# Blue Team: Summary of Operations

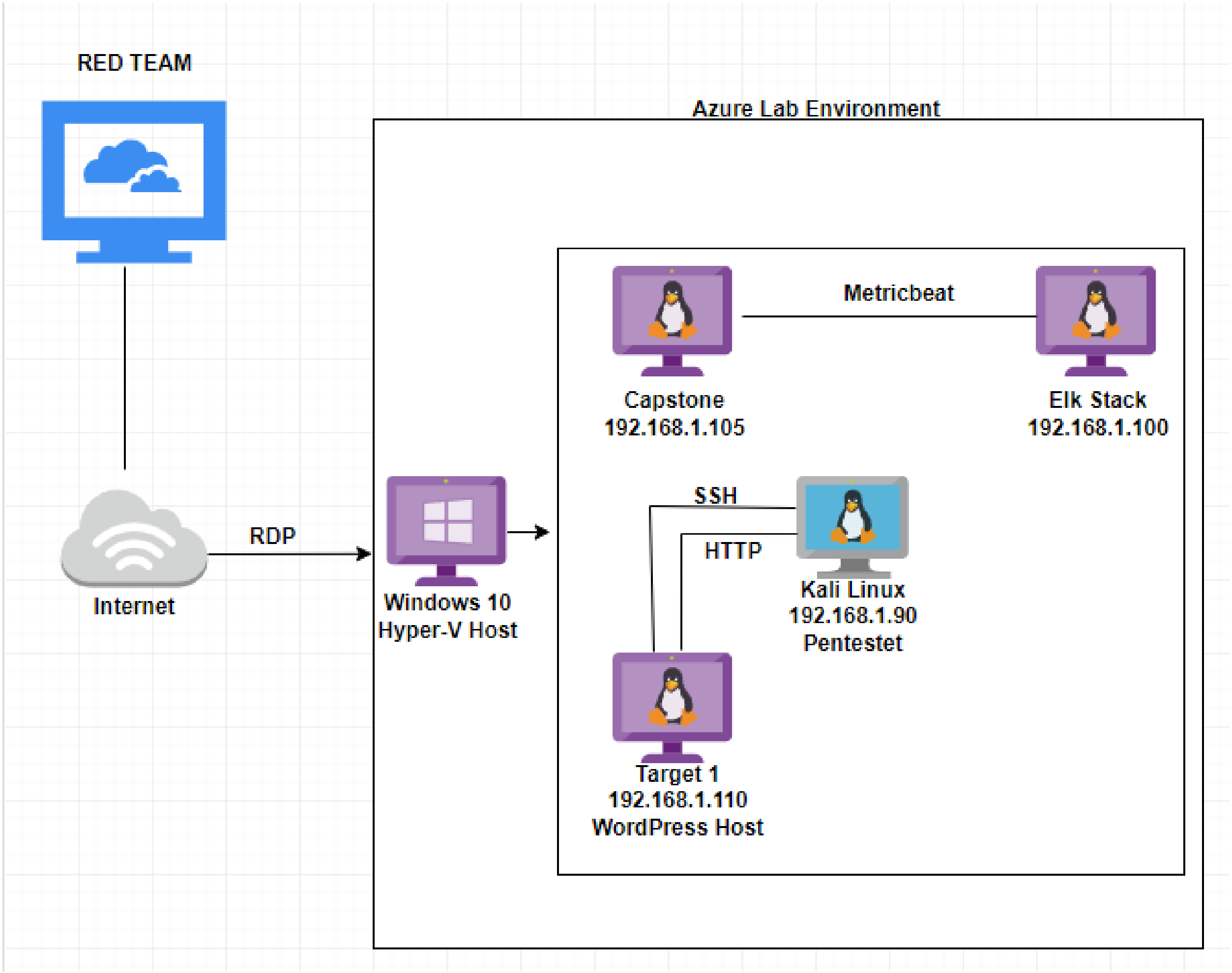
## Table of Contents

### Network Topology

The following machines were identified on the network:

