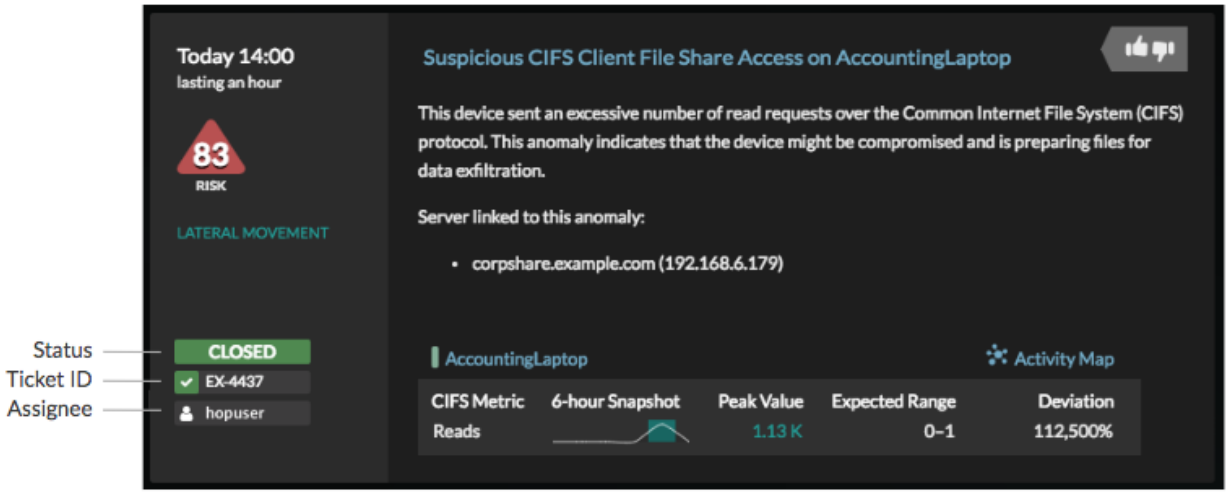
Configure ticket tracking for detections

Published: 2020-02-23

ExtraHop detections identify when unusual behavior is discovered on your network. To ensure that each of these events is properly investigated, you can automatically create tickets in a third party ticketing system for each detection. Ticket tracking enables you to connect tickets, alarms, or cases in your work-tracking system to ExtraHop detections. Without leaving the ExtraHop Web UI, you can see who is working on a specific detection, as well as the status and outcome of that investigation.

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 navigate to the ticket in your work-tracking system.

Assignee

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

Any third-party ticketing system that can accept Open Data Stream (ODS) requests, such as Jira or Salesforce, can be linked to ExtraHop detections.

Ticket tracking requires a few steps before your detections are linked to your ticketing system.

1. You must enable ticket tracking.
2. Optionally, you can configure a URL template for your ticketing system that creates a clickable link in the detection card that opens the ticket in your ticketing system in a new browser window.
3. You must write a trigger and configure an ODS target to send detection information to your ticketing system.

4. You must write a REST API script that sends information from your ticketing system to the detection in the ExtraHop Web UI.

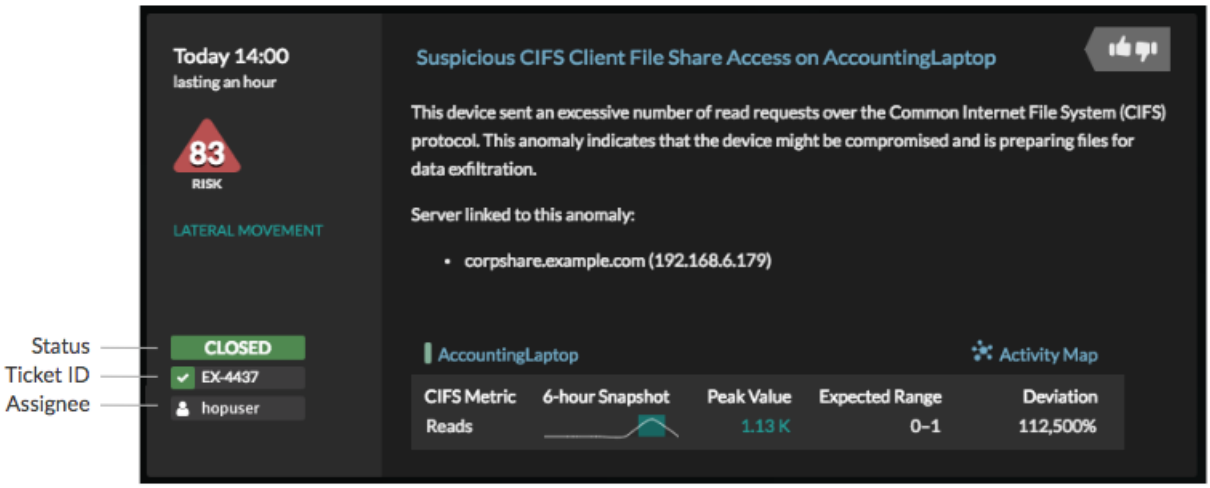
Before you begin:

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

Enable ticket tracking and specify a URL template

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

1. Log into the Admin UI on the Discover or Command appliance.
2. In the System Configuration section, click **Ticket Tracking**.
3. Select the **Enable ticket tracking** checkbox.
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

While there are many ways to write a trigger that interacts with ticket tracking software, 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 into the Web UI on the ExtraHop Discover or Command appliance.
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, 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,
        "description": description
    }
};
```

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

   For example, the following 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': 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.For example, the following 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,
        "description": description
    }
};

const req = {
    'path': '/rest/api/issue',
    'headers': {
        'Content-Type': 'application/json'
    },
    'payload': 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 Web UI. 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 an 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 appliance
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 appliance. 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)
```