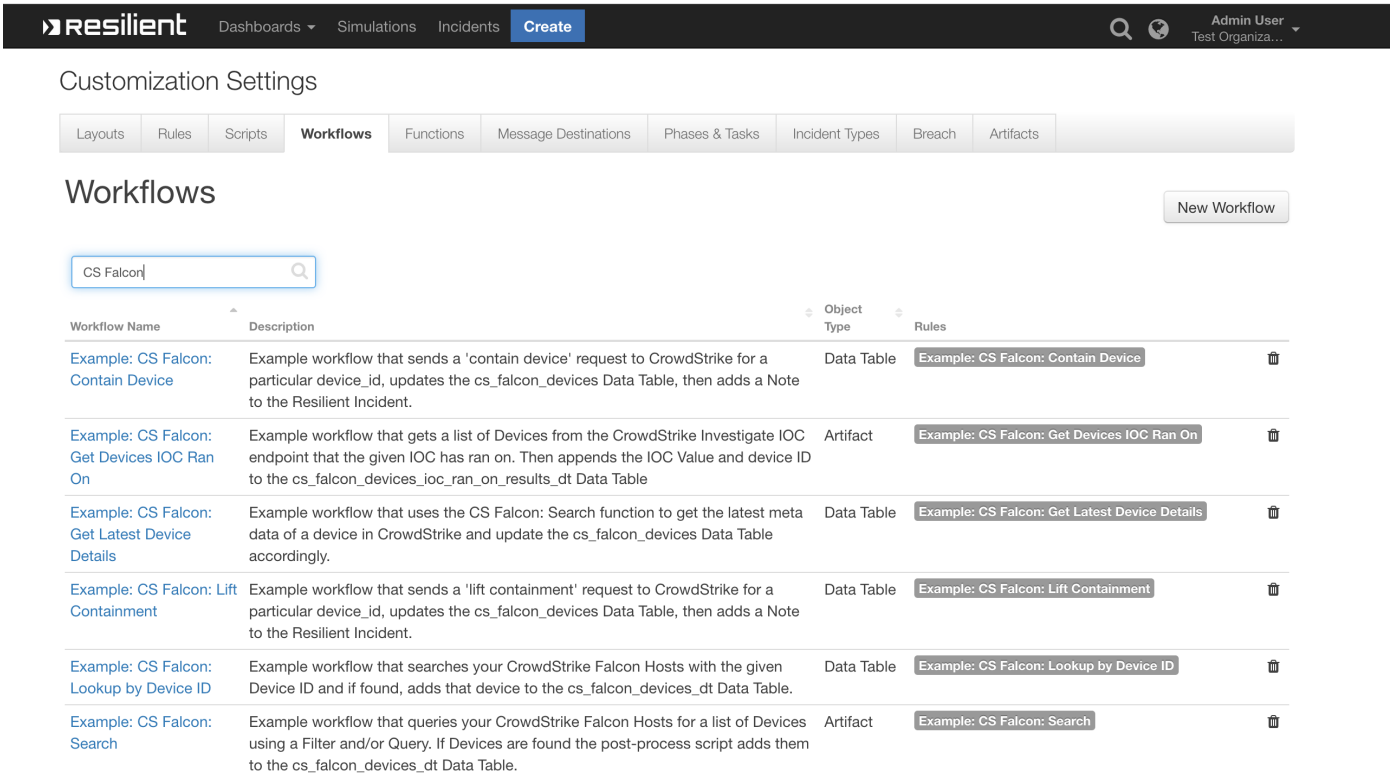
CrowdStrike Falcon Functions for IBM Resilient

Table of Contents

This package contains 3 Functions, 6 Workflows, 6 Rules and 2 Data Tables that help you integrate with CrowdStrike Falcon APIs



- CS Falcon: Search gives you the ability to search your CrowdStrike Falcon platform for a list of Devices
- CS Falcon: Device Actions allows you to 'contain' or 'lift_containment' on a CrowdStrike device
- CS Falcon: Get Devices IOC Ran On returns a list of CrowdStrike devices that the given IOC Ran On

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app.config settings:

- Two different sets of API Keys are need for this Integration with CrowdStrike:
  - New Keys: CrowdStrike's **API Client Authentication API Keys** - based on OAuth2
    - `cs_falcon_oauth2_cid`
    - `cs_falcon_oauth2_key`
  - Old Keys: CrowdStrike's **API Key Authentication** - their legacy authentication standard
    - `cs_falcon_bauth_api_uuid`
    - `cs_falcon_oauth2_key`
- Some features rely on the legacy standard while other features have been migrated to work with the new OAuth2 standard
- This Integration **requires both sets of keys**
- You can generate and obtain the *New Keys* from the CrowdStrike Console. Information on how to do this can be found in the CrowdStrike documentation under the heading **Authenticate via API client**

- As for the *Old Keys*, you need to contact CrowdStrike Support directly to obtain them:

  ### API key

  API key authentication is our legacy standard for API authentication. As we migrate our API endpoints to API client authentication, we'll deprecate support for those endpoints to use API key authentication.

  Currently, all API endpoints support API key authentication, except those for managing OAuth2 access tokens (`/oauth2/token` and `/oauth2/revoke`).

  > Watch our release notes to be notified when we plan to deprecate API key support for API endpoints.

  You must have the Falcon Host Administrator role to view and modify API clients or keys.