- **Kali**
    - **Operating System**:Linux
    - **Purpose**: Penetration Tester
    - **IP Address**:192.168.1.90
- **Elk**
    - **Operating System**:Ubuntu
    - **Purpose**:ELK Stack ( Kibana & Elasticsearch )
    - **IP Address**:192.168.1.100
- **Capstone**
    - **Operating System**:Ubuntu
    - **Purpose**:Vulnerable Machine
    - **IP Address**:192.168.1.105
- **Target 1**
    - **Operating System**:Linux
    - **Purpose**:Wordpress Host
    - **IP Address**:192.168.1.110

**Network Diagram**



## Description of Targets

The target of this attack was: Target 1 (IP Address: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

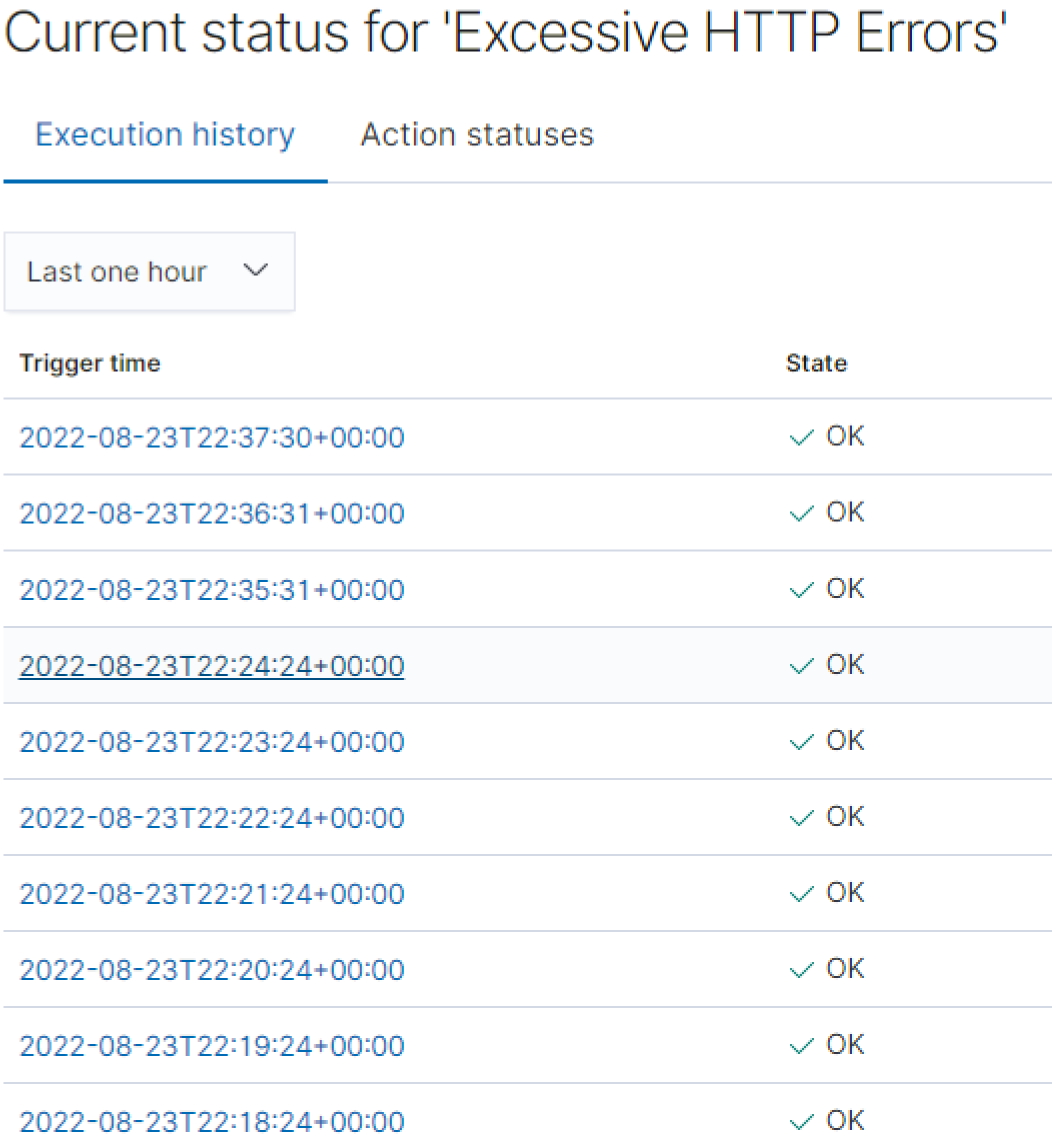
Traffic to these services should be carefully monitored. To this end, we have implemented the alerts below:

### Excessive HTTP Errors

WHEN count() GROUPED OVER top 5 'http.response.status_code' IS ABOVE 400 FOR THE LAST 5 minutes

Alert 1 is implemented as follows:

- **Metric**:WHEN count() GROUPED OVER top 5 'http.response.status_code'
- **Threshold**: IS ABOVE 400
- **Vulnerability Mitigated**: Enumeration and Brute Force Attacks
- **Reliability**: The Excessive HTTP error alert is highly reliable due to the fact that it can measure the amount of error codes of 400+ filtering out normal and successful responses.



Current status for 'Excessive HTTP Errors'

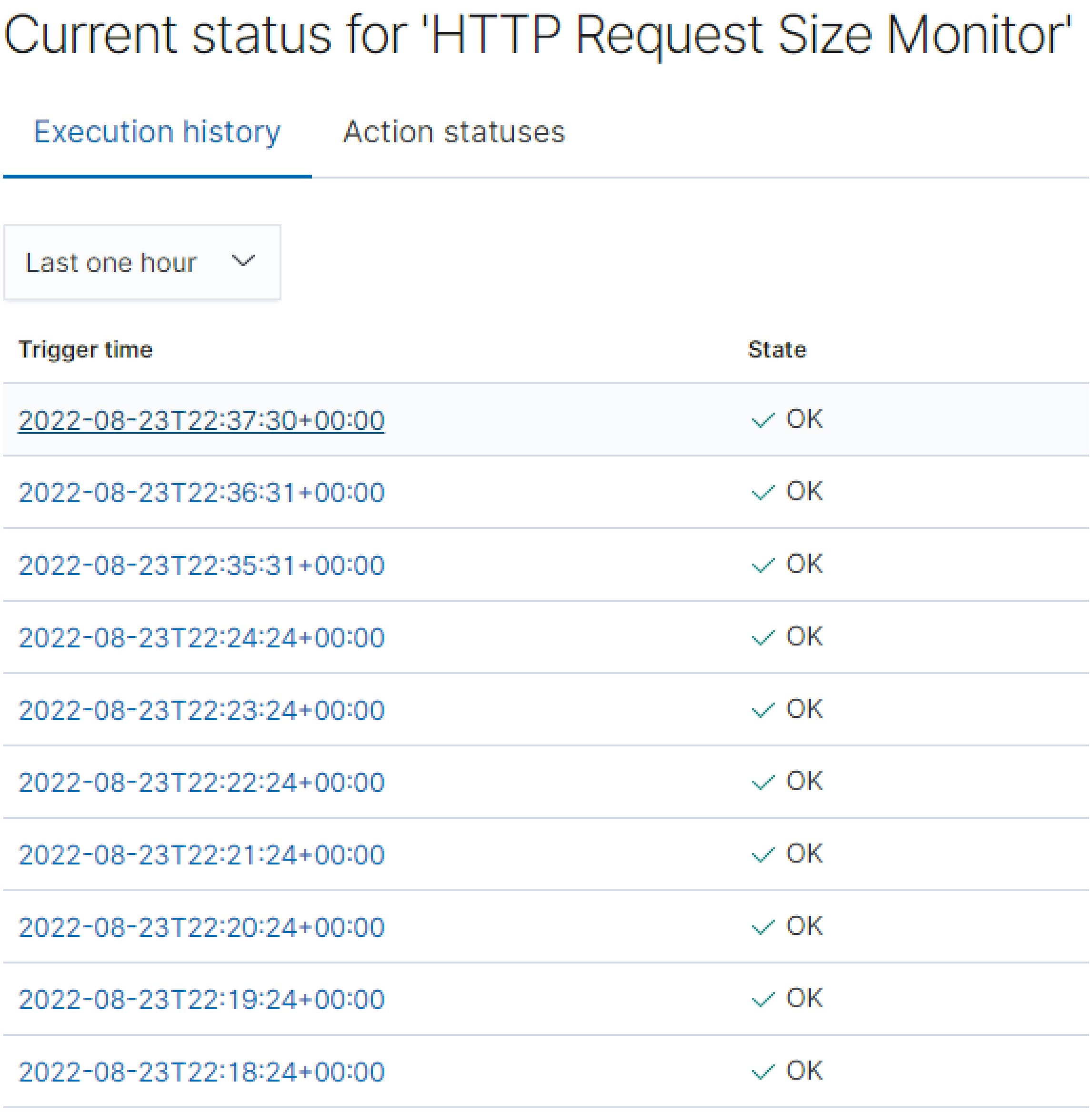
Last one hour

| Trigger time | State |
|---|---|
| 2022-08-23T22:37:30+00:00 | ✓ OK |
| 2022-08-23T22:36:31+00:00 | ✓ OK |
| 2022-08-23T22:35:31+00:00 | ✓ OK |
| 2022-08-23T22:24:24+00:00 | ✓ OK |
| 2022-08-23T22:23:24+00:00 | ✓ OK |
| 2022-08-23T22:22:24+00:00 | ✓ OK |
| 2022-08-23T22:21:24+00:00 | ✓ OK |
| 2022-08-23T22:20:24+00:00 | ✓ OK |
| 2022-08-23T22:19:24+00:00 | ✓ OK |
| 2022-08-23T22:18:24+00:00 | ✓ OK |

**HTTP Request Size Monitor**

Alert 2 is implemented as follows:WHEN sum() of http.request.bytes OVER all documents IS ABOVE 3500 FOR THE LAST 1 minute

- **Metric**: WHEN sum() of http.request.bytes OVER all document
- **Threshold**: IS ABOVE 3500
- **Vulnerability Mitigated**: DDOS and Code Injection via HTTP requests
- **Reliability**: The reliability for this alert is moderate (medium reliability). There is a possible margin open to larger non-malicious HTTP traffic altering it, or HTTP requests.



