SentinelOne

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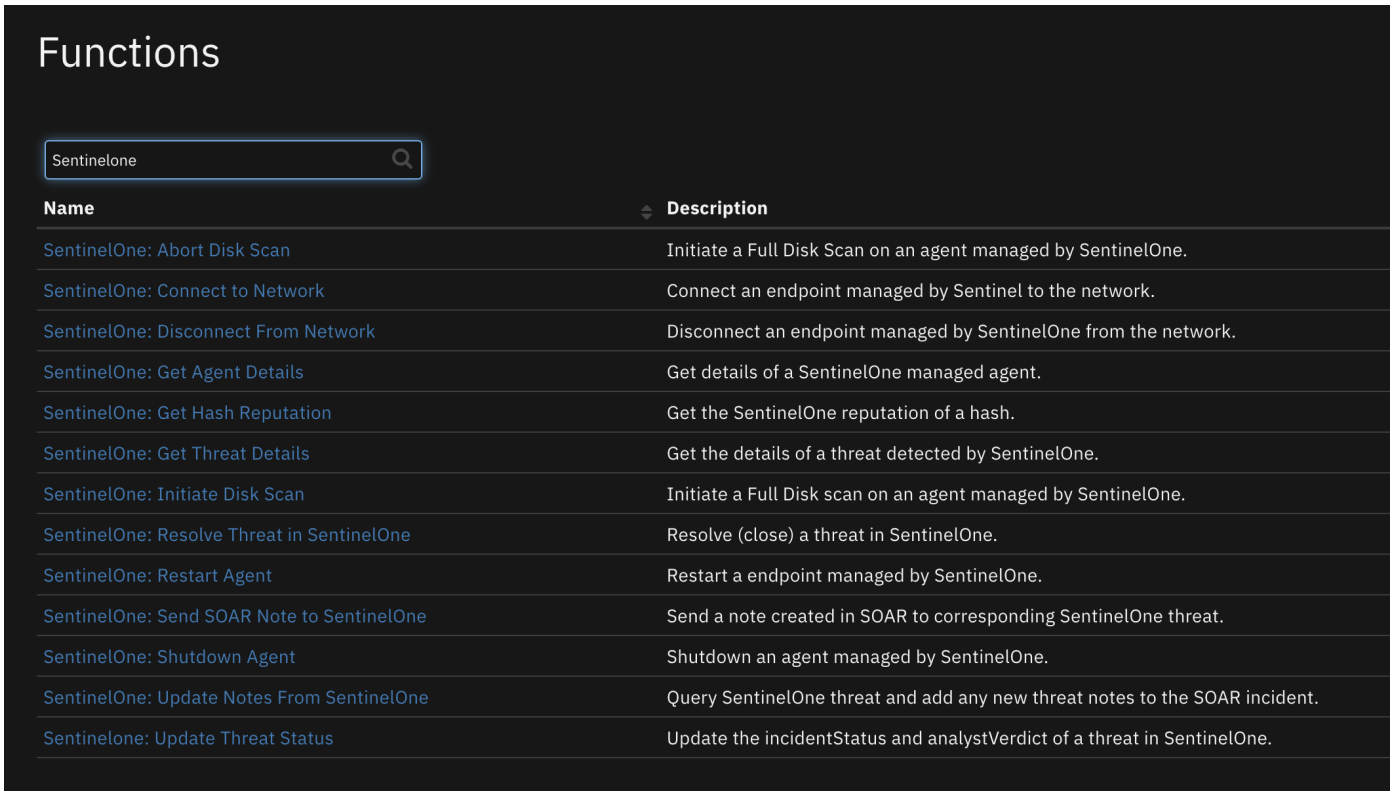
Release Notes

Version	Date	Notes
1.1.0	10/2023	Convert to playbooks; add upload file support; poller improvements; SentinelOne tab
1.0.1	1/2022	Update payload schema files
1.0.0	1/2022	Initial Release

Overview

IBM SOAR app - bidirectional synchronization and functions for SentinelOne



The SentinelOne platform provides AI-powered prevention, detection, response, and threat hunting across user endpoints, containers, cloud workloads, and IoT devices.

This app escalates SentinelOne threat incidents into IBM Security SOAR as an incident/case.

Key Features

- Poll SentinelOne for threats and create a corresponding incident/case in the IBM SOAR platform for each threat.
- Get SentinelOne threat notes and add them as notes in corresponding IBM SOAR incident/case.
- Resolve a SentinelOne threat when the corresponding IBM SOAR incident is closed.
- Close an IBM SOAR incident/case when the corresponding SentinelOne threat is resolved in SentinelOne.
- Create artifacts from the SentinelOne threat in the IBM SOAR platform.
- Provide information on the SentinelOne agent (endpoint) in a data table.
- Allow the IBM SOAR user to perform the following actions on the SentinelOne agent:
  - connect/disconnect agent from network
  - shutdown/restart agent
  - initiate/abort full disk scan
- Get the agent or threat details and write the JSON returned from SentinelOne in a formatted SOAR case note.

Requirements

This app supports the IBM Security QRadar SOAR Platform and the IBM Security QRadar SOAR for IBM Cloud Pak for Security.

SOAR platform

The SOAR platform supports two app deployment mechanisms, Edge Gateway (formerly App Host) and integration server.

If deploying to a SOAR platform with an Edge Gateway, the requirements are:

- SOAR platform >= `48.2.16`.
- The app is in a container-based format (available from the AppExchange as a `zip` file).

If deploying to a SOAR platform with an integration server, the requirements are:

- SOAR platform >= `48.2.16`.
- The app is in the older integration format (available from the AppExchange as a `zip` file which contains a `tar.gz` file).
- Integration server is running `resilient-circuits>=49.0.0`.
- If using an API key account, make sure the account provides the following minimum permissions:

Name	Permissions
Org Data	Read
Function	Read

Name	Permissions
Incident	Edit, Read, Create, Owner, Status
Incident Notes	Edit
Layouts	Edit, Read

The following SOAR platform guides provide additional information:

- *Edge Gateway Deployment Guide* or *App Host Deployment Guide*: provides installation, configuration, and troubleshooting information, including proxy server settings.
- *Integration Server Guide*: provides installation, configuration, and troubleshooting information, including proxy server settings.
- *System Administrator Guide*: provides the procedure to install, configure and deploy apps.

The above guides are available on the IBM Documentation website at ibm.biz/soar-docs. On this web page, select your SOAR platform version. On the follow-on page, you can find the *Edge Gateway Deployment Guide*, *App Host Deployment Guide*, or *Integration Server Guide* by expanding **Apps** in the Table of Contents pane. The System Administrator Guide is available by expanding **System Administrator**.

Cloud Pak for Security

If you are deploying to IBM Cloud Pak for Security, the requirements are:

- IBM Cloud Pak for Security >= `1.8`.
- Cloud Pak is configured with an Edge Gateway.
- The app is in a container-based format (available from the AppExchange as a `zip` file).

The following Cloud Pak guides provide additional information:

- *Edge Gateway Deployment Guide* or *App Host Deployment Guide*: provides installation, configuration, and troubleshooting information, including proxy server settings. From the Table of Contents, select Case Management and Orchestration & Automation > **Orchestration and Automation Apps**.
- *System Administrator Guide*: provides information to install, configure, and deploy apps. From the IBM Cloud Pak for Security IBM Documentation table of contents, select Case Management and Orchestration & Automation > **System administrator**.

These guides are available on the IBM Documentation website at ibm.biz/cp4s-docs. From this web page, select your IBM Cloud Pak for Security version. From the version-specific IBM Documentation page, select Case Management and Orchestration & Automation.

Proxy Server

The app does support a proxy server.

Python Environment

Python 3.6 and Python 3.9 are supported. Additional package dependencies may exist for each of these packages:

- resilient-circuits>=49.0.0

This app has been implemented using:

Product Name	Product Version	API URL	API Version
SentinelOne	X#99	https://SentinelOne-server/web/api/v2.1	2.1

Prerequisites

- A SentinelOne cloud account with Admin role.

Configuration

- To run the app, obtain an API token from the SentinelOne My User menu item in the Options menu and place in the App configuration file.
-

Permissions

- SentinelOne Admin role is required in the SentinelOne account that IBM SOAR is communicating with as specified in the App configration file.

Installation

Install

- To install or uninstall an App or Integration on the *SOAR platform*, see the documentation at ibm.biz/soar-docs.
- To install or uninstall an App on *IBM Cloud Pak for Security*, see the documentation at ibm.biz/cp4s-docs and follow the instructions above to navigate to Orchestration and Automation.

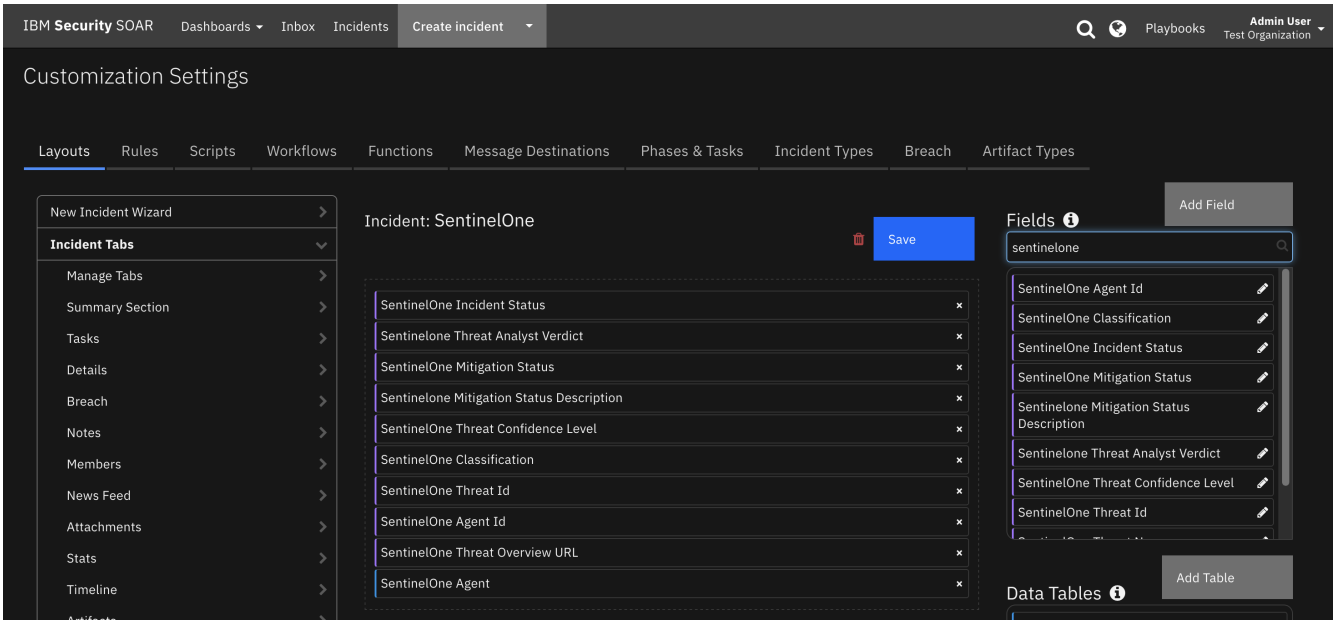
App Configuration

The following table provides the settings you need to configure the app. These settings are made in the app.config file. See the documentation discussed in the Requirements section for the procedure.