  AUTHENTICATE VIA API KEY

  For API endpoints that support API key authentication, this is the process to use API key authentication:

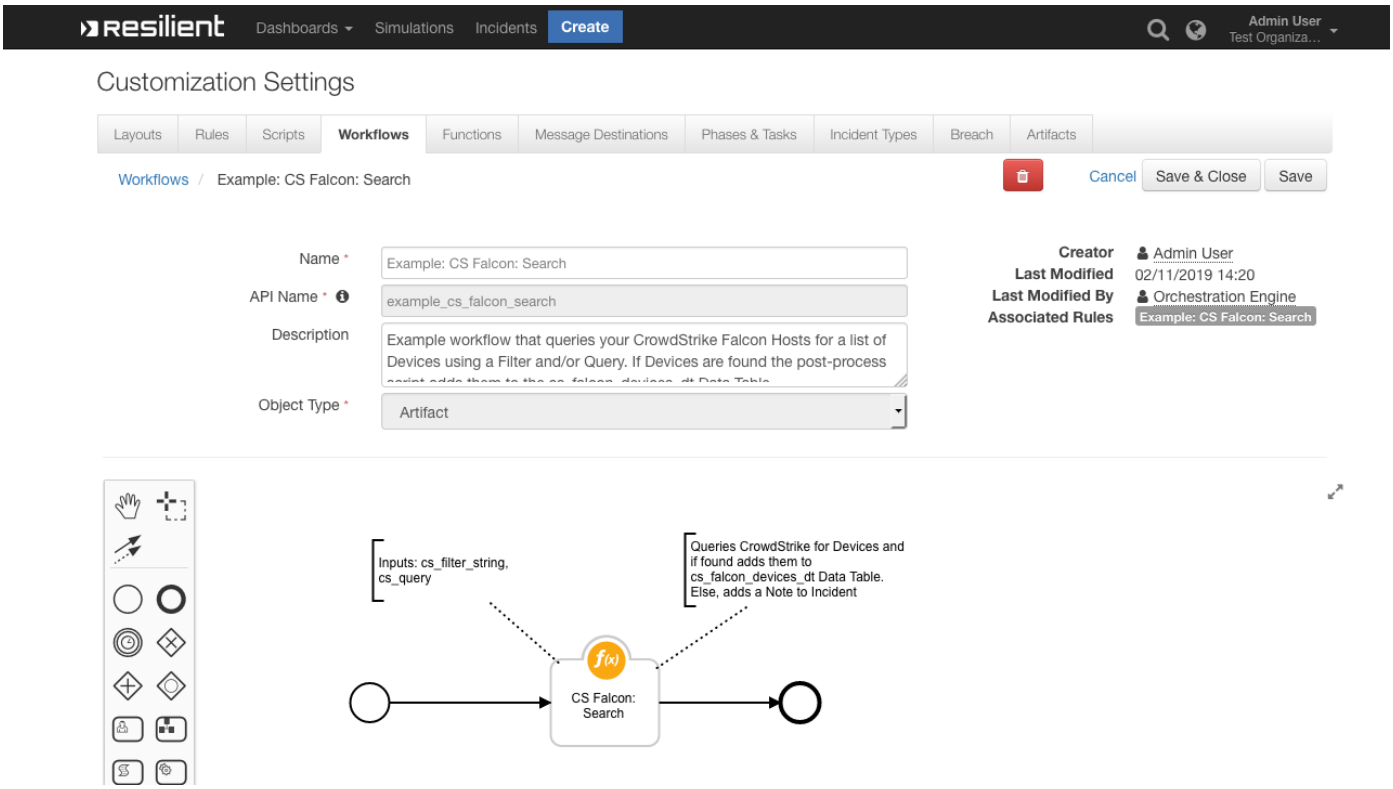
  1. Get an API UUID and API key from our support team
  2. Use the API UUID and API key as basic auth headers in API requests

- Also, the `base_url` may be different depending on your environment. Below are the common `base_urls` used for each set of credentials

```
[fn_crowdstrike_falcon]

# API Client Authentication, CrowdStrike's newer standard based on OAuth2
cs_falcon_oauth2_base_url=https://api.crowdstrike.com
cs_falcon_oauth2_cid=<YOUR CROWDSTRIKE CLIENT ID>
cs_falcon_oauth2_key=<YOUR CROWDSTRIKE OAUTH2 KEY>

# API Key Authentication, CrowdStrike's legacy authentication standard
cs_falcon_bauth_base_url=https://falconapi.crowdstrike.com
cs_falcon_bauth_api_uuid=<YOUR CROWDSTRIKE UUID>
cs_falcon_bauth_api_key=<YOUR CROWDSTRIKE API KEY>

# Number of seconds to wait before next device-action request to CrowdStrike. Default=5
cs_falcon_ping_delay=5

# Max number of seconds to wait to get device-action response from CrowdStrike. Default=120
cs_falcon_ping_timeout=10
```

Function - CS Falcon: Search

Queries your CrowdStrike Falcon Hosts for a list of Devices using a Filter and/or Query. If Devices are found they are returned as a Python List



Inputs:

Name	Type	Required	Example	Info
`cs_filter_string`	`String`	No	`"hostname:'{0}*'+platform_name:'{1}'" .format(artifact.value, "Linux")`	See: https://falcon.crowdstrike.com/support/documentation/2/query-api-reference#devicesearch for filter syntax
`cs_query`	`String`	No	`"JohnsMacBook"`	This query searches the meta data of devices after applying the above filter. Here it would search all fields for "JohnsMacBook"

Output:

```
results = {
    "success": True,
    "reason": None,
    "version": "1.0",
    "metrics": {
        "package": "fn-crowdstrike-falcon",
        "timestamp": "2019-02-11 13:23:43",
        "package_version": "1.0.0",
        "host": "localhost",
        "version": "1.0",
        "execution_time_ms": 1619
    },
    "inputs": {
        "cs_query": None,
        "cs_filter_string": "hostname:'localhost*'"
    },
    "content": [{
        "modified_timestamp": 1549891335000,
        "config_id_platform": "8",
        "system_manufacturer": "innotek GmbH",
        "meta": {
            "version": "295"
        },
        "first_seen": 1549548472000,
        "platform_id": "3",
        "local_ip": "192.168.63.3",
        "hostname": "localhost.localdomain",
        "config_id_build": "6703",
        "minor_version": "10",
        "os_version": "CentOS 7",
        "provision_status": "Provisioned",
        "mac_address": "0-0-0-0-0",
        "bios_version": "VirtualBox",
```

```
        "agent_load_flags": "0",
        "status": "normal",
        "bios_manufacturer": "innotek GmbH",
        "product_type_desc": "Server",
        "device_policies": {
            "sensor_update": {
                "applied": True,
                "applied_date": "2019-02-07T14:09:24.94667175Z",
                "settings_hash": "65994753|8|2|automatic",
                "policy_type": "sensor-update",
                "assigned_date": "2019-02-07T14:09:24.946671267Z",
                "policy_id": "4eac5ba86b27414098820732fe7876f6"
            },
            "prevention": {
                "applied": True,
                "applied_date": "2019-02-08T14:47:54.526691595Z",
                "settings_hash": "d4cbb29",
                "policy_type": "prevention",
                "assigned_date": "2019-02-08T14:47:47.25675937Z",
                "policy_id": "25291d90954c476d86c6fb2db38d7d72"
            }
        },
        "agent_local_time": 1549859544549,
        "slow_changing_modified_timestamp": "2019-02-11T13:22:15Z",
        "device_id": "606e693c6ac040107c07dcc7c7ed6785",
        "system_product_name": "VirtualBox",
        "cid": "b1e43228990c4bfe8e979969d955b800",
        "external_ip": "0.0.0.0",
        "major_version": "3",
        "platform_name": "Linux",
        "config_id_base": "65994753",
        "policies": [{
            "applied": True,
            "applied_date": "2019-02-08T14:47:54.526691595Z",
            "settings_hash": "d4cbb29",
            "policy_type": "prevention",
            "assigned_date": "2019-02-08T14:47:47.25675937Z",
            "policy_id": "25291d90954c476d86c6fb2db38d7d72"
        }],
        "agent_version": "4.21.6703.0",
        "last_seen": 1549891334000
    }]
}
```


