Configure ticket tracking for detections

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Ticket tracking enables you to connect tickets, alarms, or cases in your work-tracking system to ExtraHop detections. Any third-party ticketing system that can accept Open Data Stream (ODS) requests, such as Jira or Salesforce, can be linked to ExtraHop detections.

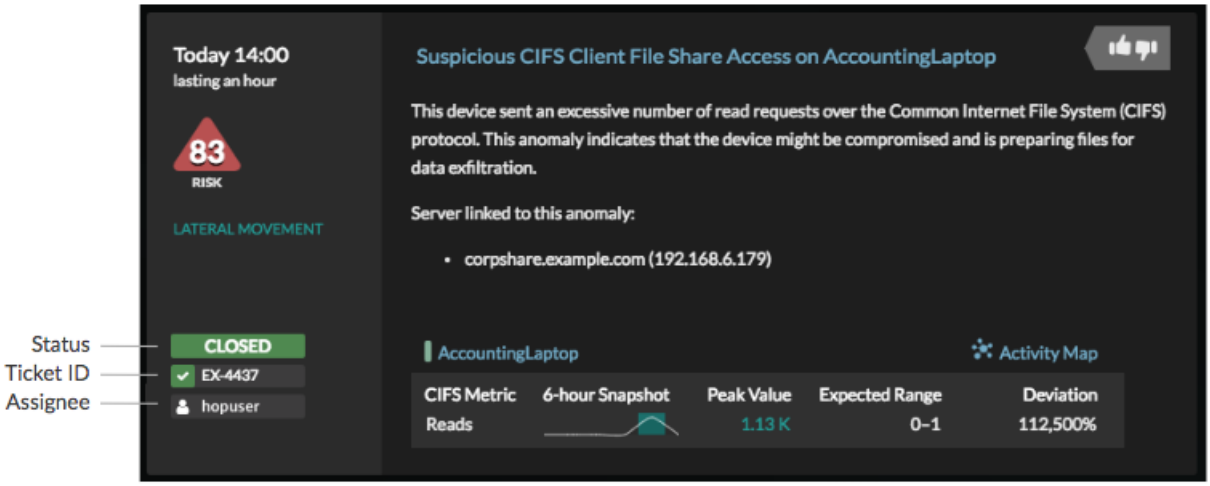
Before you begin

- You must have access to an ExtraHop system with a user account that has unlimited privileges.
- You must be familiar with writing ExtraHop Triggers. See Triggers and the procedures in Build a trigger.
- You must create an ODS target for your ticket tracking server. See the following topics about configuring ODS targets: HTTP, Kafka, MongoDB, syslog, or raw data.
- You must be familiar with writing REST API scripts and have a valid API key to complete the procedures below. See Generate an API key.

Enable ticket tracking and specify a URL template

You must enable ticket tracking before REST API scripts can update ticket information on the ExtraHop system. Optionally, specify a URL template that adds an HTML link in the detection card to the ticket in your ticketing system.

1. Log in to the Administration settings on the ExtraHop system through `https://<extrahop-hostname-or-IP-address>/admin`.
2. In the System Configuration section, click **Investigation Tracking**.
3. Select **Track detection investigations with an external ticketing system**.
4. Optional: In the URL field, specify the URL template for your ticketing system and add the $ticket_id variable at the appropriate location. For example, type a complete URL such as https://jira.example.com/browse/$ticket_id. The $ticket_id variable is replaced with the ticket ID associated with the detection.



Write a trigger to create and update tickets about detections on your ticketing system

This example shows you how to create a trigger that performs the following actions:

- Create a new ticket in the ticketing system every time a new detection appears on the ExtraHop system.
- Assign new tickets to a user named `escalations_team` in the ticketing system.
- Run every time a detection is updated on the ExtraHop system.
- Send detection updates over an HTTP Open Data Stream (ODS) to the ticketing system.

The complete example script is available at the end of this topic.

1. Log in to the ExtraHop system through `https://<extrahop-hostname-or-IP-address>`.
2. Click the System Settings icon and then click **Triggers**.
3. Click **New**.
4. Specify a name and optional description for the trigger.
5. From the Events list, select **DETECTION_UPDATE**.

   The DETECTION_UPDATE event runs every time that a detection is created or updated in the ExtraHop system.
6. In the right pane, specify Detection class parameters in a JavaScript object. These parameters determine the information that is sent to your ticketing system.

   The following example code adds the detection ID, description, title, categories, MITRE techniques and tactics, and risk score to a JavaScript object called `payload`:

```
const summary = "ExtraHop Detection: " + Detection.id + ": " +
 Detection.title;
const description = "ExtraHop has detected the following event on your
 network: " + Detection.description
const payload = {
    "fields": {
        "summary": summary,
        "assignee": {
            "name": "escalations_team"
        },
        "reporter": {
            "name": "ExtraHop"
        },
        "priority": {
            "id": Detection.riskScore
        },
        "labels": Detection.categories,
        "mitreCategories": Detection.mitreCategories,
        "description": description
    }
};
```

7. Next, define the HTTP request parameters in a JavaScript object below the previous JavaScript object.

   The following example code defines an HTTP request for the payload described in the previous example: defines a request with a JSON payload:

```
const req = {
    'path': '/rest/api/issue',
    'headers': {
        'Content-Type': 'application/json'
    },
    'payload': JSON.stringify(payload)
};
```

   For more information about ODS request objects, see Open data stream classes.