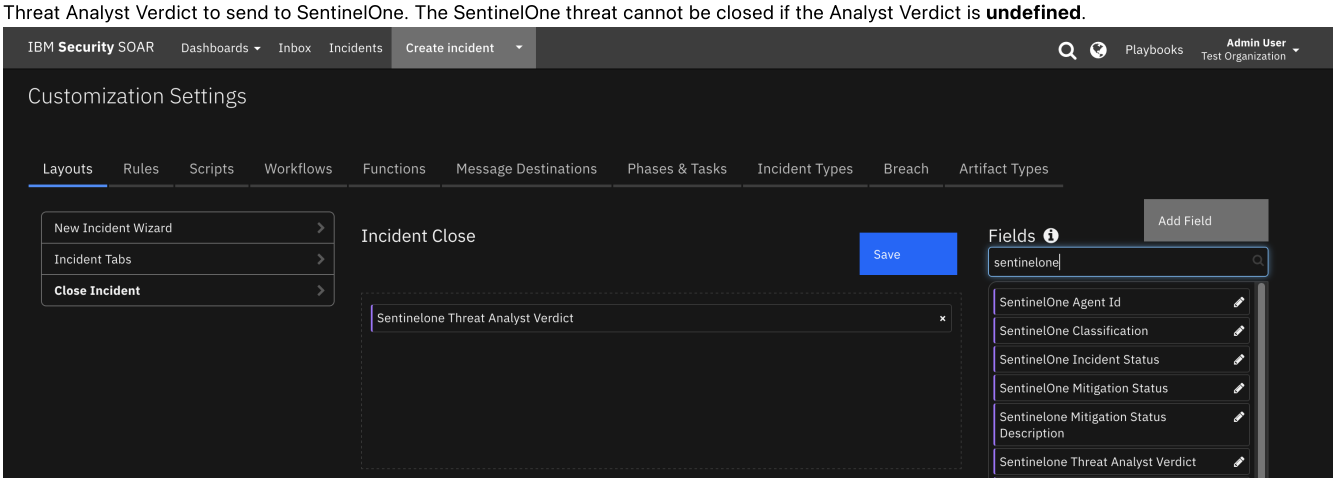
Config	Required	Example	Description
sentinelone_server	Yes	`xxx.sentinelone.net`	*SentinelOne server*
api_version	Yes	`2.1`	*SentinelOne REST API version*
api_token	Yes	`xxxxxx`	*SentinelOne user API token*
polling_interval	Yes	`60`	*Poller interval time in seconds. Value of zero to turn poller off.*
polling_lookback	Yes	`120`	*Number of minutes to look back for threat updates. Value is only used on the first time polling when the app starts.*
account_ids	No	`123456789012345678`	*Comma separated list of SentinelOne accountIds to query for threats.*
site_ids	No	`987654321098765432`	*Comma separated list of SentinelOne siteIds to query for threats.*
incident_statuses	No	`resolved,in_progress,unresolved`	*Comma separated list of SentinelOne incidentStatuses to query for threats. NOTE: Include incidentStatus **resolved** if the poller should close SOAR incidents that are marked as **resolved** in SentinelOne.*
limit	No	`25`	*Limit number of threats to return from query.*
sort_by	No	`createdDate`	*The column to sort results by when querying threats.*
sort_order	No	`desc`	*Sort direction to return threat query results: 'asc' or 'desc'.*
query_param	No	`threat details`	*Full text search for fields when querying threats.*
send_soar_link_to_sentinelone	No	true	*Send SOAR incident URL live link via threat note to SentinelOne.*
soar_create_case_template	No	/var/rescircuits/create_case.jinja	*Path to custom create incident jinja template.*
soar_close_case_template	No	/var/rescircuits/close_case.jinja	*Path to custom close incident jinja template.*
soar_update_case_template	No	/var/rescircuits/update_case.jinja	*Path to custom update incident jinja template.*
verify	No	/path/toclient_certificate.pem	*Path to client SSL certificate.*

Custom Layouts

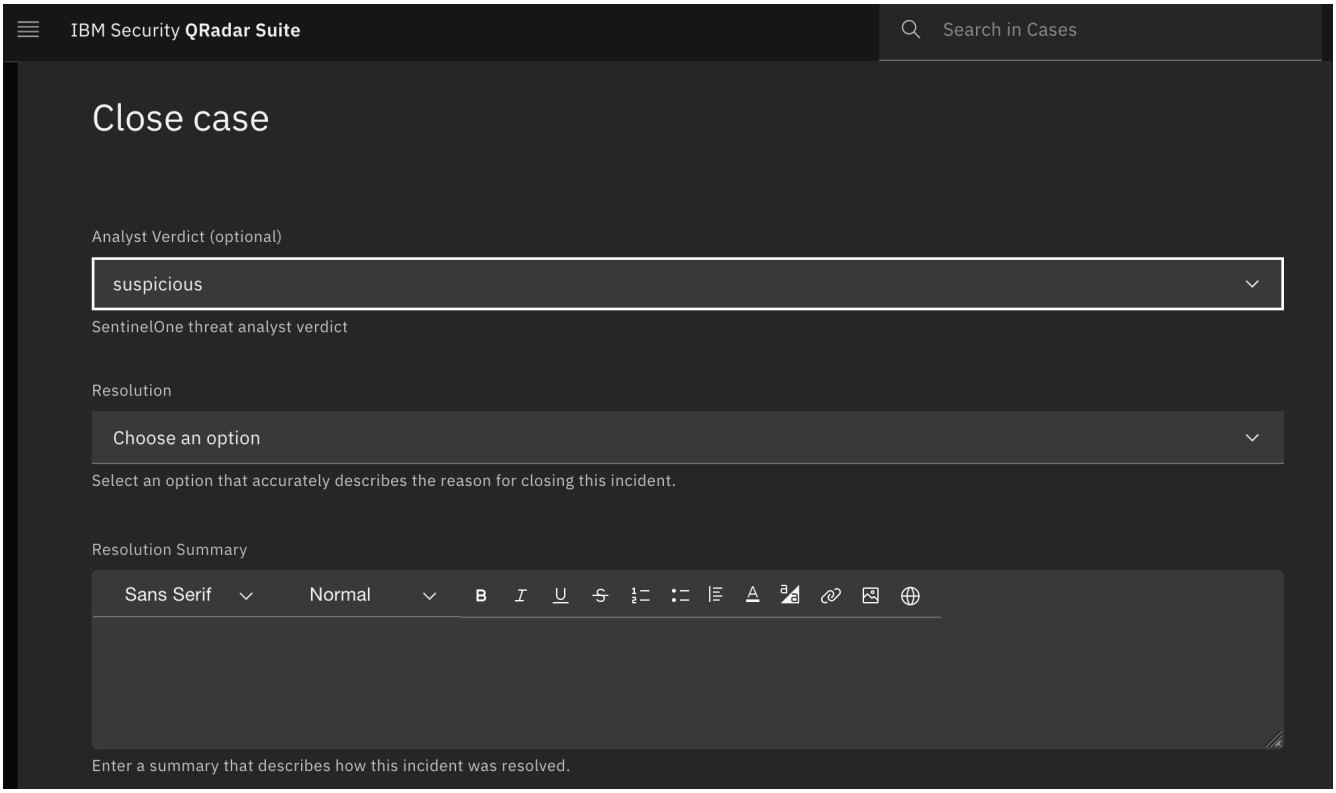
- A SentinelOne incident tab is included in the app and appears in any incident that has a SentineOne Thread ID. The default tabs contains the SentinelOne custom fields and agent data table. The screenshot below shows SentinelOne custom incident fields included on the tab:



- Create a Close Incident tab so that when a SOAR case corresponding to a SentinelOne threat is closed in SOAR, the user can select a SentinelOne Threat Analyst Verdict to send to SentinelOne. The SentinelOne threat cannot be closed if the Analyst Verdict is **undefined**.



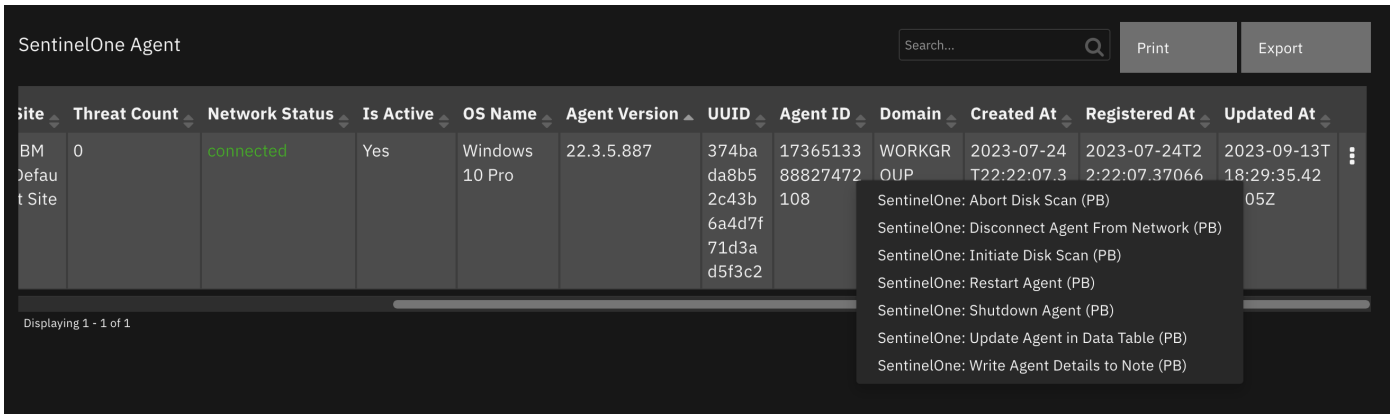
Here is a screenshot of the SentinelOne custom Close Incident popup:



NOTE: If a custom **Close Incident** tab is created, all non-SentinelOne incidents also contain the SentinelOne Threat Analyst Verdict select field in the Close menu pop-up. To avoid this, you can alternatively, use the provided incident menu item rule **SentinelOne: Update Analyst Verdict and Threat Status**, which a user can run manually to update the Analyst Verdict and Threat status in SentinelOne. When the rule is run to resolve a SentinelOne threat, choose an Analyst Verdict and set the Threat Status to **resolved**. SOAR updates the SentinelOne threat which in turn causes the incident to be closed in IBM SOAR on the next poll.

Function - SentinelOne: Abort Disk Scan

Abort a Disk Scan on an agent managed by SentinelOne.



▶ Inputs:

Name	Type	Required	Example	Tooltip
sentinelone_agent_id	text	Yes	–	-

▶ Outputs:

> **NOTE:** This example might be in JSON format, but `results` is a Python Dictionary on the SOAR platform.


```
results = {
  "content": {
    "data": {
      "affected": 1
    }
  },
  "inputs": {
    "sentinelone_agent_id": "1212121212121212121"
  },
  "metrics": {
    "execution_time_ms": 4108,
    "host": "myHost",
    "package": "fn-sentinelone",
    "package_version": "1.0.0",
    "timestamp": "2021-12-13 11:22:36",
    "version": "1.0"
  },
  "raw": null,
  "reason": null,
  "success": true,
  "version": 2.0
}
```


▶ Example Function Input Script:

```
inputs.sentinelone_agent_id = row.sentinelone_dt_agent_id
```

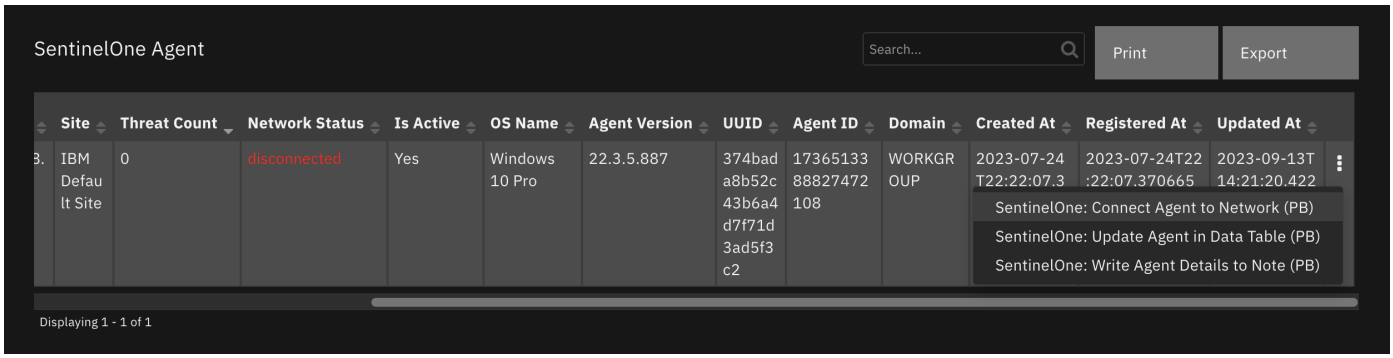
▶ Example Function Post Process Script:

```
results = playbook.functions.results.abort_scan_results

so_inputs = results.get("inputs")
agent_id = so_inputs.get("sentinelone_agent_id")
note = u"<b>SentinelOne: Abort Full Disk Scan </b><br>  SentinelOne Agent Id: {0}".format(agent_id)
content = results.get("content")
if content:
  data = content.get("data")
  if data:
    if int(data.get("affected")) <= 0:
      note = u"{0} Full Disk Scan was NOT aborted.".format(note)
    else:
      note = u"{0} Full Disk Scan aborted.".format(note)
  else:
    note = u"{0} Full Disk Scan was NOT aborted. No 'data' returned from function".format(note)
else:
    note = u"{0} Full Disk Scan was NOT aborted. No content returned from function".format(note)
```

```
incident.addNote(helper.createRichText(note))
```

Function - SentinelOne: Connect to Network

Connect an endpoint managed by SentinelOne to the network.



