None

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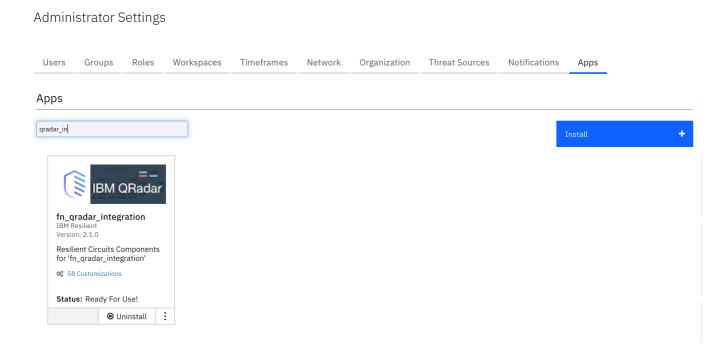
Release Notes

Version	Publication	Notes
2.1.1	July. 2021	Fixed selftest failing when using cafile
2.1.0	Feb. 2021	Additional functions for reference table mapping.
2.0.9	Feb. 2021	Bug fixes associated with require input field validation.
2.0.8	Nov. 2020	Fixed a bug failing search function when used with token.
2.0.7	July 2020	Correct typos and describe optional Search activity field Update Resilient version.
2.0.6	May 2020	Add option to return all results from Search.
2.0.4	April 2020	Additional configuration notes.
2.0	March 2019	Supports the 2.0 release.

Version	Publication	Notes
1.0	July 2018	Initial publication.

Overview

Resilient Circuits Components for 'fn_qradar_integration'



This guide describes the QRadar Function integrations.. The QRadar app with the Resilient platform package provides the following:

- Search function to perform a QRadar Ariel query
- · Search function to query an item in a QRadar reference set
- Search function to find all the reference sets that contain an item
- · Add function to insert a new item in a QRadar reference set
- Delete function to remove an item from a QRadar reference set
- List all reference tables
- · View all items associated with a given reference table
- Add/Update/Delete items to a QRadar reference table

With the above functions, this package includes example workflows that demonstrate how to call the functions, rules that start the example workflows, and custom data tables updated by the example workflows.

Requirements

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

Resilient platform

The Resilient platform supports two app deployment mechanisms, App Host and integration server.

If deploying to a Resilient platform with an App Host, the requirements are:

- Resilient platform >= 37.0.5832.
- The app is in a container-based format (available from the AppExchange as a zip file).

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

- Resilient platform >= 37.0.5832.
- 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>=30.0.0.
- If using an API key account, make sure the account provides the following minimum permissions:

Name	Permissions				
Org Data	Read				
Function	Read				

The following Resilient platform guides provide additional information:

- 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 Knowledge Center at ibm.biz/resilient-docs. On this web page, select your Resilient platform version. On the follow-on page, you can find the *App Host Deployment Guide* or *Integration Server Guide* by expanding **Resilient 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 >= 1.4.
- · Cloud Pak is configured with an App Host.
- The app is in a container-based format (available from the AppExchange as a zip file).

The following Cloud Pak guides provide additional information:

- 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 Knowledge Center table of contents, select Case Management and Orchestration & Automation > System administrator.

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

Proxy Server

The app does/does not support a proxy server.

Package Dependencies

- · resilient_circuits version 30 or later
- python version 2.7.10 or later, or 3.6 or later

Installation

Install

• To install or uninstall an App or Integration on the *Resilient platform*, see the documentation at ibm.biz/resilient-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.

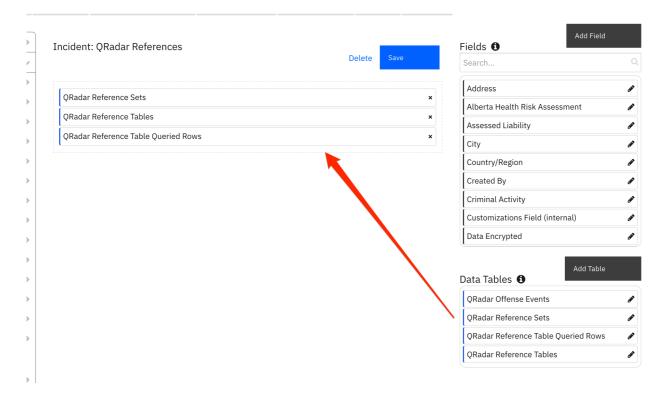
App Configuration

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		
host Yes lo		localhost	*QRadar host name or IP Address *		
username	Yes	admin	Username for QRadar authentication		
qradarpassword	Yes	changeme	username password for QRadar authentication		
qradartoken	Yes	changeme	QRadar token to use rather than password		