Pre-Process Script:

This example uses the Artifact Value to create the `cs_filter_string`

```
# Example: "hostname:'sampleName*'+platform_name:'Windows'" ==> Searches CrowdStrike for devices who's hostname
contains 'sampleName' and platform is 'Windows'
inputs.cs_filter_string = u"hostname:'{0}*'".format(artifact.value)

# This query searches the meta data of devices after applying the above filter
inputs.cs_query = "JohnsMacBook"
```

Post-Process Script:

This post-process loops each found device and adds its details to the `cs_falcon_devices_dt` Data Table

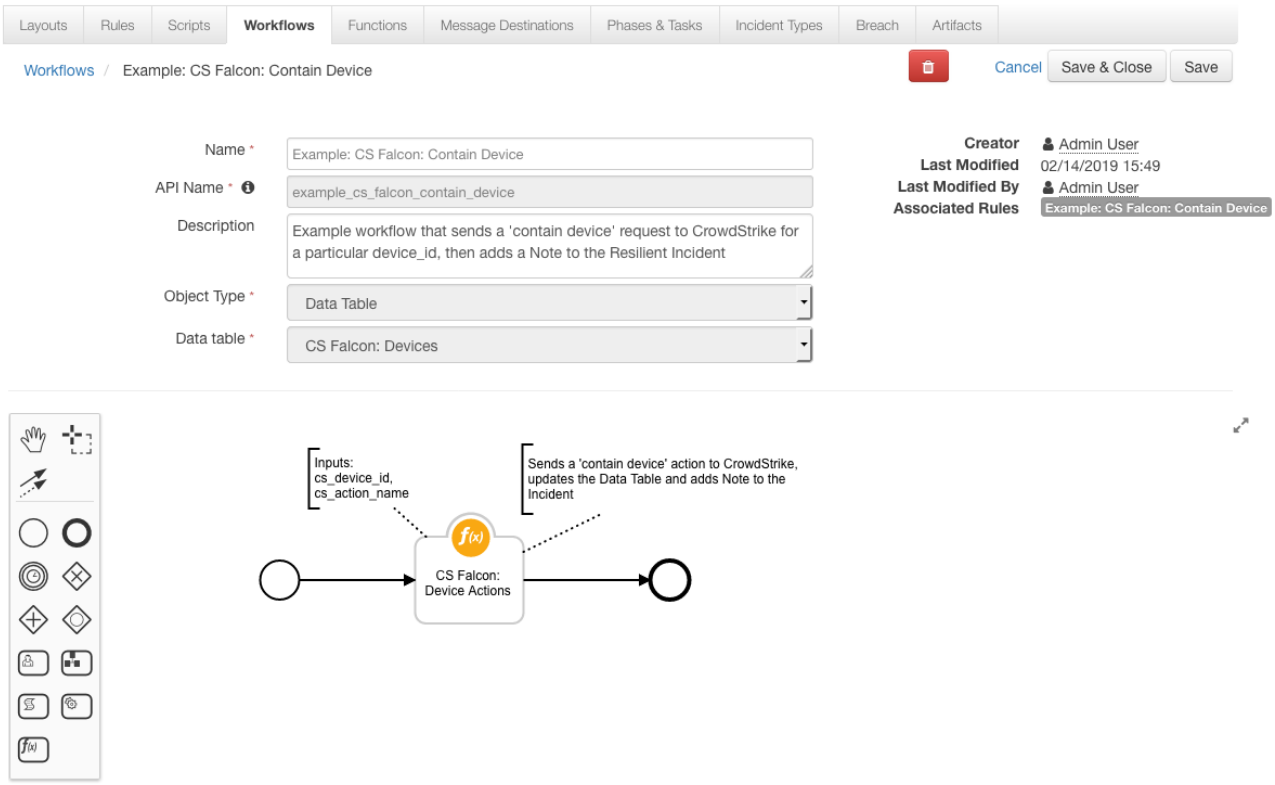
```
# Import Date
from java.util import Date

# If the function found some devices
if results.success:

  # Get the current time
  dt_now = Date()

  # For each device, add a row to the cs_falcon_devices_dt
  for device in results.content:
    new_row = incident.addRow("cs_falcon_devices_dt")
    new_row.timestamp = dt_now
    new_row.device_id = device.device_id
    new_row.hostname = device.hostname
    new_row.ip = device.local_ip
```

```
    new_row.mac = device.mac_address
    new_row.last_seen = device.last_seen
    new_row.status = device.status

else:
  # Else, no devices found, add Note to Incident with reason
  incident.addNote(results.reason)
```