▶ Inputs:

Name	Type	Required	Example	Tooltip
sentinelone_agent_id	text	Yes	–	-

▶ Outputs:

> **NOTE:** This example might be in JSON format, but `results` is a Python Dictionary on the SOAR platform.

```
results = {
  "content": {
    "data": {
      "affected": 1
    }
  },
  "inputs": {
    "sentinelone_agent_id": "12121212121212121"
  },
  "metrics": {
    "execution_time_ms": 226,
    "host": "myHost",
    "package": "fn-sentinelone",
    "package_version": "1.0.0",
    "timestamp": "2021-12-13 11:21:53",
    "version": "1.0"
  },
  "raw": null,
  "reason": null,
  "success": true,
  "version": 2.0
}
```

▶ Example Function Input Script:

```
inputs.sentinelone_agent_id = row.sentinelone_dt_agent_id
```

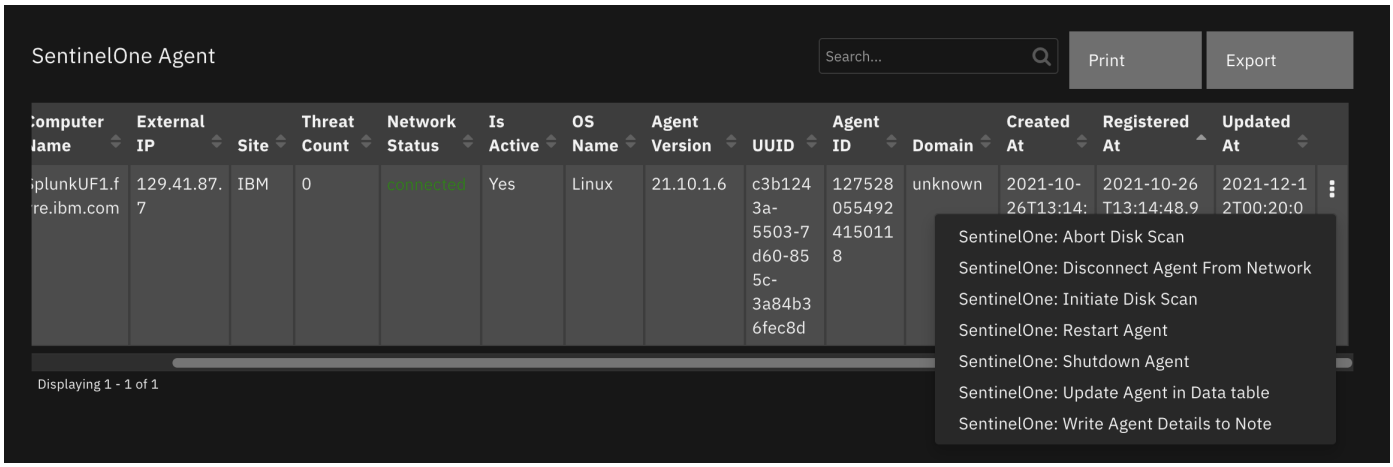
▶ Example Function Post Process Script:

```
results = playbook.functions.results.connect_results

so_inputs = results.get("inputs")
agent_id = so_inputs.get("sentinelone_agent_id")
note = u"<b>SentinelOne: Connect to Network </b><br>  SentinelOne Agent Id: {0}".format(agent_id)
content = results.get("content")
if content:
  data = content.get("data")
  if data:
    if int(data.get("affected")) <= 0:
```

```
      note = u"{0} is NOT connected to network".format(note)
    else:
      networkStatus = u"""<p style= "color:{color}">{status}</p>""".format(color="green", status="connected")
      row["sentinelone_dt_network_status"] = helper.createRichText(networkStatus)
      note = u"{0} is connected to network".format(note)
  else:
    note = u"{0} no data returned from function".format(note)
else:
    note = u"{0} no content data returned from function".format(note)

incident.addNote(helper.createRichText(note))
```

Function - SentinelOne: Disconnect From Network

Disconnect an endpoint managed by SentinelOne from the network.



▶ Inputs:

Name	Type	Required	Example	Tooltip
sentinelone_agent_id	text	Yes	–	-

▶ Outputs:

> **NOTE:** This example might be in JSON format, but `results` is a Python Dictionary on the SOAR platform.

```
results = {
  "content": {
    "data": {
      "affected": 1
    }
  },
  "inputs": {
    "sentinelone_agent_id": "1275282318251495460"
  },
  "metrics": {
    "execution_time_ms": 242,
    "host": "myHost",
    "package": "fn-sentinelone",
    "package_version": "1.0.0",
    "timestamp": "2021-12-13 11:21:08",
    "version": "1.0"
  },
  "raw": null,
  "reason": null,
  "success": true,
  "version": 2.0
}
```

▶ Example Function Input Script:

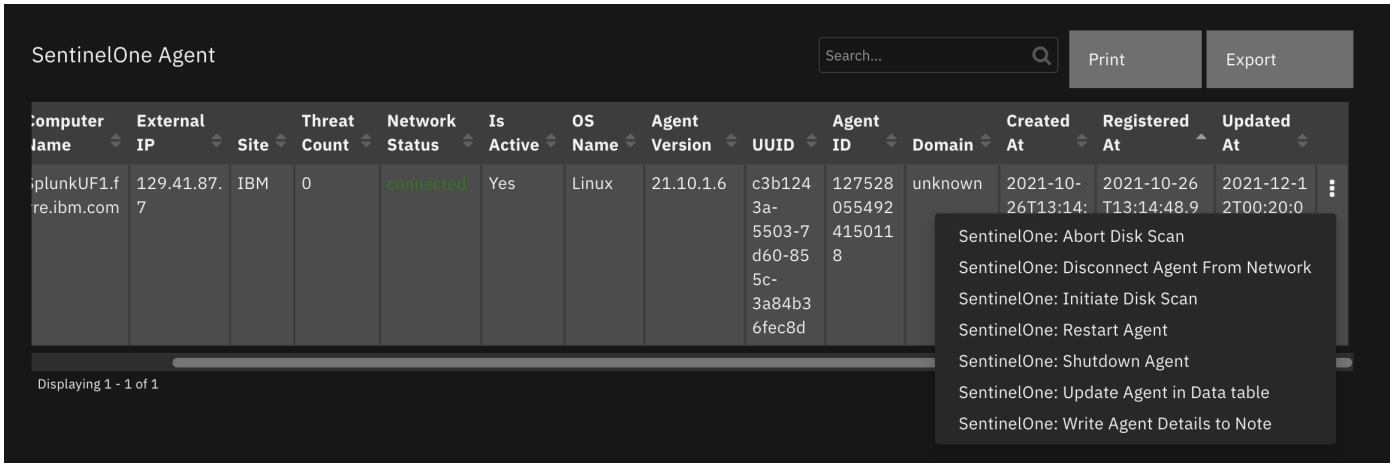
```
inputs.sentinelone_agent_id = row.sentinelone_dt_agent_id
```

▶ Example Function Post Process Script:

```
results = playbook.functions.results.disconnect_results

note = u"<b>SentinelOne: Disconnect From Network </b>"

if results.get("success"):
  so_inputs = results.get("inputs")
  agent_id = so_inputs.get("sentinelone_agent_id")
  note = "{0}<br>  SentinelOne Agent Id: {1}".format(note, agent_id)
  content = results.get("content")
  if content:
    data = content.get("data")
    if data:
      if int(data.get("affected")) <= 0:
        note = "{0} was not disconnected from network".format(note)
      else:
        networkStatus = """<p style= "color:{color}">{status}</p>""".format(color="red", status="disconnected")
        row["sentinelone_dt_network_status"] = helper.createRichText(networkStatus)
        note = "{0} is disconnected from network".format(note)
    else:
      note = "{0} no data returned from function".format(note)
  else:
    note = "{0} no content data returned from function".format(note)
else:
  note = "{0} Disconnect from Network function did not return success".format(note)

incident.addNote(helper.createRichText(note))
```

Function - SentinelOne: Get Agent Details

Get details of a SentinelOne managed agent.



▶ Inputs:

Name	Type	Required	Example	Tooltip
sentinelone_agent_id	text	Yes	–	-

▶ Outputs:

> **NOTE:** This example might be in JSON format, but `results` is a Python Dictionary on the SOAR platform.

```
results = {
  "content": {
    "data": [
      {
        "accountId": "434343434343434343",
        "accountName": "SentinelOne",
        "activeDirectory": {
          "computerDistinguishedName": null,
          "computerMemberOf": [],
          "lastUserDistinguishedName": null,
          "lastUserMemberOf": []
        },
```

```
        "activeThreats": 0,
        "agentVersion": "21.10.1.6",
        "allowRemoteShell": false,
        "appsVulnerabilityStatus": "not_applicable",
        "cloudProviders": {},
        "computerName": "computerName",
        "consoleMigrationStatus": "N/A",
        "coreCount": 2,
        "cpuCount": 2,
        "cpuId": "AMD EPYC Processor (with IBPB)",
        "createdAt": "2021-10-26T13:18:19.135249Z",
        "detectionState": null,
        "domain": "unknown",
        "encryptedApplications": false,
        "externalId": "",
        "externalIp": "12.4.8.3",
        "firewallEnabled": true,
        "firstFullModeTime": null,
        "groupId": "607447413805059643",
        "groupIp": "12.4.8.x",
        "groupName": "Default Group",
        "id": "1275282318251495460",
        "inRemoteShellSession": false,
        "infected": false,
        "installerType": ".rpm",
        "isActive": true,
        "isDecommissioned": false,
        "isPendingUninstall": false,
        "isUninstalled": false,
        "isUpToDate": true,
        "lastActiveDate": "2021-12-13T16:23:27.067226Z",
        "lastIpToMgmt": "10.21.10.88",
        "lastLoggedInUserName": "",
        "licenseKey": "",
        "locationEnabled": false,
        "locationType": "not_supported",
        "locations": null,
        "machineType": "server",
        "mitigationMode": "protect",
        "mitigationModeSuspicious": "detect",
        "modelName": "QEMU Standard PC (i440FX + PIIX, 1996)",
        "networkInterfaces": [
          {
            "gatewayIp": null,
            "gatewayMacAddress": null,
            "id": "1275282318259884069",
            "inet": [
              "10.21.10.88"
            ],
            "inet6": [],
            "name": "eth0",
            "physical": "00:00:0A:15:0A:58"
          },
          {
            "gatewayIp": "9.46.92.1",
            "gatewayMacAddress": "00:00:0c:9f:f0:01",
            "id": "1275282318268272678",
            "inet": [
              "9.46.92.211"
            ],
            "inet6": [],
            "name": "eth1",
            "physical": "00:00:09:2E:5C:D3"
          }
        ],
        "networkQuarantineEnabled": false,
        "networkStatus": "connected",
        "operationalState": "na",
        "operationalStateExpiration": null,
        "osArch": "64 bit",
        "osName": "Linux",
        "osRevision": "CentOS release 7.9.2009 (Core) 3.10.0-1160.49.1.el7.x86_64",
        "osStartTime": "2021-12-11T22:40:32Z",
        "osType": "linux",
        "osUsername": "root",
        "rangerStatus": "NotApplicable",
        "rangerVersion": null,
```

```
        "registeredAt": "2021-10-26T13:18:19.132188Z",
        "remoteProfilingState": "disabled",
        "remoteProfilingStateExpiration": null,
        "scanAbortedAt": "2021-12-10T21:57:56.711226Z",
        "scanFinishedAt": "2021-12-10T02:33:00.768224Z",
        "scanStartedAt": "2021-12-13T16:22:40.612822Z",
        "scanStatus": "started",
        "siteId": "607447413779893818",
        "siteName": "mySite",
        "storageName": null,
        "storageType": null,
        "threatRebootRequired": false,
        "totalMemory": 3789,
        "updatedAt": "2021-12-13T16:22:40.616308Z",
        "userActionsNeeded": [],
        "uuid": "8329e587-bbe9-b906-a6a5-646e2686eba9"
      }
    ],
    "pagination": {
      "nextCursor": null,
      "totalItems": 1
    }
  },
  "inputs": {
    "sentinelone_agent_id": "12121212121212121"
  },
  "metrics": {
    "execution_time_ms": 277,
    "host": "myHost",
    "package": "fn-sentinelone",
    "package_version": "1.0.0",
    "timestamp": "2021-12-13 11:23:55",
    "version": "1.0"
  },
  "raw": null,
  "reason": null,
  "success": true,
  "version": 2.0
}
```