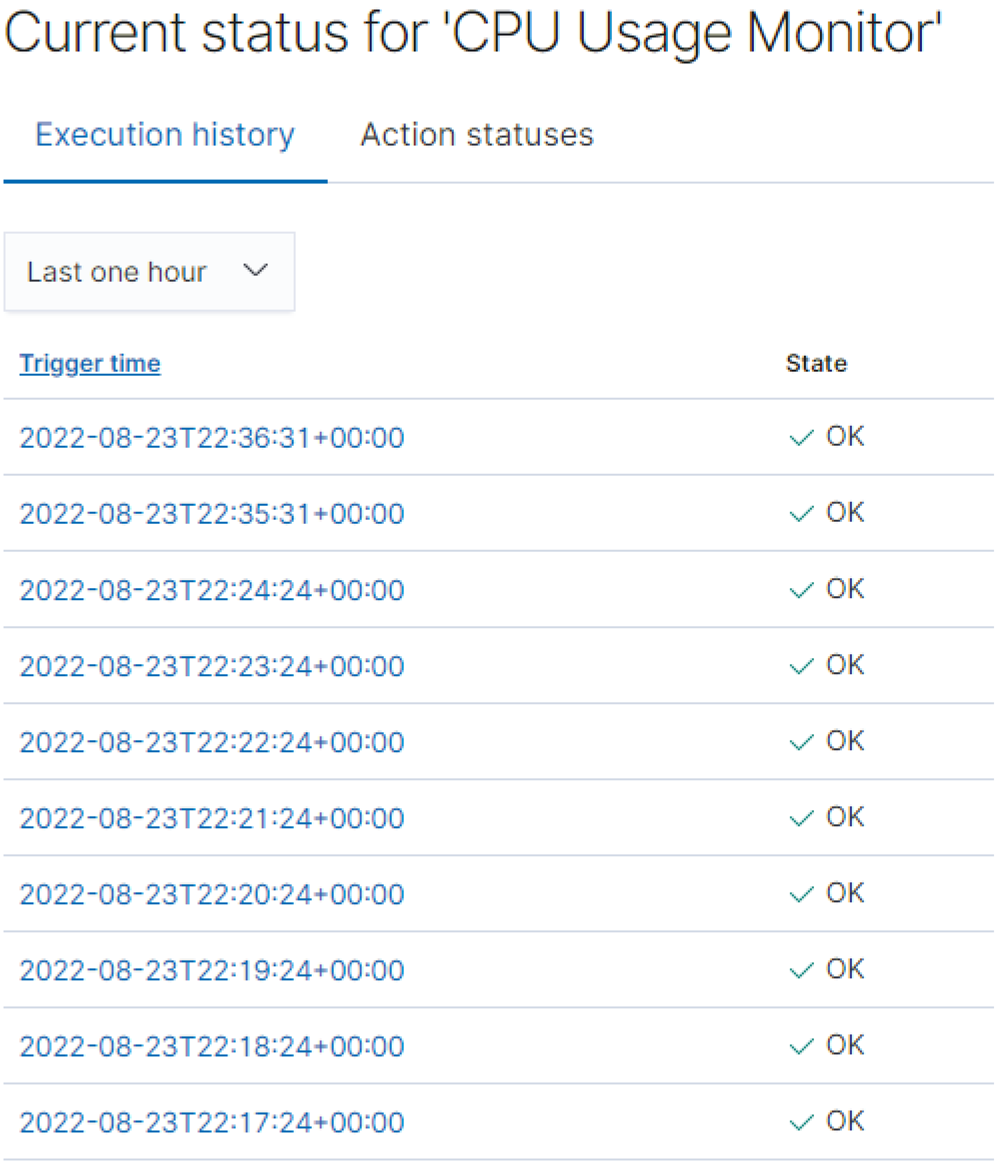
Current status for 'HTTP Request Size Monitor'

| Trigger time | State |
|---|---|
| 2022-08-23T22:37:30+00:00 | ✓ OK |
| 2022-08-23T22:36:31+00:00 | ✓ OK |
| 2022-08-23T22:35:31+00:00 | ✓ OK |
| 2022-08-23T22:24:24+00:00 | ✓ OK |
| 2022-08-23T22:23:24+00:00 | ✓ OK |
| 2022-08-23T22:22:24+00:00 | ✓ OK |
| 2022-08-23T22:21:24+00:00 | ✓ OK |
| 2022-08-23T22:20:24+00:00 | ✓ OK |
| 2022-08-23T22:19:24+00:00 | ✓ OK |
| 2022-08-23T22:18:24+00:00 | ✓ OK |

**CPU Usage Monitor**

Alert 3 is implemented as follows:WHEN max() OF system.process.cpu.total.pct OVER all documents IS ABOVE 0.5 FOR THE LAST 5 minutes

- **Metric**: WHEN max() OF system.process.cpu.total.pct OVER all documents
- **Threshold**: IS ABOVE 0.5
- **Vulnerability Mitigated**: Tracking malware, viruses, and malicious software running taking up host resources.
- **Reliability**: The alert for CPU usage is a highly reliable alert. It can show how to optimize CPU usage even aside from tracking whether that is coming from a malicious source or not.



Current status for 'CPU Usage Monitor'

| Trigger time | State |
|---|---|
| 2022-08-23T22:36:31+00:00 | ✓ OK |
| 2022-08-23T22:35:31+00:00 | ✓ OK |
| 2022-08-23T22:24:24+00:00 | ✓ OK |
| 2022-08-23T22:23:24+00:00 | ✓ OK |
| 2022-08-23T22:22:24+00:00 | ✓ OK |
| 2022-08-23T22:21:24+00:00 | ✓ OK |
| 2022-08-23T22:20:24+00:00 | ✓ OK |
| 2022-08-23T22:19:24+00:00 | ✓ OK |
| 2022-08-23T22:18:24+00:00 | ✓ OK |
| 2022-08-23T22:17:24+00:00 | ✓ OK |