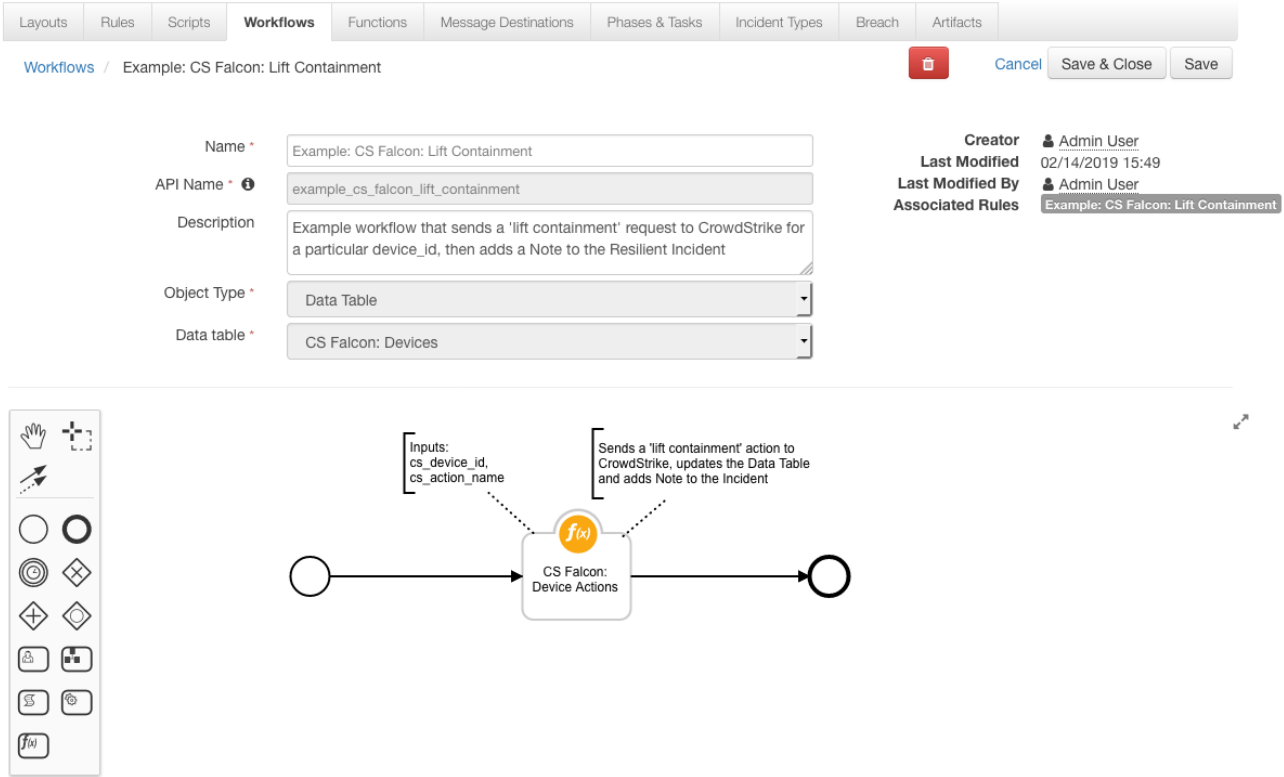
Function - CS Falcon: Device Actions

- Function that uses the CrowdStrike Falcon '/devices/entities/devices-actions/' endpoint to Contain or Lit Containment on a Device
- Sends the `contain` or `life_containment` request to CrowdStrike.
- Then pings every x seconds to get the `device_status`
- Ends when the `device_status` is `normal` or `contained` or when the request times out

Contain Device:



Lift Containment:



Inputs:

Name	Type	Required	Example	Info
`cs_device_id`	`String`	Yes	`"b1e43228990c4bfe8e979969d955b800"`	This is a unique ID CrowdStrike Falcon assigns all its devices
`cs_action_name`	`Select`	Yes	Select Options: `contain` or `lift_containment`	The name of the action to run on the device. Currently the CrowdStrike Falcon APIs support 'contain' and 'lift_containment'. See https://assets.falcon.crowdstrike.com/support/api/swagger.html for more

Output:

```
results = {
    "success": True,
    "reason": None,
    "version": "1.0",
    "inputs": {
        "cs_device_id": "606e693c6ac040107c07dcc7c7ed6785",
        "cs_action_name": "contain"
    },
    "metrics": {
        "package": "fn-crowdstrike-falcon",
        "timestamp": "2019-02-11 13:42:16",
        "package_version": "1.0.0",
        "host": "localhost",
        "version": "1.0",
        "execution_time_ms": 3920
    },
    "content": {
        "meta": {
            "query_time": 0.725871979,
            "trace_id": "349764c9-721f-4a90-bc48-74d793c0e151",
            "powered_by": "device-api"
        },
        "device_id": "606e693c6ac040107c07dcc7c7ed6785",
        "device_status": "contained"
    }
}
```

Pre-Process Script:

This example is using a Workflow with a Data Table Object Type. Therefore it can get the device_id from the row this Rule was invoked on

```
# Set the unique CrowdStrike device_id. Taken here from the CS Falcon: Devices Data Table
inputs.cs_device_id = row.device_id

# inputs.cs_action_name is a select field and is set to "contain" in the Workflow's Input tab
```