▶ Example Function Input Script:

```
inputs.sentinelone_agent_id = incident.properties.sentinelone_agent_id
```

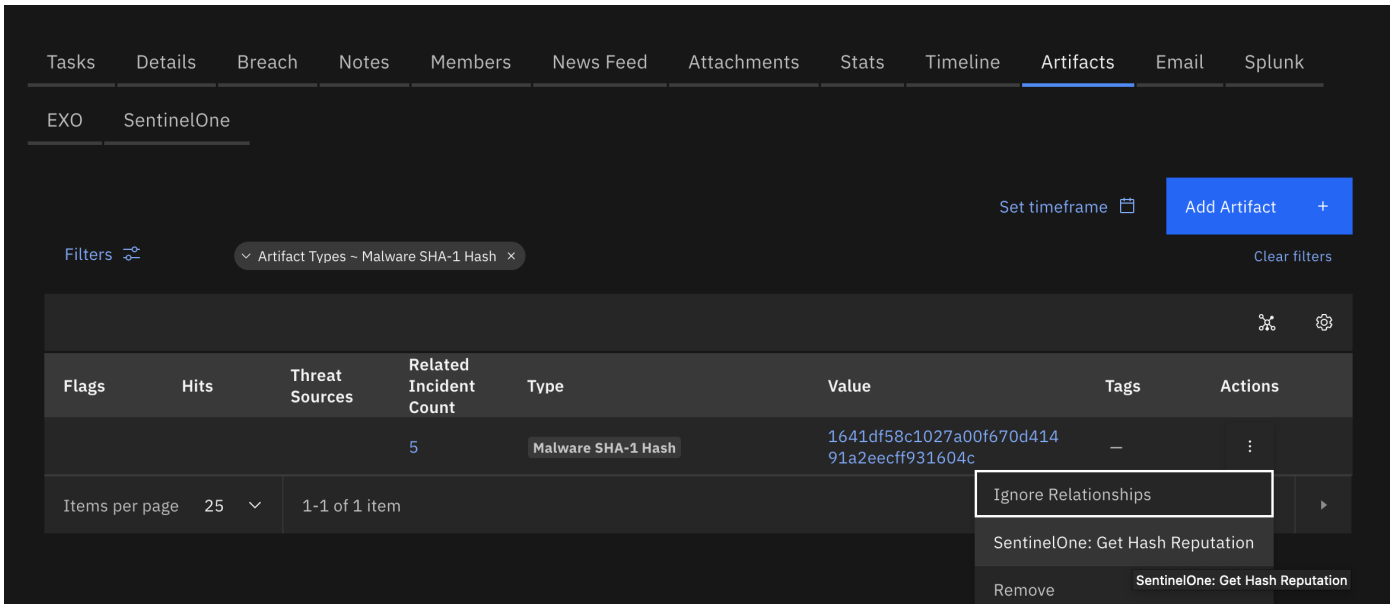
▶ Example Function Post Process Script:

```
from datetime import datetime

results = playbook.functions.results.update_agent_results

note = u"<b>SentinelOne: Update Agent in Data Table: </b> \n"
if results.get("success"):
  content = results.get("content")
  if content:
    data = content.get("data")
    if data:
      for agent in data:
        row.sentinelone_dt_query_date = datetime.now()
        row.sentinelone_dt_agent_id = agent.get("id")
        networkStatus = agent.get("networkStatus")
        display_color = "green" if networkStatus == "connected" else "red"
        networkStatus = u"""<p style= "color:{color}">{status}</p>""".format(color=display_color,
status=networkStatus)
        row.sentinelone_dt_network_status = helper.createRichText(networkStatus)
        row.sentinelone_dt_computername = agent.get("computerName")
        row.sentinelone_dt_external_ip = agent.get("externalIp")
        row.sentinelone_dt_site = agent.get("siteName")
        row.sentinelone_dt_agent_version = agent.get("agentVersion")
        row.sentinelone_dt_threat_count = agent.get("activeThreats")
        row.sentinelone_dt_domain = agent.get("domain")
        row.sentinelone_dt_os_name = agent.get("osName")
        row.sentinelone_dt_uuid = agent.get("uuid")
        row.sentinelone_dt_is_active = agent.get("isActive")
```

```
        row.sentinelone_dt_registered = agent.get("registeredAt")
        row.sentinelone_dt_created = agent.get("createdAt")
        row.sentinelone_dt_updated = agent.get("updatedAt")
        note = "{0} success.".format(note)
    else:
      note = "{0} No agent data returned from function.".format(note)
  else:
    note = "{0} No content data returned from function.".format(note)
else:
  note = "{0} Get Agent Details function did not return success.".format(note)

incident.addNote(helper.createRichText(note))
```

Function - SentinelOne: Get Hash Reputation

Get the SentinelOne reputation of a hash.



▶ Inputs:

Name	Type	Required	Example	Tooltip
sentinelone_hash	text	No	–	-

▶ Outputs:

> **NOTE:** This example might be in JSON format, but `results` is a Python Dictionary on the SOAR platform.

```
results = {
  "content": {
    "data": {
      "rank": "0"
    }
  },
  "inputs": {
    "sentinelone_hash": "1641df58c1027a00f670d41491a2eecff931604c"
  },
  "metrics": {
    "execution_time_ms": 202,
    "host": "myHost",
    "package": "fn-sentinelone",
    "package_version": "1.0.0",
    "timestamp": "2021-12-13 11:27:14",
    "version": "1.0"
  },
  "raw": null,
  "reason": null,
  "success": true,
  "version": 2.0
}
```

▶ Example Function Input Script:

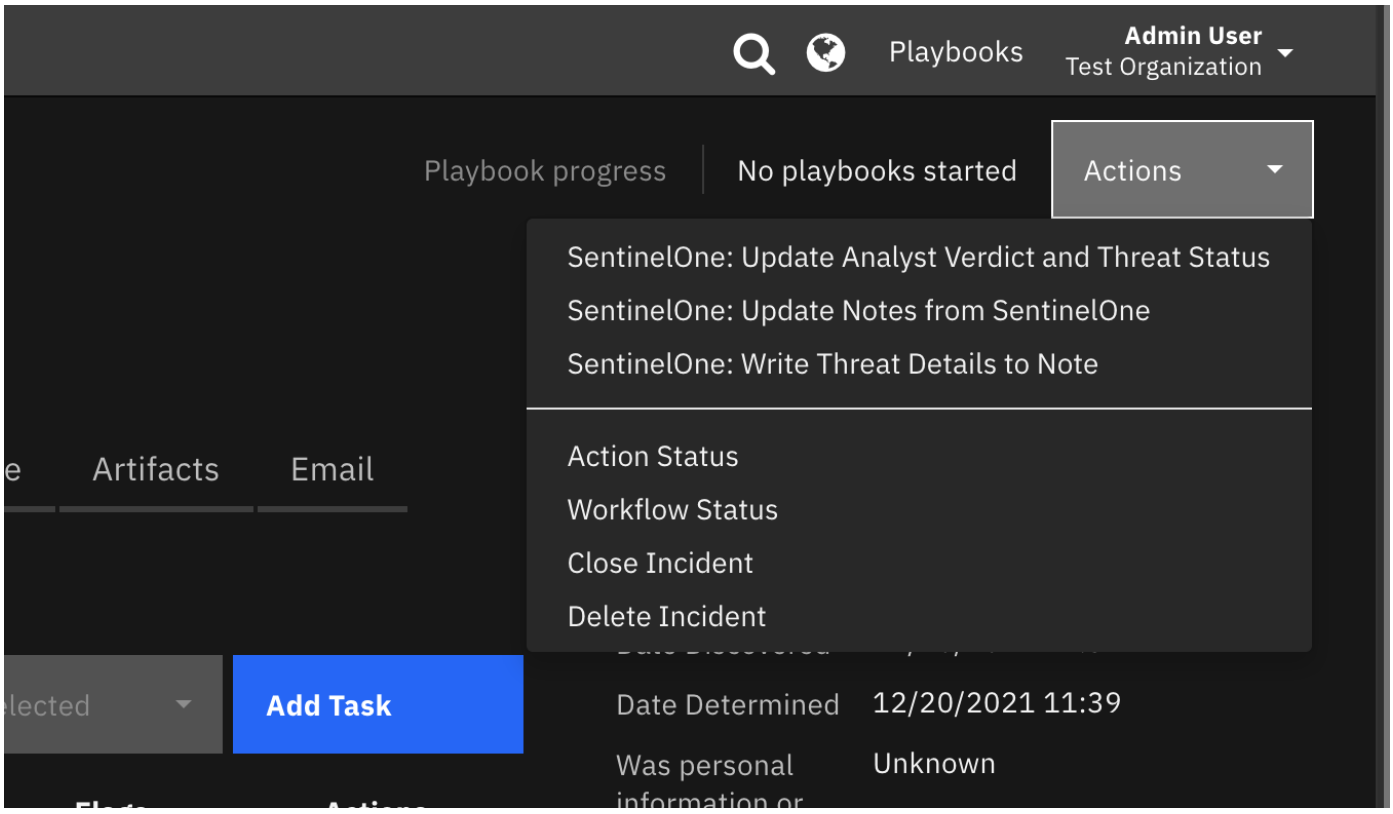
```
inputs.sentinelone_hash = artifact.value
```

▶ Example Function Post Process Script:

```
results = playbook.functions.results.get_reputation_results

note = u"<b>SentinelOne: Get Hash Reputation: </b><br>"
content = results.get("content")
inputs = results.get("inputs")
hash_value = inputs.get("sentinelone_hash")
if content:
  data = content.get("data")
  if data:
    rank = data.get("rank")
    note = u"{0} Hash <b>{1}</b> has rank: <b>{2}</b>".format(note, hash_value, rank)
  else:
    note = u"{0} No data returned from function.".format(note)
else:
  note = u"{0} No content data returned from function.".format(note)

incident.addNote(helper.createRichText(note))
```

Function - SentinelOne: Get Threat Details

Get the details of a threat detected by SentinelOne.



▶ Inputs:

Name	Type	Required	Example	Tooltip
sentinelone_threat_id	text	No	-	-

▶ Outputs:

> **NOTE:** This example might be in JSON format, but `results` is a Python Dictionary on the SOAR platform.

```
results = {
  "content": {
```

```
    "data": [
      {
        "agentDetectionInfo": {
          "accountId": "433241117337583618",
          "accountName": "SentinelOne",
          "agentDetectionState": null,
          "agentDomain": "unknown",
          "agentIpV4": "10.21.10.88,9.46.92.211",
          "agentIpV6": "",
          "agentLastLoggedInUserName": "",
          "agentMitigationMode": "detect",
          "agentOsName": "Linux",
          "agentOsRevision": "CentOS release 7.9.2009 (Core) 3.10.0-1160.49.1.el7.x86_64",
          "agentRegisteredAt": "2021-10-26T13:18:19.132188Z",
          "agentUuid": "8329e587-bbe9-b906-a6a5-646e2686eba9",
          "agentVersion": "21.10.1.6",
          "externalIp": "129.41.87.3",
          "groupId": "607447413805059643",
          "groupName": "Default Group",
          "siteId": "606060606060606060",
          "siteName": "mySite"
        },
        "agentRealtimeInfo": {
          "accountId": "43434343434343434343434343",
          "accountName": "SentinelOne",
          "activeThreats": 1,
          "agentComputerName": "SplunkHF1.fyre.ibm.com",
          "agentDecommissionedAt": null,
          "agentDomain": "unknown",
          "agentId": "1275282318251495460",
          "agentInfected": true,
          "agentIsActive": true,
          "agentIsDecommissioned": false,
          "agentMachineType": "server",
          "agentMitigationMode": "detect",
          "agentNetworkStatus": "connected",
          "agentOsName": "Linux",
          "agentOsRevision": "CentOS release 7.9.2009 (Core) 3.10.0-1160.49.1.el7.x86_64",
          "agentOsType": "linux",
          "agentUuid": "8329e587-bbe9-b906-a6a5-646e2686eba9",
          "agentVersion": "21.10.1.6",
          "groupId": "6060606060606060606",
          "groupName": "Default Group",
          "networkInterfaces": [
            {
              "id": "1275282318268272678",
              "inet": [
                "9.46.92.211"
              ],
              "inet6": [],
              "name": "eth1",
              "physical": "00:00:09:2E:5C:D3"
            },
            {
              "id": "1275282318259884069",
              "inet": [
                "10.21.10.88"
              ],
              "inet6": [],
              "name": "eth0",
              "physical": "00:00:0A:15:0A:58"
            }
          ],
          "operationalState": "na",
          "rebootRequired": false,
          "scanAbortedAt": "2021-12-10T21:57:56.711226Z",
          "scanFinishedAt": "2021-12-10T02:33:00.768224Z",
          "scanStartedAt": "2021-12-13T16:22:40.612822Z",
          "scanStatus": "started",
          "siteId": "606060606060606060",
          "siteName": "IBM",
          "storageName": null,
          "storageType": null,
          "userActionsNeeded": []
        },
        "containerInfo": {
          "id": null,
```

```
      "image": null,
      "labels": null,
      "name": null
    },
    "id": "1308905355630511064",
    "indicators": [
      {
        "category": "Persistence",
        "description": "Unsigned kernel module was loaded.",
        "ids": [
          384
        ],
        "tactics": [
          {
            "name": "Persistence",
            "source": "MITRE",
            "techniques": [
              {
                "link": "https://attack.mitre.org/techniques/T1547/006/",
                "name": "T1547.006"
              }
            ]
          }
        ]
      },
      {
        "category": "Persistence",
        "description": "New kernel module was added.",
        "ids": [
          399
        ],
        "tactics": [
          {
            "name": "Persistence",
            "source": "MITRE",
            "techniques": [
              {
                "link": "https://attack.mitre.org/techniques/T1547/006/",
                "name": "T1547.006"
              }
            ]
          }
        ]
      }
    ],
    "kubernetesInfo": {
      "cluster": null,
      "controllerKind": null,
      "controllerLabels": null,
      "controllerName": null,
      "namespace": null,
      "namespaceLabels": null,
      "node": null,
      "pod": null,
      "podLabels": null
    },
    "mitigationStatus": [],
    "threatInfo": {
      "analystVerdict": "true_positive",
      "analystVerdictDescription": "True positive",
      "automaticallyResolved": false,
      "browserType": null,
      "certificateId": null,
      "classification": "Malware",
      "classificationSource": "Static",
      "cloudFilesHashVerdict": "provider_unknown",
      "collectionId": "1140024784343285701",
      "confidenceLevel": "suspicious",
      "createdAt": "2021-12-11T22:41:17.533077Z",
      "detectionEngines": [
        {
          "key": "executables",
          "title": "Behavioral AI"
        }
      ],
      "detectionType": "dynamic",
      "engines": [
```

```
            "DBT - Executables"
          ],
          "externalTicketExists": false,
          "externalTicketId": null,
          "failedActions": false,
          "fileExtension": null,
          "fileExtensionType": null,
          "filePath": "/opt/CrowdStrike/falcon-sensor12803",
          "fileSize": 1617904,
          "fileVerificationType": null,
          "identifiedAt": "2021-12-11T22:41:17.461397Z",
          "incidentStatus": "in_progress",
          "incidentStatusDescription": "In progress",
          "initiatedBy": "agent_policy",
          "initiatedByDescription": "Agent Policy",
          "initiatingUserId": null,
          "initiatingUsername": null,
          "isFileless": false,
          "isValidCertificate": null,
          "maliciousProcessArguments": " falcon-sensor",
          "md5": null,
          "mitigatedPreemptively": false,
          "mitigationStatus": "not_mitigated",
          "mitigationStatusDescription": "Not mitigated",
          "originatorProcess": "systemd",
          "pendingActions": false,
          "processUser": "root",
          "publisherName": null,
          "reachedEventsLimit": null,
          "rebootRequired": false,
          "sha1": "1641df58c1027a00f670d41491a2eecff931604c",
          "sha256": null,
          "storyline": "2588b11a-e3cd-1677-7746-3f85cd99c850",
          "threatId": "1308905355630511064",
          "threatName": "falcon-sensor12803",
          "updatedAt": "2021-12-13T16:25:55.851553Z"
        },
        "whiteningOptions": [
          "path",
          "hash"
        ]
      }
    ],
    "pagination": {
      "nextCursor": null,
      "totalItems": 1
    }
  },
  "inputs": {
    "sentinelone_threat_id": "1308905355630511064"
  },
  "metrics": {
    "execution_time_ms": 260,
    "host": "myHost",
    "package": "fn-sentinelone",
    "package_version": "1.0.0",
    "timestamp": "2021-12-13 11:26:02",
    "version": "1.0"
  },
  "raw": null,
  "reason": null,
  "success": true,
  "version": 2.0
}
```


▶ Example Function Input Script:

```
inputs.sentinelone_threat_id = incident.properties.sentinelone_threat_id
```

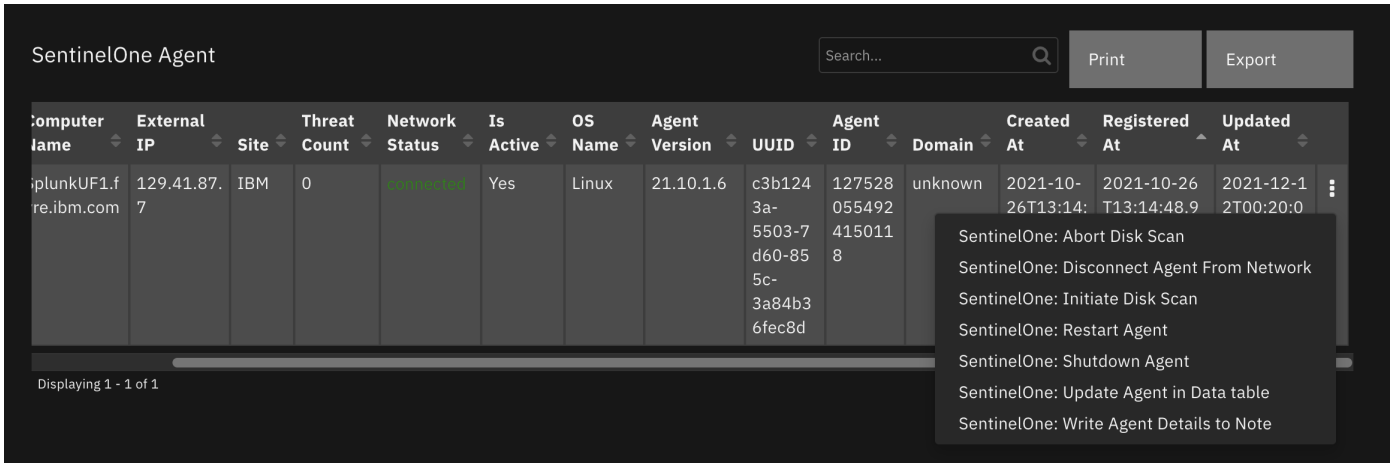
▶ Example Function Post Process Script:

```
results = playbook.functions.results.get_threat_results
```

```
inputs = results.get("inputs")
threat_id = inputs.get("sentinelone_threat_id")
content = results.get("content")
data = content.get("data")

header = u"SentinelOne Threat Id: {0} Details:".format(threat_id)

json_note = {
              "version": "1.1",
              "header": header,
              "json": data,
              "sort": False
            }

workflow.addProperty('convert_json_to_rich_text', json_note)
```

Function - SentinelOne: Initiate Disk Scan

Initiate a Full Disk scan on an agent managed by SentinelOne.



▶ Inputs:

Name	Type	Required	Example	Tooltip
sentinelone_agent_id	text	Yes	-	-

▶ Outputs:

> **NOTE:** This example might be in JSON format, but `results` is a Python Dictionary on the SOAR platform.

```
results = {
  "content": {
    "data": {
      "affected": 1
    }
  },
  "inputs": {
    "sentinelone_agent_id": "1275282318251495460"
  },
  "metrics": {
    "execution_time_ms": 5678,
    "host": "myHost",
    "package": "fn-sentinelone",
    "package_version": "1.0.0",
    "timestamp": "2021-12-13 11:22:20",
    "version": "1.0"
  },
  "raw": null,
  "reason": null,
  "success": true,
  "version": 2.0
}
```

▶ Example Function Input Script:

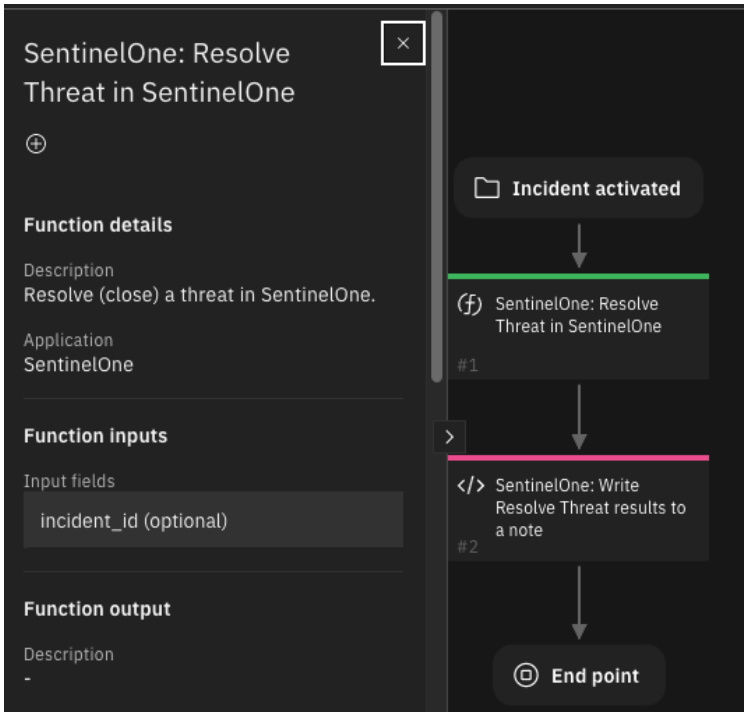
```
inputs.sentinelone_agent_id = row.sentinelone_dt_agent_id
```

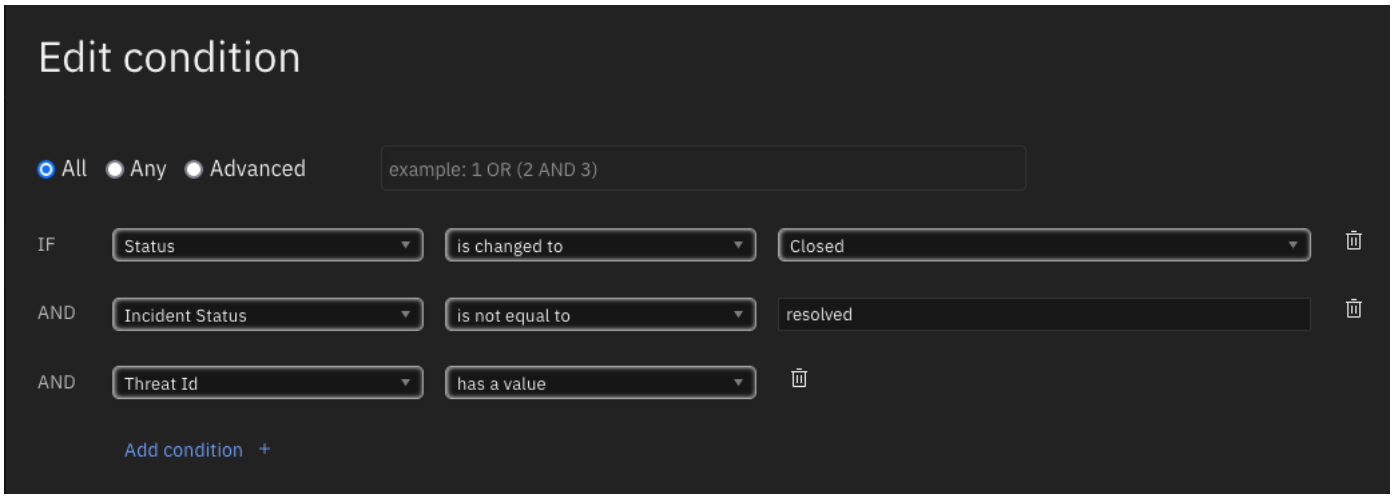
▶ Example Function Post Process Script:

```
results = playbook.functions.results.initiate_scan_results
so_inputs = results.get("inputs")
agent_id = so_inputs.get("sentinelone_agent_id")
note = u"<b>SentinelOne: Initiate Full Disk Scan </b><br>  SentinelOne Agent Id: {0}".format(agent_id)
content = results.get("content")
if content:
  data = content.get("data")
  if data:
    if int(data.get("affected")) <= 0:
      note = u"{0} Full Disk Scan was NOT initiated.".format(note)
    else:
      note = u"{0} Full Disk Scan initiated.".format(note)
  else:
    note = u"{0} Full Disk Scan was NOT initiated. No 'data' returned from function".format(note)
else:
    note = u"{0} Full Disk Scan was NOT initiated. No content returned from function".format(note)

incident.addNote(helper.createRichText(note))
```

Function - SentinelOne: Resolve Threat in SentinelOne

Resolve (close) a threat in SentinelOne.





