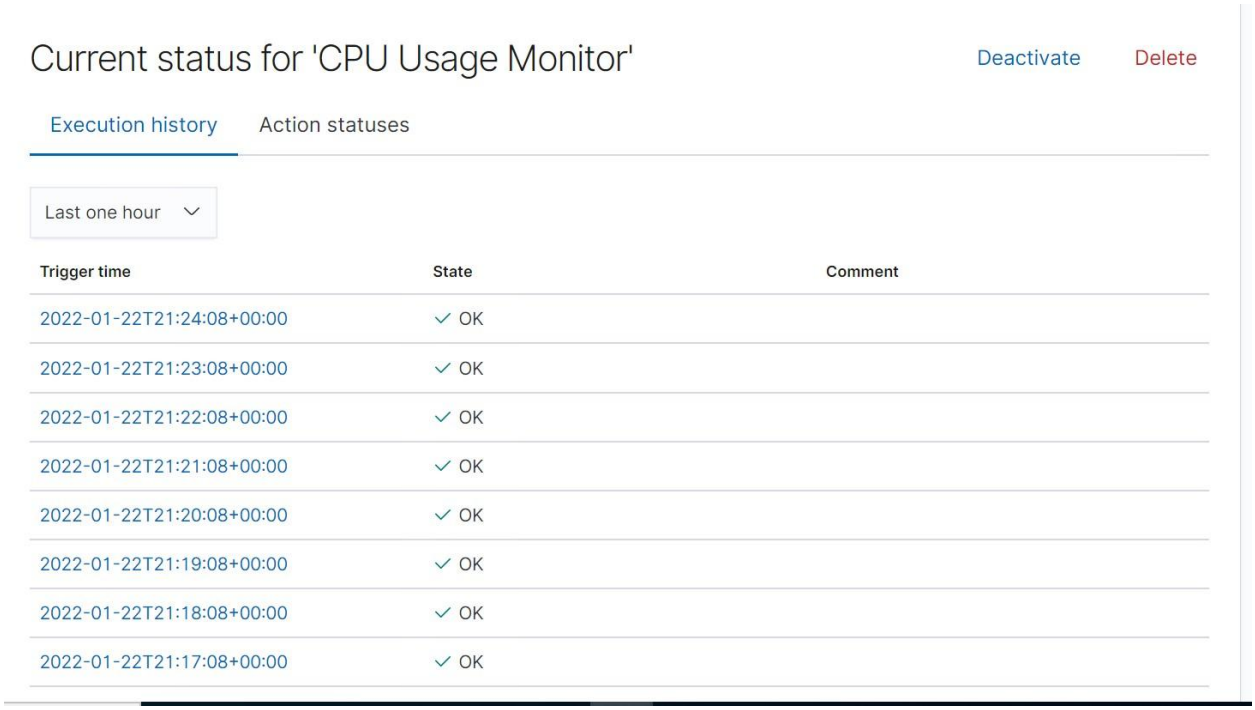
HTTP Request Size Monitor



HTTP Request Size Monitor is implemented as follows:

- **Metric**: WHEN sum() of http.request.bytes OVER all documents
- **Threshold**: IS ABOVE 3500
- **Vulnerability Mitigated**: Code Injection in HTTP requests (XSS and CRLF) or DDOS
- **Reliability**: Medium reliability. This alert could create false positives; a lot of non malicious HTTP requests could just be legitimate HTTP traffic.

CPU Usage Monitor



CPU Usage Monitor is implemented as follows:

- **Metric**: WHEN max() OF system.process.cpu.total.pct OVER all documents
- **Threshold**: IS ABOVE 0.5
- **Vulnerability Mitigated**: Malicious software, programs (malware or viruses) running and taking up resources
- **Reliability**: High. Even if there isn't a malicious program running and taking up resources, this alert can still help us determine where to improve on CPU usage.