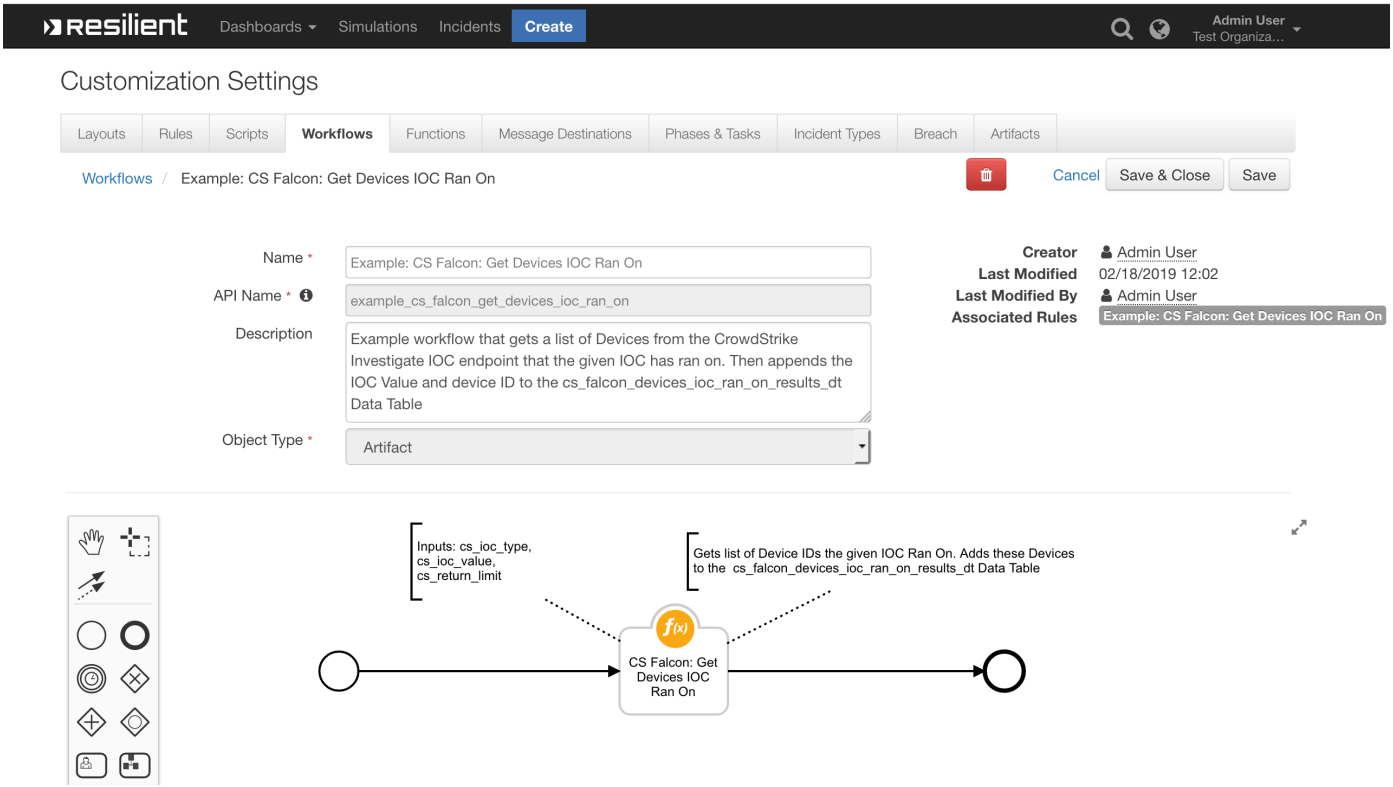
Post-Process Script:

This post-process creates a formatted timestamp, updates the Data Table and adds a Note to the Incident

```
# Import Date
from java.util import Date

def get_formatted_timestamp():
  """Function that returns the current Resilient Appliance time in the format: mm/dd/yyyy hh:mm:ss"""
  dt = Date()
  return u"{0}/{1}/{2} {3}:{4}:{5}".format(
    dt.getMonth() + 1, dt.getDate(), dt.getYear() + 1900, dt.getHours(), dt.getMinutes(), dt.getSeconds())


# If the function successfully sent a "contain device" request to CrowdStrike, updated the Data Table and add a Note
to the Incident
if results.success:

  # Get the current time in the format 'mm/dd/yyyy hh:mm:ss'
  formatted_date = get_formatted_timestamp()

  # Generate the value we want to update the cell to
  latest_action_text = u"Action: {0}. Time:
{1}".format(unicode(workflow.properties.cs_action.inputs.cs_action_name), formatted_date)

  # Update the latest_action Data Table cell
  row.latest_action = latest_action_text

  # Update the device_status Data Table cell
  row.status = results.content.device_status

  note_text = """<br><b>device-action request sent to CrowdStrike</b>
                <br><b>Action:</b> {0}
                <br><b>Device ID:</b> {1}
                <br><b>Device Status:</b> {2}""".format(results.inputs.cs_action_name, results.content.device_id,
results.content.device_status)

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

Function - CS Falcon: Get Devices IOC Ran On

Queries your CrowdStrike Falcon Hosts with a String Representation of an IOC and returns a list of Device IDs that the IOC Ran On



Inputs:

Name	Type	Required	Example	Info
`cs_ioc_type`	`String`	Yes	`"DNS Name"`, `"Malware SHA-256 Hash"`, `"Malware SHA-1 Hash"`, or `"Malware MD5 Hash"`	Normally set using the `artifact.type` property
`cs_ioc_value`	`String`	Yes	`"a-malicious-domain.com"`, `"728ee069b76107e9e2930dbffd50dfc52f440823e5f252935eb8607a47b11efc"`	Normally set using the `artifact.value` property
`cs_return_limit`	`Number`	No	`10`	Sets the max number of devices to return from the request

Output:

```
results = {
    'version': '1.0',
    'success': True,
    'reason': None,

    'inputs': {
        'cs_ioc_type': 'DNS Name',
        'cs_ioc_value': 'google.com',
        'cs_return_limit': None
    },

    'metrics': {
        'package': 'fn-crowdstrike-falcon',
        'timestamp': '2019-02-18 13:32:52',
        'package_version': '1.0.0',
        'host': 'localhost',
        'version': '1.0',
        'execution_time_ms': 930
    },

    'content': {
        'meta': {
            'query_time': 0.046912103,
            'entity': '/devices/entities/devices/v1{?ids*}',
            'pagination': {
                'limit': 100,
```

```
                'offset': ''
            },
            'trace_id': '676d1be7-4d96-4ba0-ae6c-dd8aaae30c54'
        },
        'device_ids': [
            '889e958fb8354a0e4f9f5abcb3016bfa',
            '9fc8f81b962541b26d1e0feaf2c1523e'
        ]
    }
}
```

Pre-Process Script:

- This example uses the Artifact Value and Type properties when defining the inputs

