

Monitor network segmentation with custom detections

Published: 2024-04-01

Segmenting your network into discrete subnetworks can help improve security by only allowing certain clients to access servers that contain sensitive data. By creating a custom detection, you can identify when a machine outside of a privileged subnetwork communicates with a device inside of the subnetwork, so you can ensure that your security conventions are being enforced.

In this walkthrough, we'll create a device group for our privileged subnetwork and write a trigger that creates a detection every time an outside machine contacts the group.

Create a device group for the privileged subnetwork

First, we'll create a device group that contains all IP addresses in the following CIDR blocks:

- 192.168.1.0/24
- 192.168.2.0/24



Note: You can modify these CIDR blocks to match a specific subnetwork in your environment.

1. Log in to the ExtraHop system through `https://<extrahop-hostname-or-IP-address>`.
2. Click **Assets**.
3. Click **Device Groups**.
4. Click **Create Device Group**.
5. In the Group Name text box, type `Privileged Network`.
6. Click **Dynamic**.
7. Click **Match All** and then select **Match Any** from the drop-down menu.
8. Click **Name**, and then select **IP Address** from the drop-down menu.
9. In the text box, type `192.168.1.0/24`.
10. Click **Add Filter** to add an additional filter.
11. Click **Name**, and then select **IP Address** from the drop-down menu.
12. In the text box, type `192.168.2.0/24`.


Create a trigger to generate custom detections

Next, we will create the trigger that generates custom detections. Triggers generate custom detections by calling the `commitDetection` function in the trigger script.

The trigger identifies traffic from outside the privileged subnetwork by checking the `hasTrigger` property of the client device for each flow. The `hasTrigger` property indicates whether the trigger is running on the device. Because the trigger is assigned to all devices in the Privileged Network device group, the `hasTrigger` property will be false for all devices outside of the subnetwork.



Note: For more information about the `commitDetection` function, see the [Trigger API Reference](#).

1. Click the System Settings icon  and then click **Triggers**.
2. Click **Create**.
3. In the Name field, type `Network Segmentation Custom Detection`.

4. In the Description field, type the following text:

Creates a detection every time a device in the privileged network communicates with a device outside of the privileged network.


5. Click in the Events field and select **FLOW_CLASSIFY**.
The trigger runs on the FLOW_CLASSIFY event, which runs as a flow is initially associated with a specific protocol. This step ensures that all flows are investigated for suspicious behavior.
6. In the Assignments field, type Privileged Network, and then select the group you created in the previous procedure.
7. In the right pane, type the following trigger script:

```
const client = Flow.client.device;
const server = Flow.server.device;
if (!client.hasTrigger) {
  commitDetection('network_segmentation_breach', {
    title: 'Network Segmentation Breach',
    description: `Device ${client.id} accessed privileged device
    ${server.id} over ${Flow.l7proto}`,
    categories: ['sec.caution'],
    riskScore: 80,
    participants: [{
      object: client,
      role: 'offender'
    }, {
      object: server,
      role: 'victim'
    }],
    identityKey: [client.id, server.id].join('!!!'),
  });
}
```

8. Click **Save** and then click **Done**.

Create a custom detection type

Next, we will create a custom detection type, which enables you to add display names and MITRE categories to custom detections.

1. Click the System Settings icon  and then click **Detection Catalog**.
2. Click **Create**.
3. In the Display Name field, type `Network Segmentation Breach`.
4. In the Detection Type ID field, type `network_segmentation_breach`.
5. Click **Save**.

View custom detections

After you save the trigger, you can view detections the trigger generates on the Detections page.

1. Click **Detections**.
2. Click **Types**.
3. Click **Network Segmentation Breach** to view details about each individual detection.



Note: **Network Segmentation Breach** only appears if detections are generated by the trigger during the selected time interval.

Next steps

- Generate alerts for the detection by [configuring detection alert settings](#). For example, you can configure your ExtraHop system to email you when a detection occurs.