Custom Layouts

• Import the Data Tables and Custom Fields like the screenshot below, creating a new tab or using an existing one for the datatables used:



Function - QRadar Delete Reference Set Item

Delete an item from a given QRadar reference set

► Inputs:

	Name Type Required Example Tooltip
--	------------------------------------

Name	Type	Required	Example	Tooltip
<pre>qradar_reference_set_item_value</pre>	text	No	_	Value of a QRadar reference set item
<pre>qradar_reference_set_name</pre>	text	No	_	Name of a QRadar reference set

► Outputs:

```
results = {
    # TODO: Copy and paste an example of the Function Output within this code
block.
    # To view the output of a Function, run resilient-circuits in DEBUG mode and
invoke the Function.
    # The Function results will be printed in the logs: "resilient-circuits run --
loglevel=DEBUG"
}
```

► Example Pre-Process Script:

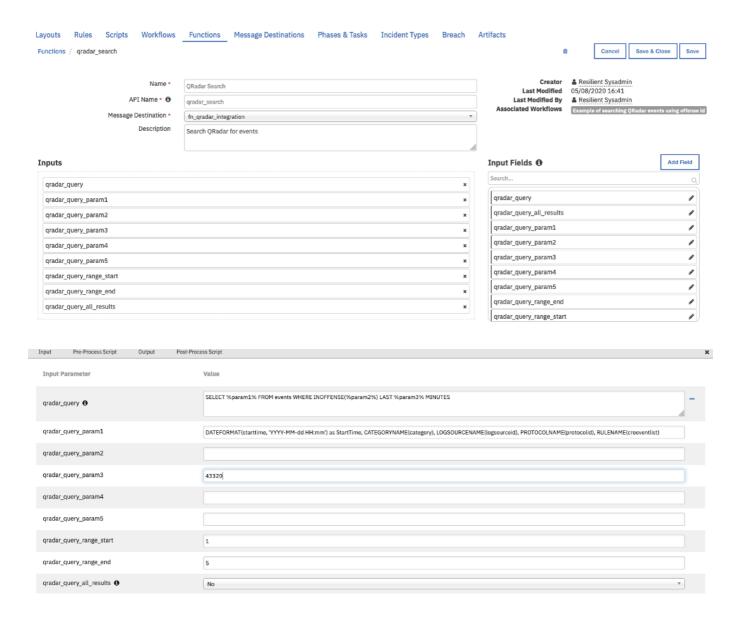
```
inputs.qradar_reference_set_item_value = artifact.value
```

► Example Post-Process Script:

```
if results.status_code == 200:
    #Add a note
    incident.addNote("IP " + artifact.value + " removed successfully from Blocked
list")
else:
    incident.addNote(u"Failed to remove {} from Blocked list, message:
    {}".format(artifact.value, results['content']['message']))
```

Function - QRadar Search

Search QRadar for events



► Inputs:

Name	Туре	Required	Example	Tooltip
qradar_query	textarea	No	-	A gradar query string with parameters
<pre>qradar_query_all_results</pre>	select	No	_	Display all results from search. By default, a range for the number of returned results is set.
qradar_query_param1	text	No	-	Additional dynamic parameters to use in the ariel query.
qradar_query_param2	text	No	-	-
qradar_query_param3	text	No	-	-
qradar_query_param4	text	No	_	-
qradar_query_param5	text	No	_	-
qradar_query_range_end	number	No	_	Epoch date for start of query
qradar_query_range_start	number	No	_	Epoch date for end of query