```
# Set the ioc type
inputs.cs_ioc_type = artifact.type

# Set the ioc value
inputs.cs_ioc_value = artifact.value

# Set the max number of devices to return
# inputs.cs_return_limit = 10
```

Post-Process Script:

- This post-process loops each device_id found and adds its details to the `cs_falcon_devices_ioc_ran_on_results_dt` Data Table
- If no devices were found for the IOC or an error occurred, a Note is added to the Incident with the reason why

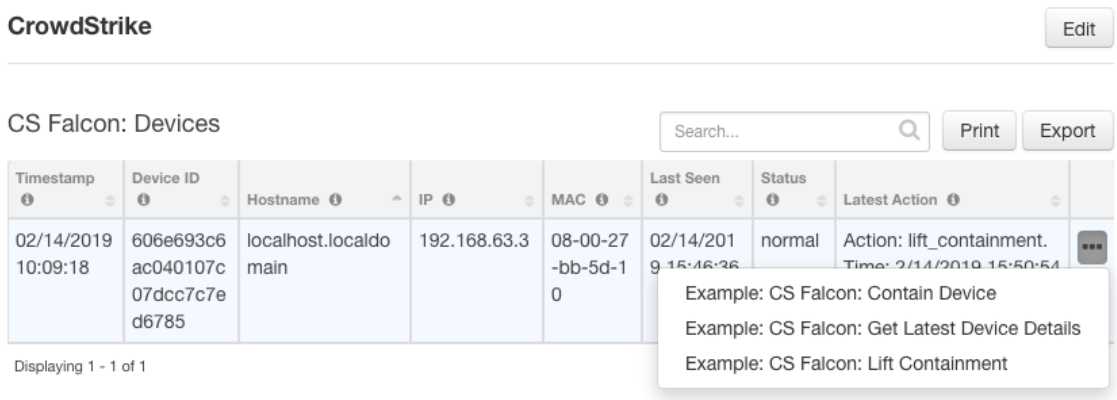
```
# Import Date
from java.util import Date

# If the function found some devices
if results.success:

  # Get the current time
  dt_now = Date()

  # For each device, add a row to the cs_falcon_devices_dt
  for device_id in results.content.device_ids:
    new_row = incident.addRow("cs_falcon_devices_ioc_ran_on_results_dt")
    new_row.timestamp = dt_now
    new_row.ioc_type = results.inputs.cs_ioc_type
    new_row.ioc_value = results.inputs.cs_ioc_value
    new_row.device_id = device_id