▶ Inputs:

Name	Type	Required	Example	Tooltip
incident_id	number	No	–	-

▶ Outputs:

> **NOTE:** This example might be in JSON format, but `results` is a Python Dictionary on the SOAR platform.

```
results = {
  "content": {
    "success": true,
    "threat_id": "131313131313131313"
  },
  "inputs": {
    "incident_id": 2338
  },
  "metrics": {
    "execution_time_ms": 1208,
    "host": "myHost",
    "package": "fn-sentinelone",
    "package_version": "1.0.0",
    "timestamp": "2021-12-14 11:21:41",
    "version": "1.0"
  },
  "raw": null,
  "reason": null,
  "success": true,
  "version": 2.0
}
```

▶ Example Function Input Script:

```
inputs.incident_id = incident.id
```

▶ Example Function Post Process Script:

```
results = playbook.functions.results.resolve_threat_results

content = results.get("content")
success = content.get("success", False)
threat_id = content.get("threat_id", None)
if success:
  noteText = u'<b>SentinelOne: Resolve Threat in SentinelOne</b><br> threatId {0} resolved.'.format(threat_id)
else:
  noteText = u'<b>SentinelOne: Resolve Threat in SentinelOne</b><br> threatId {0}: check analystVerdict and
incidentStatus in SentinelOne.'.format(threat_id)

incident.addNote(noteText)
```

Function - SentinelOne: Restart Agent

Restart a endpoint managed by SentinelOne.

▶ Inputs:

Name	Type	Required	Example	Tooltip
sentinelone_agent_id	text	Yes	–	-

▶ Outputs:

> **NOTE:** This example might be in JSON format, but `results` is a Python Dictionary on the SOAR platform.


```
results = {
  "content": {
    "data": {
      "affected": 0
    }
  },
  "inputs": {
    "sentinelone_agent_id": "121212121212121212"
  },
  "metrics": {
    "execution_time_ms": 3624,
    "host": "myHost",
    "package": "fn-sentinelone",
    "package_version": "1.0.0",
    "timestamp": "2021-12-13 11:23:30",
    "version": "1.0"
  },
  "raw": null,
  "reason": null,
  "success": true,
  "version": 2.0
}
```


▶ Example Function Input Script:

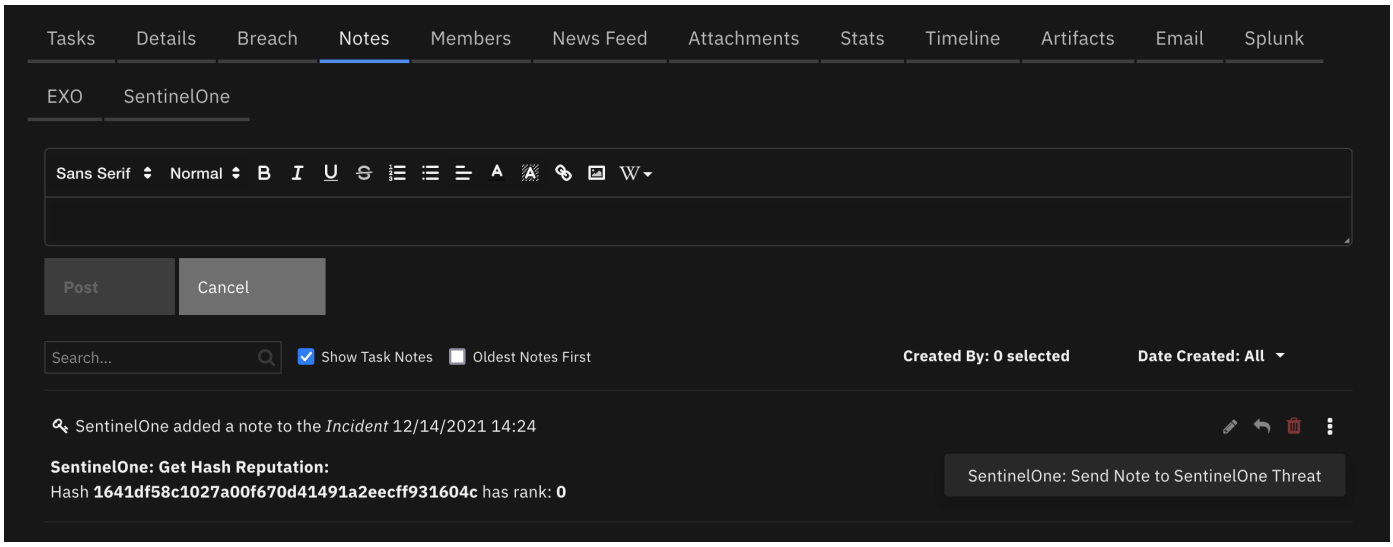
```
inputs.sentinelone_agent_id = incident.properties.sentinelone_agent_id
```

▶ Example Function Post Process Script:

```
None
```

Function - SentinelOne: Send SOAR Note to SentinelOne

Send a note created in SOAR to corresponding SentinelOne threat.



▶ Inputs:

Name	Type	Required	Example	Tooltip
sentinelone_note_text	text	No	–	-
sentinelone_threat_id	text	No	–	-

▶ Outputs:

> **NOTE:** This example might be in JSON format, but `results` is a Python Dictionary on the SOAR platform.


```
results = {
  "content": {
    "reason:": null,
    "success": true
  },
  "inputs": {
    "sentinelone_note_text": "\u003cb\u003eSentinelOne: Get Hash Reputation: \u003c/b\u003e\u003cbr /\u003e Hash
\u003cb\u003e1641df58c1027a00f670d41491a2eecff931604c\u003c/b\u003e has rank: \u003cb\u003e0\u003c/b\u003e",
    "sentinelone_threat_id": "1308905355630511064"
  },
  "metrics": {
    "execution_time_ms": 5590,
    "host": "myHost",
    "package": "fn-sentinelone",
    "package_version": "1.0.0",
    "timestamp": "2021-12-13 11:28:04",
    "version": "1.0"
  },
  "raw": null,
  "reason": null,
  "success": true,
  "version": 2.0
}
```


▶ Example Function Input Script:

```
inputs.sentinelone_threat_id = incident.properties.sentinelone_threat_id
inputs.sentinelone_note_text = note.text.content
```

▶ Example Function Post Process Script:

```
from datetime import datetime

results = playbook.functions.results.send_note_results

# Edit note in SOAR to indicate it was sent to SentinelOne
#if results.get("success"):
  # Get the current time
```

```
#  dt_now = datetime.now()
#  note.text = u"<b>Sent to SentinelOne at {0}</b><br>{1}".format(dt_now, note.text.content)
```

Function - SentinelOne: Shutdown Agent

Shutdown an agent managed by SentinelOne.

▶ Inputs:

Name	Type	Required	Example	Tooltip
sentinelone_agent_id	text	Yes	–	-

▶ Outputs:

> **NOTE:** This example might be in JSON format, but `results` is a Python Dictionary on the SOAR platform.

```
results = {
  "content": {
    "data": {
      "affected": 0
    }
  },
  "inputs": {
    "sentinelone_agent_id": "1275282318251495460"
  },
  "metrics": {
    "execution_time_ms": 3426,
    "host": "myHost",
    "package": "fn-sentinelone",
    "package_version": "1.0.0",
    "timestamp": "2021-12-13 11:23:17",
    "version": "1.0"
  },
  "raw": null,
  "reason": null,
  "success": true,
  "version": 2.0
}
```

▶ Example Function Input Script:

```
inputs.sentinelone_agent_id = row.sentinelone_dt_agent_id
```

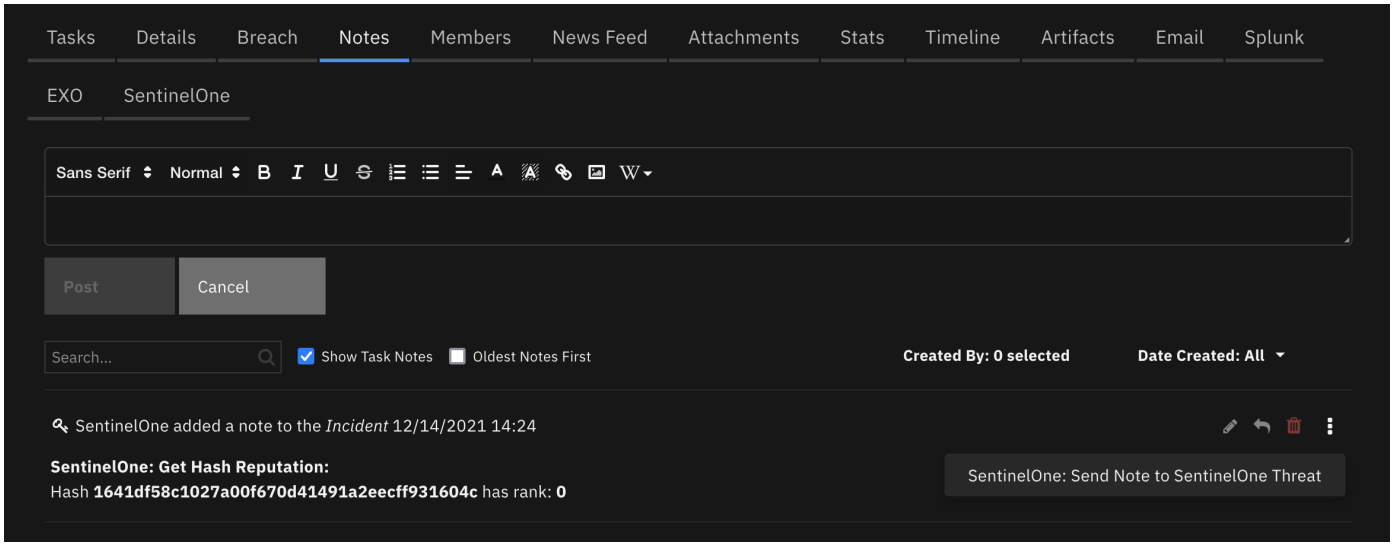
▶ Example Function Post Process Script:

```
results = playbook.functions.results.shutdown_agent_results

if results.get("success"):
  so_inputs = results.get("inputs")
  agent_id = so_inputs.get("sentinelone_agent_id")
  note = "<b>SentinelOne: Shutdown Agent </b><br>  SentinelOne Agent Id: {0}".format(agent_id)
  content = results.get("content")
  if content:
```

```
    data = content.get("data")
    if data:
      if int(data.get("affected")) <= 0:
        note = "{0} Agent was NOT shutdown.".format(note)
      else:
        note = "{0} Agent shutdown initiated.".format(note)
    else:
      note = "{0} Agent shutdown was NOT initiated. No 'data' returned from function".format(note)
  else:
    note = "{0} Agent shutdown was NOT initiated. No content returned from function".format(note)
else:
  note = "{0} Agent shutdown was NOT initiated. Function did no return success".format(note)

incident.addNote(helper.createRichText(note))
```

Function - SentinelOne: Update Notes From SentinelOne

Query SentinelOne threat and add any new threat notes to the SOAR incident.