► Outputs:

```
results = {
    # TODO: Copy and paste an example of the Function Output within this code
block.
    # To view the output of a Function, run resilient-circuits in DEBUG mode and
invoke the Function.
    # The Function results will be printed in the logs: "resilient-circuits run --
loglevel=DEBUG"
}
```

► Example Pre-Process Script:

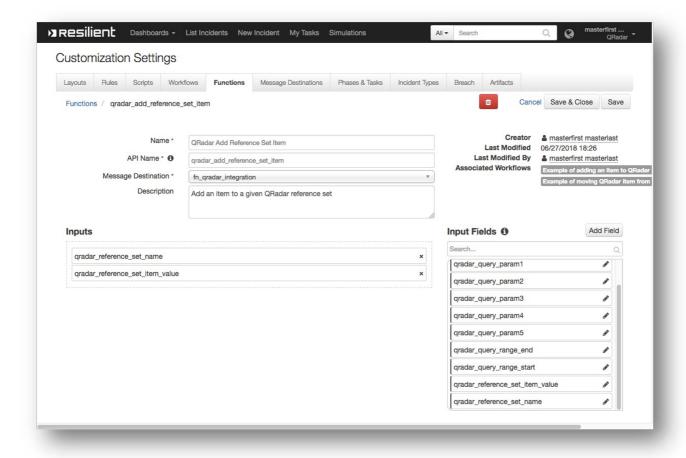
```
inputs.qradar_query_param2 = incident.properties.qradar_id
if rule.properties.qradar_query_all_results:
  inputs.qradar_query_all_results = rule.properties.qradar_query_all_results
```

► Example Post-Process Script:

```
for event in results.events:
    qradar_event = incident.addRow("qradar_offense_event")
    qradar_event.start_time = event.StartTime
    qradar_event.category = event.categoryname_category
    qradar_event.log_source = event.logsourcename_logsourceid
    qradar_event.protocol = event.protocolname_protocolid
    qradar_event.rule = event.rulename_creeventlist
```

Function - QRadar Add Reference Set Item

Add an item to a given QRadar reference set



► Inputs:

Name	Type	Required	Example	Tooltip
<pre>qradar_reference_set_item_value</pre>	text	No	_	Value of a QRadar reference set item
qradar_reference_set_name	text	No	_	Name of a QRadar reference set

► Outputs:

```
results = {
    # TODO: Copy and paste an example of the Function Output within this code
block.
    # To view the output of a Function, run resilient-circuits in DEBUG mode and
invoke the Function.
    # The Function results will be printed in the logs: "resilient-circuits run --
loglevel=DEBUG"
}
```

► Example Pre-Process Script:

```
inputs.qradar_reference_set_item_value = artifact.value
```

► Example Post-Process Script:

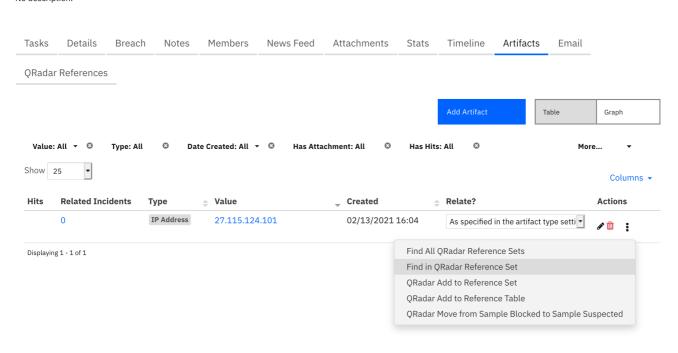
```
if results.status_code == 200:
    incident.addNote(u"IP: {} added to blocked IPs reference set:
{}".format(artifact.value, results['content']['name']))
else:
    incident.addNote(u"Failed to add IP: {} to reference set. Status Code: {},
message: {}".format(artifact.value, results.status_code, results['content']
['message']))
```

Function - QRadar Find Reference Set Item

Find an item in a given QRadar reference set

gradar refer table

Description
No description.