else:
  # Else, the function did not get any devices. Add a note with the reason why
  incident.addNote(results.reason)
```

Rules

Rule Name	Object Type	Conditions	Workflow Triggered
Example: CS Falcon: Search	`Artifact`	`None`	`Example: CS Falcon: Search`
Example: CS Falcon: Contain Device	`Data Table`	`cs_falcon_devices_dt.device_id` must have a value	`Example: CS Falcon: Contain Device`
Example: CS Falcon: Lift Containment	`Data Table`	`cs_falcon_devices_dt.device_id` must have a value	`Example: CS Falcon: Lift Containment`
Example: CS Falcon: Get Latest Device Details	`Data Table`	`cs_falcon_devices_dt.device_id` must have a value	`Example: CS Falcon: Get Latest Device Details`
Example: CS Falcon: Get Devices IOC Ran On	`Artifact`	`Type` must be equal to `"DNS Name"`, `"Malware SHA-256 Hash"`, `"Malware SHA-1 Hash"`, or `"Malware MD5 Hash"`	`Example: CS Falcon: Get Devices IOC Ran On`

Data Tables

CS Falcon: Devices



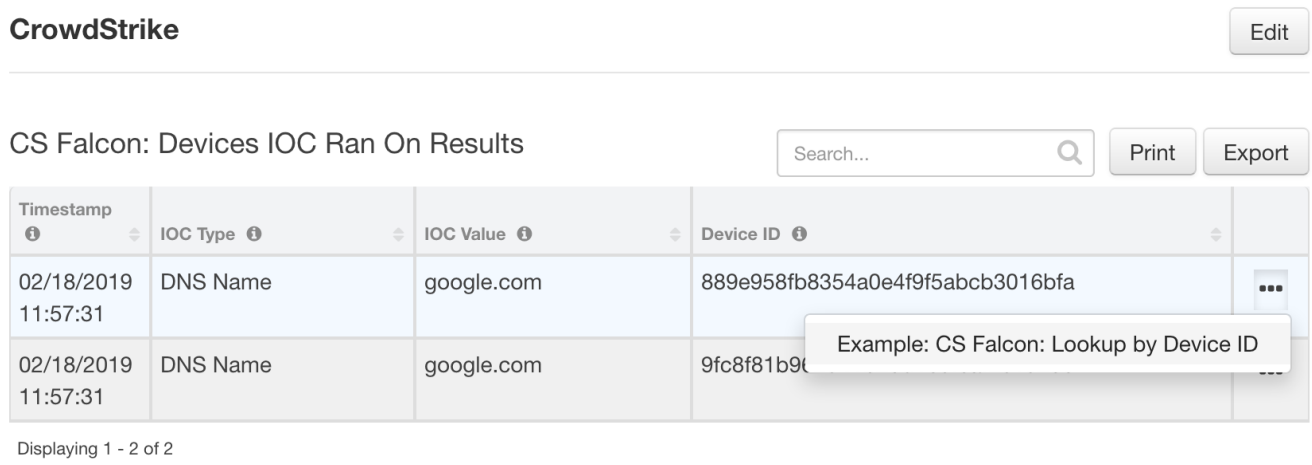
API Name:

cs_falcon_devices_dt

Columns:

Column Name	API Access Name	Type	Info
Timestamp	`timestamp`	`DateTime`	Timestamp when this entry was added
Device ID	`device_id`	`Text`	Unique CrowdStrike ID for the Device
Hostname	`hostname`	`Text`	Hostname of the Device