8. Finally, specify the HTTP POST request that sends the information to the ODS target. The following example code sends the HTTP request described in the previous example to an ODS target named ticket-server:

```
Remote.HTTP('ticket-server').post(req);
```

The complete trigger code should look similar to the following example:

```
const summary = "ExtraHop Detection: " + Detection.id + ": " +
 Detection.title;
const description = "ExtraHop has detected the following event on your
 network: " + Detection.description
const payload = {
    "fields": {
        "summary": summary,
        "assignee": {
            "name": "escalations_team"
        },
        "reporter": {
            "name": "ExtraHop"
        },
        "priority": {
            "id": Detection.riskScore
        },
        "labels": Detection.categories,
        "mitreCategories": Detection.mitreCategories,
        "description": description
    }
};

const req = {
    'path': '/rest/api/issue',
    'headers': {
        'Content-Type': 'application/json'
    },
    'payload': JSON.stringify(payload)
};

Remote.HTTP('ticket-server').post(req);
```

Send ticket information to detections through the REST API

After you have configured a trigger to create tickets for detections in your ticket tracking system, you can update ticket information on your ExtraHop system through the REST API.

Ticket information appears in detections on the Detections page in the ExtraHop system. For more information, see the Detections topic.

The following example Python script takes ticket information from a Python array and updates the associated detections on the ExtraHop system.

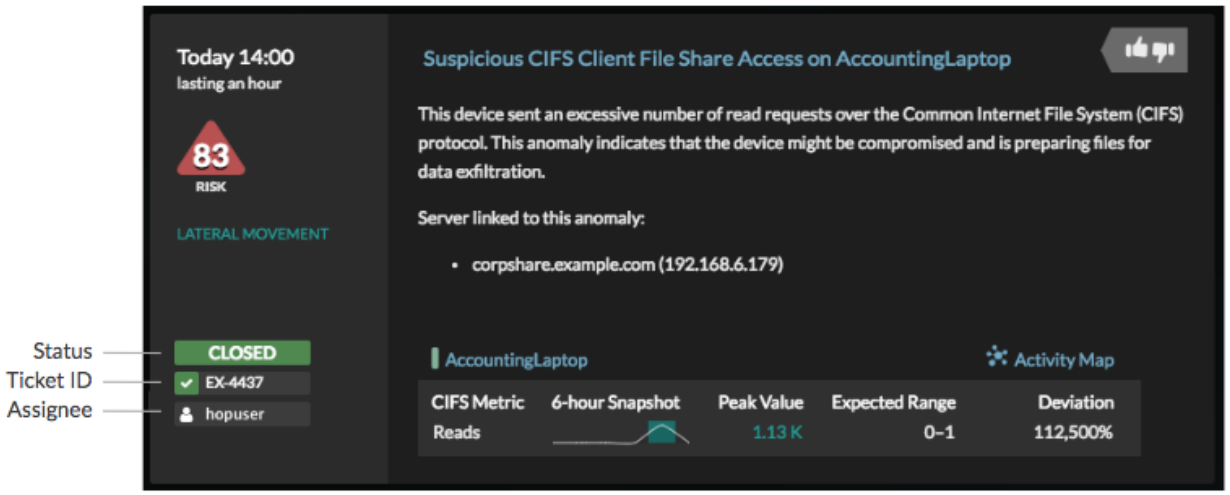
```
#!/usr/bin/python3

import json
import requests
import csv

API_KEY = '123456789abcdefghijklmnop'
HOST = 'https://extrahop.example.com/'

# Method that updates detections on an ExtraHop system
```

```
def updateDetection(detection):
    url = HOST + 'api/v1/detections/' + detection['detection_id']
    del detection['detection_id']
    data = json.dumps(detection)
    headers = {'Content-Type': 'application/json',
               'Accept': 'application/json',
               'Authorization': 'ExtraHop apikey=%s' % API_KEY}
    r = requests.patch(url, data=data, headers=headers)
    print(r.status_code)
    print(r.text)

# Array of detection information
detections = [
                {
                    "detection_id": "1",
                    "ticket_id": "TK-16982",
                    "status": "new",
                    "assignee": "sally",
                    "resolution": None,
                },
                {
                    "detection_id": "2",
                    "ticket_id": "TK-2078",
                    "status": None,
                    "assignee": "jim",
                    "resolution": None,
                },
                {
                    "detection_id": "3",
                    "ticket_id": "TK-3452",
                    "status": None,
                    "assignee": "alex",
                    "resolution": None,
                }
            ]

for detection in detections:
    updateDetection(detection)
```

Note: If the script returns an error message that the SSL certificate verification failed, make sure that a trusted certificate has been added to your ExtraHop system. Alternatively, you can add the `verify=False` option to bypass certificate verification. However, this method is not secure and is not recommended. The following code sends an HTTP GET request without certificate verification:

```
requests.get(url, headers=headers, verify=False)
```

After ticket tracking is configured, ticket details are displayed in the left pane of the detection details, similar to the following figure:



Status

The status of the ticket associated with the detection. Ticket tracking supports the following statuses:

- New
- In Progress
- Closed
- Closed with Action Taken
- Closed with No Action Taken

Ticket ID

The ID of the ticket in your work-tracking system that is associated with the detection. If you have configured a template URL, you can click the ticket ID to open the ticket in your work-tracking system.

Assignee

The username assigned to the ticket associated with the detection. Usernames in gray indicate a non-ExtraHop account.