► Inputs:

Name		Type	Required	Example	Tooltip
qradar_refere	nce_set_item_value	text	No	_	Value of a QRadar reference set item
qradar_refere	nce_set_name	text	No	_	Name of a QRadar reference set

► Outputs:

```
results = {
    # TODO: Copy and paste an example of the Function Output within this code
block.
    # To view the output of a Function, run resilient-circuits in DEBUG mode and
invoke the Function.
    # The Function results will be printed in the logs: "resilient-circuits run --
loglevel=DEBUG"
}
```

► Example Pre-Process Script:

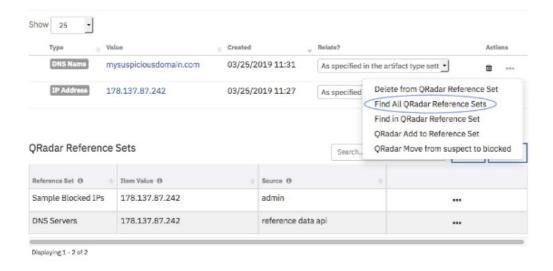
```
inputs.qradar_reference_set_item_value = artifact.value
```

► Example Post-Process Script:

```
if results.found == "True":
  incident.addNote(u"Found IP: {} in list: {}.".format(artifact.value,
results['content']['name']))
else:
  incident.addNote("IP:{} not found in list.".format(artifact.value))
0.00
{
  'status_code': 200,
  'found': 'True',
  'content': {
    'time_to_live': '20 years 4 mons 22 days 0 hours 0 mins 0.00 secs',
    'timeout_type': 'FIRST_SEEN',
    'number of elements': 2,
    'data': [
        'last_seen': 1594386447789,
        'first_seen': 1594386447789,
        'source': 'reference data api',
        'value': '169.254.3.2',
        'domain_id': None
      },
        'last_seen': 1595364392956,
        'first_seen': 1595364392956,
        'source': 'reference data api',
        'value': '1.2.3.4',
        'domain_id': None
      }
    1,
    'creation_time': 1587585219697,
    'name': 'Sample Blocked IPs',
    'namespace': 'SHARED',
    'element_type': 'IP',
    'collection_id': 32
  }
}
000
```

Function - QRadar Find Reference Sets

Find reference sets that contain a given item value, together with information about this item in those reference sets. Information includes whether this item is added to the reference set manually or by a rule.



► Inputs:

Name	Type	Required	Example	Tooltip
<pre>qradar_reference_set_item_value</pre>	text	No	-	Value of a QRadar reference set item

► Outputs:

```
results = {
    # TODO: Copy and paste an example of the Function Output within this code
block.
    # To view the output of a Function, run resilient-circuits in DEBUG mode and
invoke the Function.
    # The Function results will be printed in the logs: "resilient-circuits run --
loglevel=DEBUG"
}
```

► Example Pre-Process Script:

```
inputs.qradar_reference_set_item_value = artifact.value
```

► Example Post-Process Script:

```
items = results.reference_items
"""

Sample data:
   [{u'name': u'RF Risklist', u'timeout_type': u'FIRST_SEEN', u'creation_time':
1549376859164, u'element_type': u'IP', u'number_of_elements': 5, u'data':
   [{u'source': u'admin', u'first_seen': 1549477737993, u'value': u'46.21.147.161',
   u'last_seen': 1549477737993}]}]

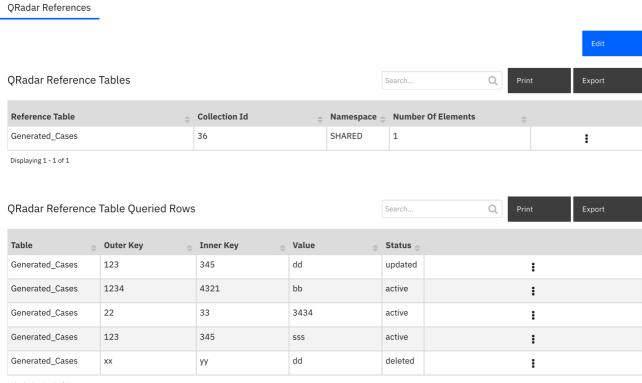
"""

if items:
   for item in items:
        item_row = incident.addRow("qradar_reference_set")
        item_row["reference_set"] = item["name"]
        item_row["item_value"] = item["data"][0]["value"]
        item_row["source"] = item["data"][0]["source"]
```

```
else:
  incident.addNote("No reference sets contain artifact: {}".format(artifact.value))
```