IP	`ip`	`Text`	Local IP Address of the Device
MAC	`mac`	`Text`	MAC Address of the Device
Last Seen	`last_seen`	`DateTime`	Datetime the Device was Last Seen
Status	`status`	`Text`	The Containment Status of the Device
Latest Action	`latest_action`	`Text`	Name of the latest CrowdStrike action to run on this device

CS Falcon: Devices IOC Ran On Results



API Name:

cs_falcon_devices_ioc_ran_on_results_dt

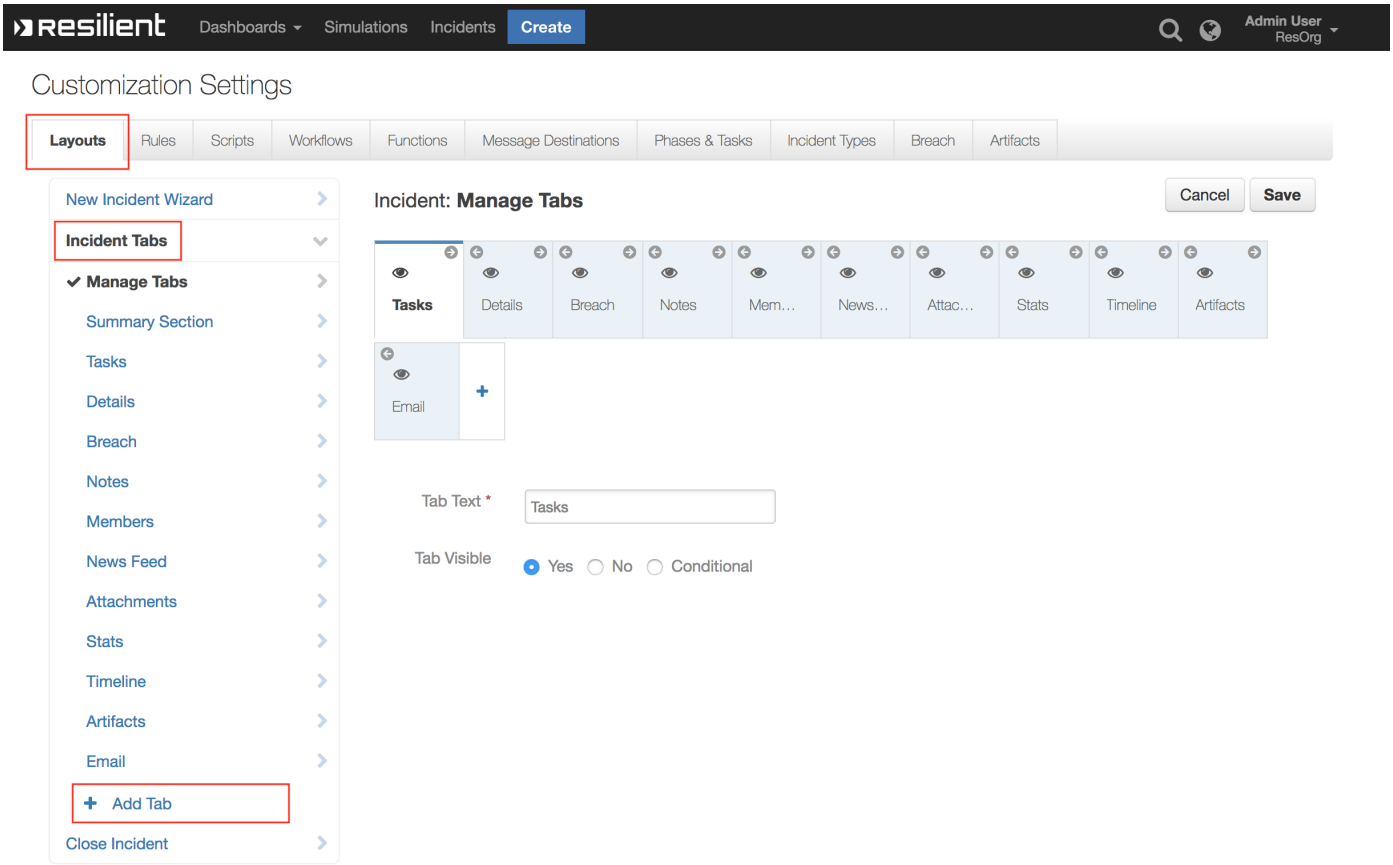
Columns:

Column Name	API Access Name	Type	Info
Timestamp	`timestamp`	`DateTime`	Timestamp when this entry was added
IOC Type	`ioc_type`	`Text`	The IOC Type
IOC Value	`ioc_value`	`Text`	String Representation of the IOC
Device ID	`device_id`	`Text`	The unique CrowdStrike ID of the Device

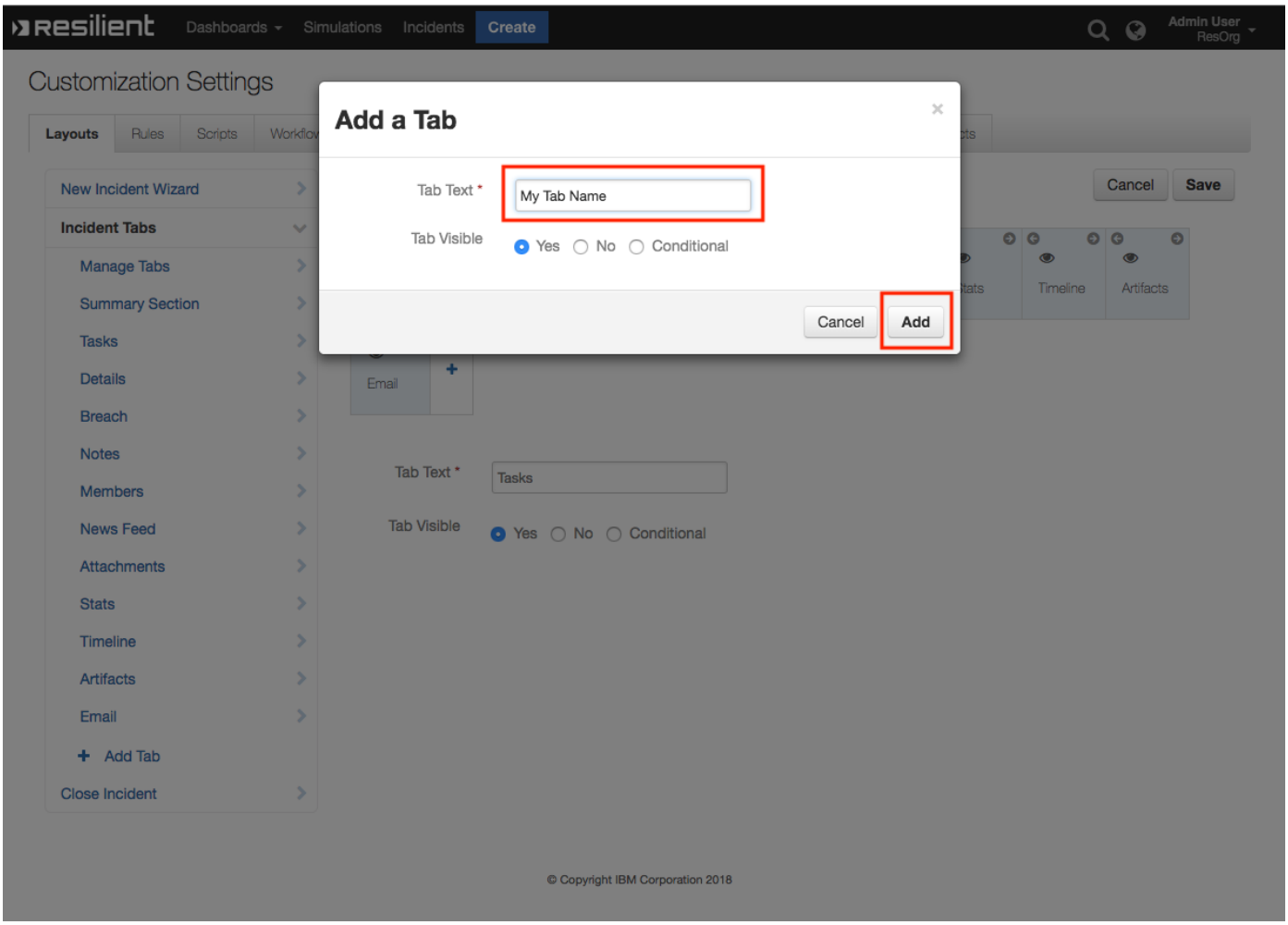
Display a Data Table in an Incident

- In order to **display** the Test Data Table in your Incident, you must **modify your Layout Settings**

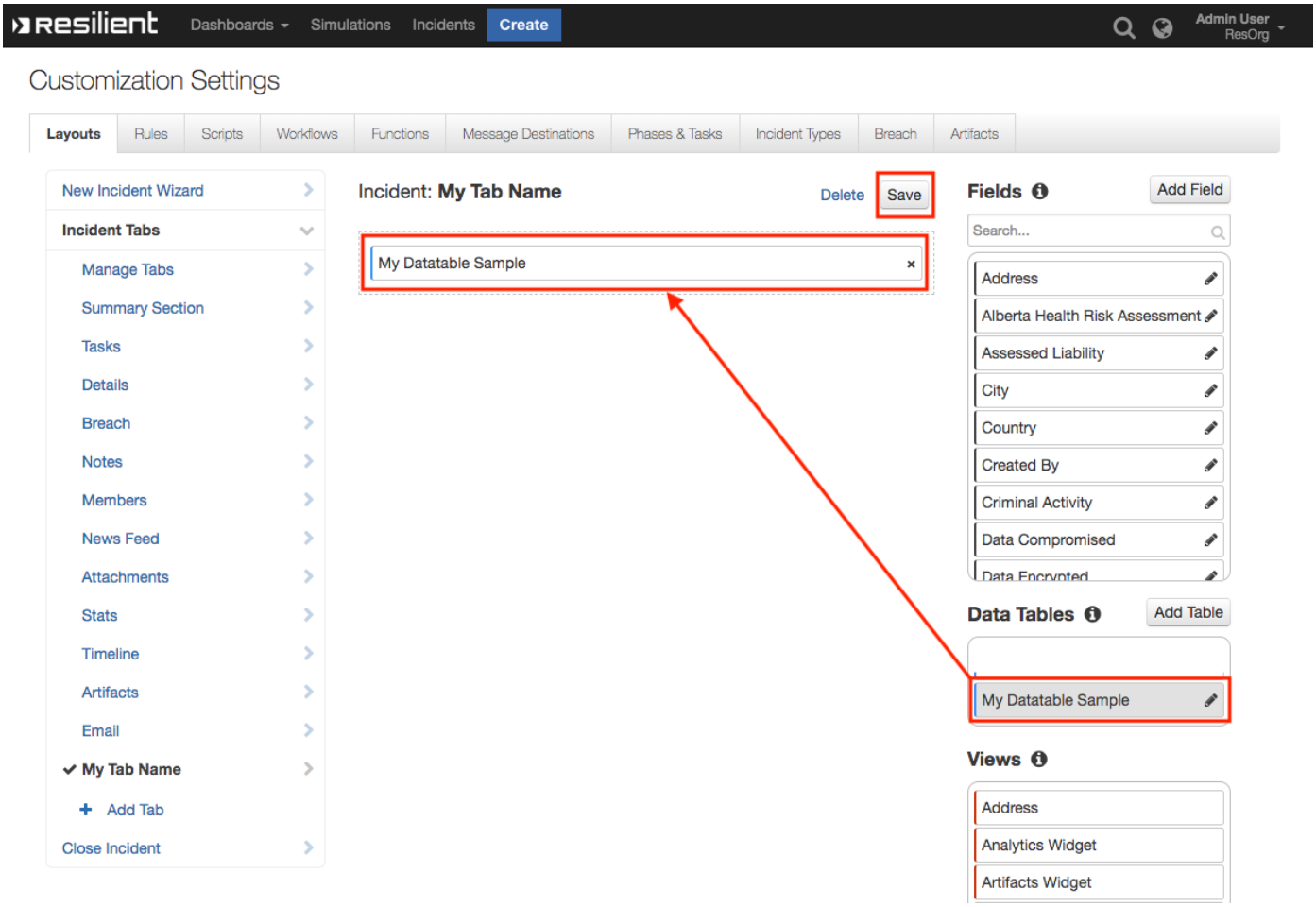
1. Go to **Customization Settings** > **Layouts** > **Incident Tabs** > **+ Add Tab**



2. Enter **Tab Text**: `My Test Tab` and click **Add**



3. **Drag** the Data table into the middle and click **Save**



4. Create a new Incident and you will now see the **My Test Tab** with the **Test Data Table**