▶ Inputs:

Name	Type	Required	Example	Tooltip
incident_id	number	No	–	-
sentinelone_threat_id	text	No	–	-

▶ Outputs:

> **NOTE:** This example might be in JSON format, but `results` is a Python Dictionary on the SOAR platform.

```
results = {
  "content": {
    "notes_created": 1,
    "success": true
  },
  "inputs": {
    "incident_id": 2334,
    "sentinelone_threat_id": "1308905355630511064"
  },
  "metrics": {
    "execution_time_ms": 1668,
    "host": "myHost",
    "package": "fn-sentinelone",
    "package_version": "1.0.0",
    "timestamp": "2021-12-13 11:28:59",
    "version": "1.0"
  },
  "raw": null,
  "reason": null,
  "success": true,
  "version": 2.0
}
```

▶ Example Function Input Script:

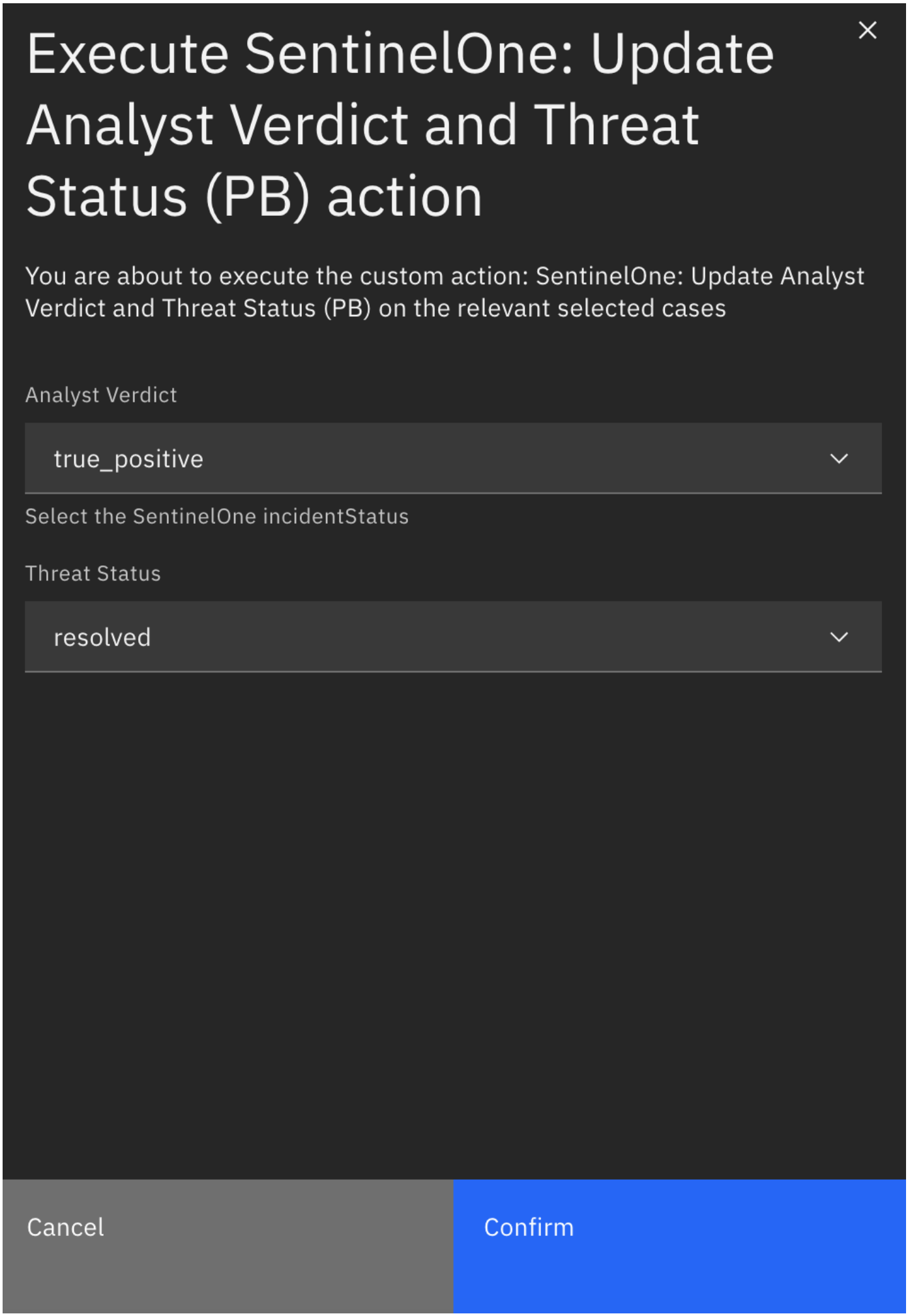
```
inputs.incident_id = incident.id
inputs.sentinelone_threat_id = incident.properties.sentinelone_threat_id
```

▶ Example Function Post Process Script:

```
None
```

Function - Sentinelone: Update Threat Status

Update the incidentStatus and analystVerdict of a threat in SentinelOne.


Execute SentinelOne: Update Analyst Verdict and Threat Status (PB) action
You are about to execute the custom action: SentinelOne: Update Analyst Verdict and Threat Status (PB) on the relevant selected cases
Analyst Verdict
true_positive
Select the SentinelOne incidentStatus
Threat Status
resolved
Cancel
Confirm

▶ Inputs:

Name	Type	Required	Example	Tooltip
sentinelone_threat_analyst_verdict	select	No	–	-
sentinelone_threat_id	text	No	–	-
sentinelone_threat_status	select	No	–	-

▶ Outputs:

> **NOTE:** This example might be in JSON format, but `results` is a Python Dictionary on the SOAR platform.


```
results = {
  "content": {
    "data": {
      "affected": 1
    }
  },
  "inputs": {
    "sentinelone_threat_analyst_verdict": "suspicious",
    "sentinelone_threat_id": "1308905355630511064",
    "sentinelone_threat_status": "in_progress"
  },
  "metrics": {
    "execution_time_ms": 5215,
    "host": "myHost",
    "package": "fn-sentinelone",
    "package_version": "1.0.0",
    "timestamp": "2021-12-13 11:25:54",
    "version": "1.0"
  },
  "raw": null,
  "reason": null,
  "success": true,
  "version": 2.0
}
```


▶ Example Function Input Script:

```
inputs.sentinelone_threat_id = incident.properties.sentinelone_threat_id
inputs.sentinelone_threat_status = playbook.inputs.sentinelone_threat_status
inputs.sentinelone_threat_analyst_verdict = playbook.inputs.sentinelone_threat_analyst_verdict
```

▶ Example Function Post Process Script:

```
results = playbook.functions.results.update_status_results

note = "<b>SentinelOne: Update Threat Status </b>"
if results.get("success"):
  content = results.get("content")
  threat_id = content.get("threat_id")
  success_verdict = content.get("success_verdict")
  success_status = content.get("success_status")
  status = content.get("threat_status")
  verdict = content.get("threat_analyst_verdict")
  note = "{0}><br>  SentinelOne Threat Id: {1}<br>".format(note, threat_id)
  content = results.get("content")
  if success_verdict and success_status:
    note = "{0} analystVerdict set to <b>{1}</b><br> incidentStatus set to <b>{2}</b> in
SentinelOne".format(note, verdict, status)
  elif success_verdict:
    note = "{0} analystVerdict set to <b>{1}</b><br> incidentStatus was NOT set to {2} in
SentinelOne".format(note, verdict, status)
  elif success_status:
    note = "{0} incidentStatus set to <b>{1}</b><br> analystVerdict was NOT set to {2} in
SentinelOne".format(note, status, verdict)
  else:
    note = "{0} analystVerdict: <b>{1}</b> and incidentStatus: <b>{2}</b> were NOT set in
SentinelOne".format(note, verdict, status)
else:
  note = "{0} function did not return success.".format(note)
```

```
incident.addNote(helper.createRichText(note))
```

Script - Convert JSON to rich text v1.3

This script converts a json object into a hierarchical display of rich text and adds the rich text to an incident's rich text (custom) field or an incident note. A workflow property is used to share the json to convert and identify parameters used on how to perform the conversion. Typically, a function will create workflow property and this script will run after that function to perform the conversion.

Features:

- Display the hierarchical nature of json, presenting the json keys (sorted if specified) as bold labels
- Provide links to found URLs
- Create either an incident note or add results to an incident (custom) rich text field.

Object: incident

▶ Script Text:

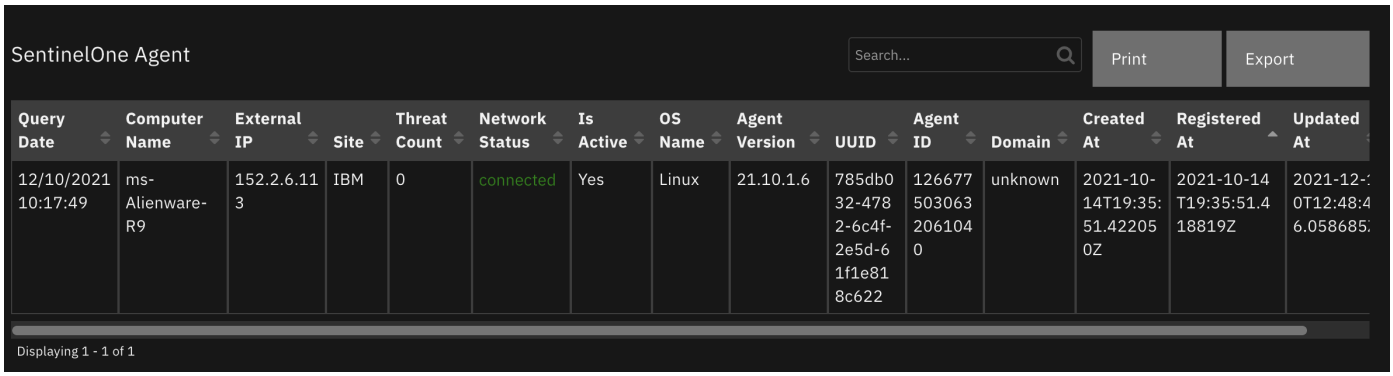
```
# (c) Copyright IBM Corp. 2010, 2023. All Rights Reserved.
VERSION = 1.3
"""
  This script converts a json object into a hierarchical display of rich text and adds the rich text to an
incident's rich text (custom) field or an incident note.
  A workflow property is used to define the json to convert and identify parameters used on how to perform the
conversion.
  Typically, a function will create workflow property and this script will run after that function to perform
the conversion.
  Features:
    * Display the hierarchical nature of json, presenting the json keys as bold labels
    * Provide links to found URLs
    * Create either an incident note or add results to an incident (custom) rich text field.

  In order to use this script, define a workflow property called: convert_json_to_rich_text, to define the json
and parameters to use for the conversion.
  Workflow properties can be added using a command similar to this:
  workflow.addProperty('convert_json_to_rich_text', {
    "version": 1.3,
    "header": "Artifact scan results for: {}".format(artifact.value),
    "padding": 10,
    "separator": u"<br />",
    "sort": True,
    "json": results.content,
    "json_omit_list": ["omit"],
    "incident_field": None
  })

  Format of workflow.property.convert_json_to_rich_text:
  {
    "version": 1.3, [this is for future compatibility]
    "header": str, [header line to add to converted json produced or None. Ex: Results from scanning artifact:
xxx. The header may contain rich text tags]
    "padding": 10, [padding for nested json elements, or defaults to 10]
    "separator": u"<br />"|list such as ['<span>','</span>'], [html separator between json keys and lists or
defaults to html break: '<br />'.
                                                If a list, then the data is brackets by the pair specified]
    "sort": True|False, [sort the json keys at each level when displayed]
    "json": json, [required json to convert]
    "json_omit_list": [list of json keys to exclude or None]
    "incident_field": "<incident_field>" [indicates a builtin rich text incident field, such as 'description'
                                        or a custom rich text field in the format: 'properties.<field>'.
default: create an incident note]
  }

  For playbooks, use playbook.addProperty() with the same format as workflow.addProperty()

  Playbooks can also use playbook.functions.results.convert_json_to_rich_text using the standard function output
which contains the 'content' json element.
  When using playbook.functions.results.convert_json_to_rich_text with standard function results, all the
defaults for padding, separator, etc. are used.
"""

import re
```

```
# needed for python 3
try:
    unicode("abc") # fails in py3
    py2 = True
except:
    unicode = str
    py2 = False


rc = re.compile(r'http[s]?://(?:[a-zA-Z]|[0-9]|[$-_@.&+#\?]|[!*\(\),]|(?:%[0-9a-fA-F][0-9a-fA-F]))+')

class ConvertJson:
    """Class to hold the conversion parameters and perform the conversion"""

    def __init__(self, omit_keys=[], padding=10, separator=u"<br />", sort_keys=False):
        self.omit_keys = omit_keys
        self.padding = padding
        self.separator = separator
        self.sort_keys = sort_keys


    def format_link(self, item):
        """[summary]
          Find embedded urls (http(s)) and add html anchor tags to display as links
          Args:
              item ([string])

          Returns:
              [str]: None|original text if no links|text with html links
        """
        formatted_item = item
        if py2:
            num_type = bool(item and isinstance(item, (int, long, bool, float)))
        else:
            num_type = bool(item and isinstance(item, (int, bool, float)))

        if item and not num_type:
            list = rc.findall(item)
            if list:
                for link in list:
                    formatted_item = formatted_item.replace(link, u"<a target='blank' href='{0}'>{0}
</a>".format(link))

        return formatted_item

    def expand_list(self, list_value, is_list=False):
        """[summary]
          convert items to html, adding indents to nested dictionaries.
          Args:
              list_value ([dict|list]): json element

          Returns:
              [str]: html converted code
        """
        if not isinstance(list_value, list):
            return self.format_link(list_value)
        elif not list_value:
            return u"None<br>"

        try:
            items_list = []  # this will ensure list starts on second line of key label
            for item in list_value:
                if isinstance(item, dict):
                    result = self.convert_json_to_rich_text(item)
                    if is_list:
                        items_list.append(u"<li>{}</li>".format(result))
                    else:
                        items_list.append(result)
                elif isinstance(item, list):
                    items_list.append(self.expand_list(item, is_list=True))
                elif is_list:
                    items_list.append(u"<li>{}</li>".format(self.format_link(unicode(item))))
                else:
                    items_list.append(self.format_link(unicode(item)))

            expand_list_result = self.add_separator(self.separator if not is_list else u"",
                                                    items_list,
```

```
                                                    is_list=is_list)

            if is_list:
                return u"<ul>{}</ul>".format(expand_list_result)
            else:
                return u"<div style='padding:5px'>{}</div>".format(expand_list_result)
        except Exception as err:
            return str(err)

    def convert_json_to_rich_text(self, sub_dict):
        """[summary]
          Walk dictionary tree and convert to html for better display
          Args:
              sub_dict ([type]): [description]

          Returns:
              [type]: [description]
        """
        notes = []
        if sub_dict and isinstance(sub_dict, (list, dict)):
            if isinstance(sub_dict, list):
                expanded_list = self.expand_list(sub_dict, is_list=True)
                notes.append(self.add_separator(self.separator, expanded_list))
            else:
                keys = sorted (sub_dict.keys()) if self.sort_keys else sub_dict.keys()

                for key in keys:
                    if key not in self.omit_keys:
                        value = sub_dict[key]
                        is_list = isinstance(value, list)
                        item_list = [u"<strong>{0}</strong>: ".format(key)]
                        if isinstance(value, dict):
                            convert_result = self.convert_json_to_rich_text(value)
                            if convert_result:
                                item_list.append(u"<div style='padding:{}px'>{}</div>".format(self.padding,
convert_result))
                            else:
                                item_list.append(u"None<br>")
                        else:
                            item_list.append(self.expand_list(value, is_list=is_list))

                        notes.append(self.add_separator(self.separator, u"".join(make_unicode(v) for v in
item_list), is_list=is_list))

        result_notes = u"".join(notes)
        if isinstance(self.separator, list):
            return result_notes
        else:
            return result_notes.replace(
                u"</div>{0}".format(self.separator), u"</div>").replace(
                u"{0}</div>".format(self.separator), u"</div>"
            )  # tighten up result

    def add_separator(self, separator, items, is_list=False):
        """
        apply the separator to the data
        :param separator: None, str or list such as ['<span>', '</span>']
        :param items: str or list to add separator
        :return: text with separator applied
        """
        _items = items

        if not _items:
            return "<br>"

        if not isinstance(_items, list):
            _items = [_items]

        if isinstance(separator, list):
            return u"".join([u"{}{}{}".format(separator[0], item, separator[1]) for item in _items])

        return u"{}{}".format(separator.join(_items), separator if not is_list else u"")

def make_unicode(value):
    if value is None:
        return 'None'
```

```
    return unicode(value)

def get_results(property_name):
    if playbook and playbook.functions.results[property_name] is not None:
        return playbook.functions.results[property_name]
    elif playbook and playbook.properties[property_name] is not None:
        return playbook.properties[property_name]
    elif workflow and workflow.properties[property_name] is not None:
        return workflow.properties[property_name]

    return None

def get_properties(property_name):
    """
    Logic to collect the json and parameters from a workflow property.
    Args:
      property_name: workflow property to reference
    Returns:
      padding, separator, header, json_omit_list, incident_field, json, sort_keys
    """
    result_properties = get_results(property_name)
    if not result_properties:
        helper.fail("Playbook/workflow property not found: {}".format(property_name))

    padding = int(result_properties.get("padding", 10))
    separator = result_properties.get("separator", u"<br />")
    if isinstance(separator, list) and len(separator) != 2:
        helper.fail("list of separators should be specified as a pair such as ['<div>', '</div>']:
{}".format(separator))

    header = result_properties.get("header")
    sort_keys = bool(result_properties.get("sort", False))
    json_omit_list = result_properties.get("json_omit_list")
    if not json_omit_list:
        json_omit_list = []
    incident_field = result_properties.get("incident_field")

    # workflow formatted content is 'json'. Standard functions is 'content'
    json = result_properties.get("json") if result_properties.get("json") else result_properties.get("content")
    json_err = None
    # is there an issue we need handle now?
    if not json and \
        result_properties.get("success") == False and result_properties.get("reason"):
        json_err = result_properties.get("reason")

    return padding, separator, header, json_omit_list, incident_field, json, json_err, sort_keys


## S T A R T
padding, separator, header, json_omit_list, incident_field, json, json_err, sort_keys =
get_properties('convert_json_to_rich_text')
if json_err:
    result = "Result error: {}".format(json_err)
else:
    if header:
        if isinstance(separator, list):
            hdr = u"{0}{1}{2}".format(separator[0], header, separator[1])
        else:
            hdr = u"{0}{1}".format(header, separator)
    else:
        hdr = u""

    convert = ConvertJson(omit_keys=json_omit_list, padding=padding, separator=separator, sort_keys=sort_keys)
    converted_json = convert.convert_json_to_rich_text(json)
    result = u"{}{}".format(hdr, converted_json if converted_json else "\nNone")

rich_text_note = helper.createRichText(result)
if incident_field:
    incident[incident_field] = rich_text_note
else:
    incident.addNote(rich_text_note)
```

Data Table - SentinelOne Agent



API Name:

sentinelone_agents_dt

Columns:

Column Name	API Access Name	Type	Tooltip
Agent ID	sentinelone_dt_agent_id	text	-
Agent Version	sentinelone_dt_agent_version	text	-
Computer Name	sentinelone_dt_computername	text	-
Created At	sentinelone_dt_created	text	-
Domain	sentinelone_dt_domain	text	-
External IP	sentinelone_dt_external_ip	text	-
Is Active	sentinelone_dt_is_active	boolean	-
Network Status	sentinelone_dt_network_status	textarea	-
OS Name	sentinelone_dt_os_name	text	-
Query Date	sentinelone_dt_query_date	datetimepicker	-
Registered At	sentinelone_dt_registered	text	-
Site	sentinelone_dt_site	text	-
Threat Count	sentinelone_dt_threat_count	number	-
Updated At	sentinelone_dt_updated	text	-
UUID	sentinelone_dt_uuid	text	-

Custom Fields

Label	API Access Name	Type	Prefix	Placeholder	Tooltip
Agent Id	sentinelone_agent_id	text	properties	-	-
Classification	sentinelone_classification	text	properties	-	-
Confidence Level	sentinelone_confidence_level	text	properties	-	-
Incident Status	sentinelone_incident_status	text	properties	-	-
Mitigation Status	sentinelone_mitigation_status	text	properties	-	-
Mitigation Status Description	sentinelone_mitigation_status_description	text	properties	-	-
Analyst Verdict	sentinelone_threat_analyst_verdict	select	properties	-	SentinelOne threat analyst verdict
Threat Id	sentinelone_threat_id	text	properties	-	-
Threat Name	sentinelone_threat_name	text	properties	-	-
Threat Overview URL	sentinelone_threat_overview_url	textarea	properties	-	-

Playbooks

Playbook Name	Description	Activation Type	Object	Status	Condition
SentinelOne: Abort Disk Scan (PB)	Abort a Full Disk Scan on an agent managed by SentinelOne.	Manual	sentinelone_agents_dt	enabled	sentinelone_agents_dt.sentinelone_dt_is_active equals True AND sentinelone_agents_dt.sentinelone_dt_network_status equals connected
SentinelOne: Add Agent to Data Table (PB)	Add information from an agent managed by SentinelOne to the SentinelOne Agent data table.	Automatic	incident	enabled	incident.properties.sentinelone_agent_id has_a_value AND incident.properties.sentinelone_threat_id has_a_value AND object_added
SentinelOne: Connect Agent to Network (PB)	Disconnect a SentinelOne managed endpoint from the network.	Manual	sentinelone_agents_dt	enabled	(sentinelone_agents_dt.sentinelone_dt_network_status equals disconnected OR sentinelone_agents_dt.sentinelone_dt_network_status equals disconnecting) AND sentinelone_agents_dt.sentinelone_dt_is_active equals True
SentinelOne: Disconnect Agent From Network (PB)	Disconnect a SentinelOne managed endpoint from the network.	Manual	sentinelone_agents_dt	enabled	(sentinelone_agents_dt.sentinelone_dt_network_status equals connected OR sentinelone_agents_dt.sentinelone_dt_network_status equals connecting) AND sentinelone_agents_dt.sentinelone_dt_is_active equals True
SentinelOne: Get Hash Reputation (PB)	Get the SentinelOne hash reputation and write it to an incident note.	Manual	artifact	enabled	artifact.type equals Malware SHA-1 Hash
SentinelOne: Initiate Disk Scan (PB)	Initiate a full disk scan on an agent managed by SentinelOne.	Manual	sentinelone_agents_dt	enabled	sentinelone_agents_dt.sentinelone_dt_is_active equals True AND sentinelone_agents_dt.sentinelone_dt_network_status equals connected
SentinelOne: Resolve Threat in SentinelOne (PB)	Resolve a SentinelOne threat in SentinelOne.	Automatic	incident	enabled	incident.plan_status changed_to Closed AND incident.properties.sentinelone_incident_status not_equals resolved AND incident.properties.sentinelone_threat_id has_a_value
SentinelOne: Restart Agent (PB)	Restart an agent managed by SentinelOne.	Manual	sentinelone_agents_dt	enabled	sentinelone_agents_dt.sentinelone_dt_is_active equals True AND sentinelone_agents_dt.sentinelone_dt_network_status equals connected
SentinelOne: Send Note to SentinelOne Threat (PB)	Send a note created in SOAR to the corresponding SentinelOne threat as a threat note.	Manual	note	enabled	incident.properties.sentinelone_threat_id has_a_value AND note.text not_contains Sent to SentinelOne at

Playbook Name	Description	Activation Type	Object	Status	Condition
SentinelOne: Send SOAR Note to SentinelOne (PB)	Send a note created in SOAR to the corresponding SentinelOne threat as a threat note.	Automatic	note	disabled	incident.properties.sentinelone_threat_id has_a_value AND note.text not_contains From SentinelOne AND object_added
SentinelOne: Shutdown Agent (PB)	Shutdown an agent managed by SentinelOne.	Manual	sentinelone_agents_dt	enabled	sentinelone_agents_dt.sentinelone_dt_is_active equals True AND sentinelone_agents_dt.sentinelone_dt_network_status equals connected
SentinelOne: Update Agent in Data Table (PB)	Update the agent details in the SentinelOne Agent data table.	Manual	sentinelone_agents_dt	enabled	–
SentinelOne: Update Analyst Verdict and Threat Status (PB)	Update the Incident Status and Analyst Verdict of a threat in SentinelOne. Write the results to a notes.	Manual	incident	enabled	incident.properties.sentinelone_threat_id has_a_value
SentinelOne: Update Case in SOAR	Automatic playbook to update the SentinelOne case in SOAR.	Automatic	incident	enabled	incident.properties.sentinelone_threat_id has_a_value AND object_added
SentinelOne: Update Notes from SentinelOne (PB)	Query SentinelOne and add any new threat notes to the SOAR incident.	Manual	incident	enabled	incident.properties.sentinelone_threat_id has_a_value
SentinelOne: Write Agent Details to Note (PB)	Get the SentinelOne agent details in JSON format and call the Convert JSON to rich text script to write the information to an incident note in formatted rich text.	Manual	sentinelone_agents_dt	enabled	–

Playbook Name	Description	Activation Type	Object	Status	Condition
SentinelOne: Write Threat Details to Note (PB)	Get the SentinelOne agent details in JSON format and call the Convert JSON to rich text script to write the information to an incident note in formatted rich text.	Manual	incident	`enabled`	`incident.properties.sentinelone_threat_id has_a_value`

Troubleshooting & Support

Refer to the documentation listed in the Requirements section for troubleshooting information.

For Support

This is an IBM supported app. Please search ibm.com/mysupport for assistance.