Function - QRadar Reference Table Get All Tables

Get all reference tables from a QRadar instance



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► Inputs:

None

► Outputs:

```
results = {
    # TODO: Copy and paste an example of the Function Output within this code
block.
    # To view the output of a Function, run resilient-circuits in DEBUG mode and
invoke the Function.
    # The Function results will be printed in the logs: "resilient-circuits run ---
loglevel=DEBUG"
}
```

► Example Pre-Process Script:

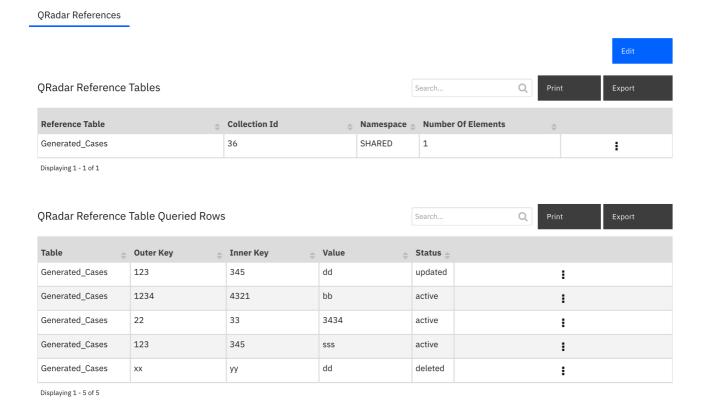
None

► Example Post-Process Script:

```
000
  Sample data:
  [{u'creation_time': 1464119408489L, u'collection_id': 186, u'key_name_types':
{u'First Seen Date': u'DATE', u'Confidence': u'NUM', u'Last Seen Date': u'DATE',
u'Provider': u'ALN'}, u'timeout_type': u'LAST_SEEN', u'name': u'Phishing Senders
Data', u'namespace': u'SHARED', u'element_type': u'ALNIC', u'number_of_elements':
0}, {u'creation_time': 1464119422432L, u'collection_id': 182, u'key_name_types':
{u'First Seen Date': u'DATE', u'Confidence': u'NUM', u'Last Seen Date': u'DATE',
u'Provider': u'ALN'}, u'timeout_type': u'LAST_SEEN', u'name': u'Rogue Process Names
Data', u'namespace': u'SHARED', u'element_type': u'ALNIC', u'number_of_elements':
.....
if results.success:
  for item in results.content:
        item_row = incident.addRow("gradar_reference_table")
        item_row["reference_table"] = item["name"]
        item_row["collection_id"] = item["collection_id"]
        item_row["number_of_elements"] = item["number_of_elements"]
        item_row["namespace"] = item["namespace"]
  else:
    incident.addNote("No reference tables found")
else:
  incident.addNote("An error occurred getting the reference tables:
{}".formt(results.reason))
```

Function - QRadar Reference Table Get Table Data

Get all items associated with a QRadar Reference table



► Inputs:

Name Type Required Example Tooltip

qradar_reference_table_name text Yes - Value of a QRadar reference table item

► Outputs:

```
results = {
    # TODO: Copy and paste an example of the Function Output within this code
block.
    # To view the output of a Function, run resilient-circuits in DEBUG mode and
invoke the Function.
    # The Function results will be printed in the logs: "resilient-circuits run --
loglevel=DEBUG"
}
```

► Example Pre-Process Script:

```
inputs.qradar_reference_table_name = row['reference_table']
```

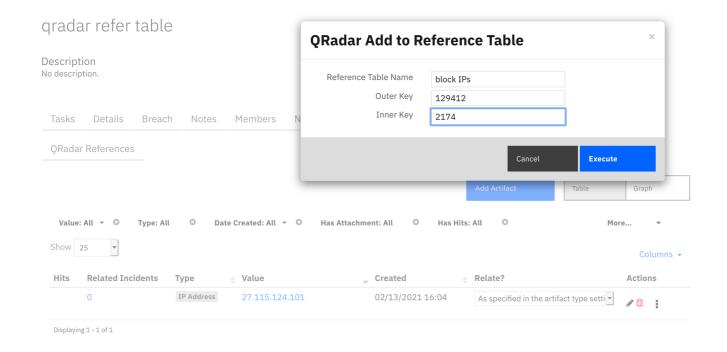
► Example Post-Process Script:

```
if results.success:
    for outer_key, item in results.content.get('data',[]).items():
        for inner_key, inner_item in item.items():
            row = incident.addRow('qradar_reference_table_queried_rows')
            row['table'] = results.inputs.qradar_reference_table_name
            row['outer_key'] = outer_key
            row['inner_key'] = inner_key

            row['talue'] = inner_item['value']
            row['status'] = 'active'
else:
            incident.addNote("An error occurred getting the reference table data:
{}".format(results.reason))
```

Function - QRadar Reference Table Add Item

Add an item to a given QRadar reference table



► Inputs:

Name	Type	Required	Example	Tooltip
<pre>qradar_reference_table_item_inner_key</pre>	text	No	-	The inner key for a QRadar Reference Table
<pre>qradar_reference_table_item_outer_key</pre>	text	No	-	The outer key for a QRadar Reference Table
<pre>qradar_reference_table_item_value</pre>	text	No	-	Value of a QRadar reference table item
qradar_reference_table_name	text	No	_	Value of a QRadar reference table item

▶ Outputs:

```
results = {
    # TODO: Copy and paste an example of the Function Output within this code
block.
    # To view the output of a Function, run resilient-circuits in DEBUG mode and
invoke the Function.
    # The Function results will be printed in the logs: "resilient-circuits run --
loglevel=DEBUG"
}
```

► Example Pre-Process Script:

```
# Example inputs
inputs.qradar_reference_table_name = row.reference_table
inputs.qradar_reference_table_item_outer_key =
rule.properties.qradar_ref_table_outer_key or "1"
inputs.qradar_reference_table_item_inner_key =
```

```
rule.properties.qradar_ref_table_inner_key or "city"
inputs.qradar_reference_table_item_value = rule.properties.qradar_ref_table_update
```

► Example Post-Process Script:

Function - QRadar Reference Table Update Item

Update an item in a given QRadar reference table

► Inputs:

Name	Type	Required	Example	Tooltip
<pre>qradar_reference_table_item_inner_key</pre>	text	No	-	The inner key for a QRadar Reference Table
<pre>qradar_reference_table_item_outer_key</pre>	text	No	-	The outer key for a QRadar Reference Table
<pre>qradar_reference_table_item_value</pre>	text	No	_	Value of a QRadar reference table item
qradar_reference_table_name	text	No	_	Value of a QRadar reference table item

▶ Outputs:

```
results = {
    # TODO: Copy and paste an example of the Function Output within this code
block.
    # To view the output of a Function, run resilient-circuits in DEBUG mode and
invoke the Function.
    # The Function results will be printed in the logs: "resilient-circuits run ---
loglevel=DEBUG"
}
```

► Example Pre-Process Script:

```
inputs.qradar_reference_table_name = row.table
inputs.qradar_reference_table_item_outer_key = row.outer_key
inputs.qradar_reference_table_item_inner_key = row.inner_key

if rule.properties.qradar_ref_table_update:
   inputs.qradar_reference_table_item_value =
rule.properties.qradar_ref_table_update
else:
   inputs.qradar_reference_table_item_value = "This is an example"
```

► Example Post-Process Script:

Data Table - QRadar Reference Table Queried Rows

								Edit
QRadar Referenc	e Tables			Se	earch	(Prin	t Export
Reference Table		Collection Id	\$	Namespace $_{\scriptsize \scriptsize \oplus}$	Number O	f Elements	\$	
Generated_Cases		36		SHARED	1			:
Displaying 1 - 1 of 1								
Displaying 1 - 1 of 1								
	o Tablo Quariad F	Pour					200	5
	e Table Queried F	Rows		Se	earch		Q Prin	t Export
QRadar Referenc	e Table Queried F Outer Key	Rows	⊕ Value		earch	(Q Prin	t Export
QRadar Referenc				\$ S		(Prin	t Export
QRadar Referenc	Outer Key	Inner Key		s S	Status 😄		Prin	
QRadar Reference Table Generated_Cases	Outer Key	inner Key 345	dd	⇒ S u	status 🌲		Prin	:
QRadar Reference Table Generated_Cases Generated_Cases	Outer Key 123 1234	\$\(\phi\) Inner Key 345 4321	dd	S S UI	status pdated		Q Prir	! !

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QRadar References

API Name:

qradar_reference_table_queried_rows

Columns:

Column Name	API Access Name	Type	Tooltip
Inner Key	inner_key	text	-
Outer Key	outer_key	text	-
Table	table	text	-
Value	value	text	-
Status	status	text	-

Function - QRadar Reference Table Delete Item

Delete an item from a given QRadar reference table

► Inputs:

Name	Type	Required	Example	Tooltip
<pre>qradar_reference_table_item_inner_key</pre>	text	No	-	The inner key for a QRadar Reference Table
<pre>qradar_reference_table_item_outer_key</pre>	text	No	-	The outer key for a QRadar Reference Table
<pre>qradar_reference_table_item_value</pre>	text	No	_	Value of a QRadar reference table item
qradar_reference_table_name	text	No	_	Value of a QRadar reference table item

► Outputs:

```
results = {
    # TODO: Copy and paste an example of the Function Output within this code
block.
    # To view the output of a Function, run resilient-circuits in DEBUG mode and
invoke the Function.
    # The Function results will be printed in the logs: "resilient-circuits run --
loglevel=DEBUG"
}
```

► Example Pre-Process Script:

```
inputs.qradar_reference_table_name = row.table
inputs.qradar_reference_table_item_outer_key = row.outer_key
inputs.qradar_reference_table_item_inner_key = row.inner_key
inputs.qradar_reference_table_item_value = row.value
```

► Example Post-Process Script:

Data Table - QRadar Offense Events

API Name:

qradar_offense_event

Columns:

Column Name	API Access Name	Туре	Tooltip
Category	category	text	category
Log Source	log_source	text	logsourceid
Protocol	protocol	text	protocolid
Rule	rule	text	creeventlist
Start Time	start_time	text	starttime

Data Table - QRadar Reference Tables

API Name:

qradar_reference_table

Columns:

Column Name	API Access Name	Type	Tooltip
Reference Table	reference_table	text	-
Collection Id	collection_id	text	-
Namespace	namespace	text	-
Number Of Elements	number_of_elements	text	-

API Name:

qradar_reference_set

Columns:

Column Name	API Access Name	Type	Tooltip
Item Value	item_value	text	Item value
Reference Set	reference_set	text	Name of reference set
Source	source	text	how this value is added to the reference set

Rules

Rule Name	Object	Workflow Triggered
Find All QRadar Reference Sets	artifact	<pre>qradar_find_reference_sets_artifact</pre>
QRadar Add to Reference Set	artifact	<pre>qradar_add_reference_set_item</pre>
Search QRadar for offense id	incident	<pre>qradar_search_event_offense</pre>
Find in QRadar Reference Set	artifact	<pre>qradar_find_reference_set_item</pre>
QRadar Move from Sample Blocked to Sample Suspected	artifact	<pre>qradar_move_item_to_different_ref_set</pre>
Example: QRadar - Update this Reference Table Item	qradar_reference_table_queried_rows	example_qradarupdate_this_reference_table_item

Rule Name	Object	Workflow Triggered
Example: QRadar - Gather Reference Table Data	qradar_reference_table	qradar_get_reference_table_data
Example: QRadar - Get all Reference Tables	incident	example_qradarget_all_reference_tables
Add a reference table item	artifact	add_a_reference_table_item
Example: QRadar - Add Item to this Reference Table	qradar_reference_table	example_qradaradd_reference_table_item_dt
Example: QRadar - Delete this Reference Table Item	qradar_reference_table_queried_rows	example_qradardelete_reference_table_item_dt

Troubleshooting & Support

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

For Support

This is a IBM Community provided App. Please search the Community https://ibm.biz/resilientcommunity for assistance.