fn-icdx for IBM Resilient

Table of Contents

Release Notes

v1.0.0

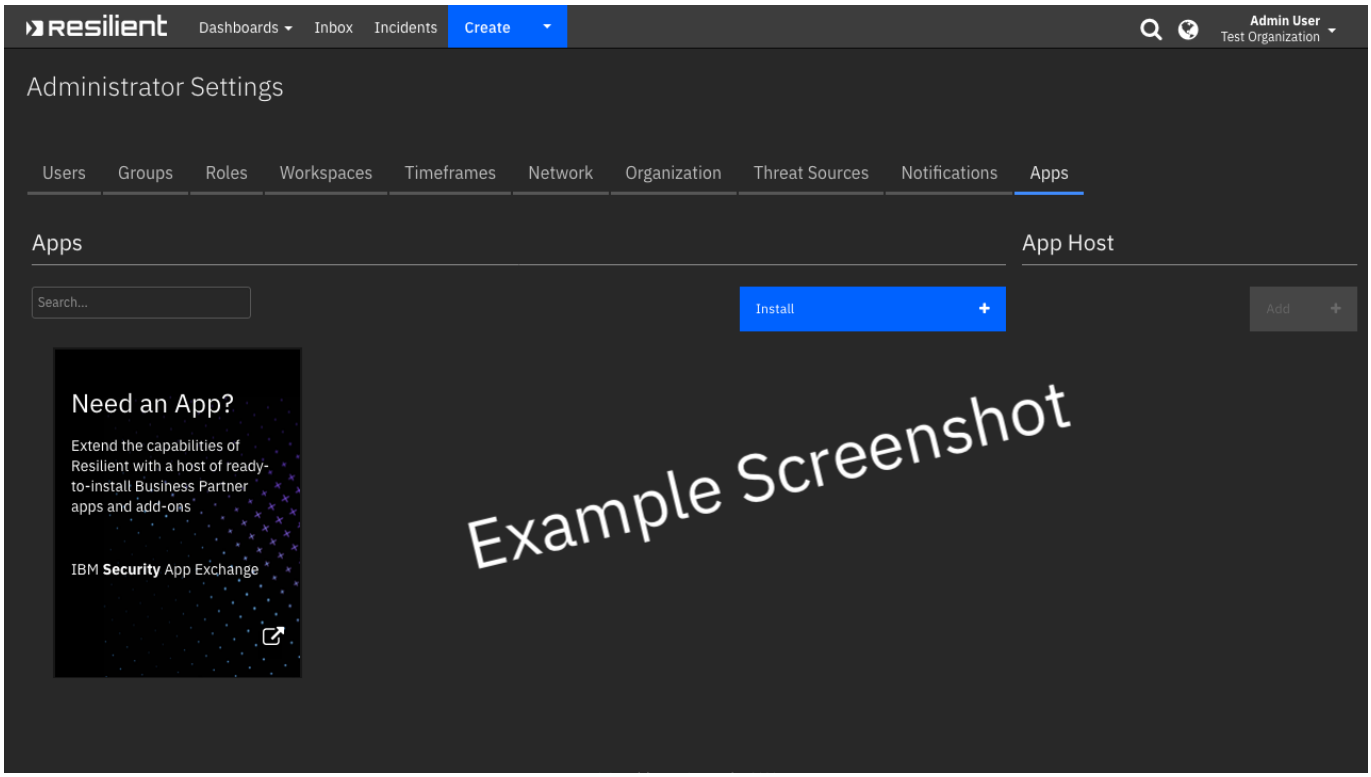
- Initial Release

v1.0.1

- Added support for AppHost and Resilient API Keys

Overview

Integration with ICDX which provides access to the ICDX Search API over AMQP



The Symantec Integrated Cyber Defense Exchange (ICDX) is a central hub used to gather information from a number of different products in the Symantec Catalogue, normalising the information from these products into a schema. This establishes ICDx as an enrichment platform reporting on events gathered from other Symantec products

Key Features

- Asynchronous Component for creating Resilient incidents from ICDx Events
- Ability to perform a query for ICDx Events
- Ability to gather the details of a specific event by ID

Installation

Requirements

- Resilient platform >= `v36.0.0`
- App Host >= `v1.2.132` (if using App Host)
  - To setup up an App Host see: ibm.biz/res-app-host-setup
- An Integration Server running `resilient_circuits>=30.0.0` (if using an Integration Server)
  - To set up an Integration Server see: ibm.biz/res-int-server-guide
  - If using an API key account, minimum required permissions are:

Name	Permissions
Org Data	Read
Function	Read

- Proxy supported: Yes/No

Install

- To install or uninstall an App using the App Host see ibm.biz/res-install-app
- To install or uninstall an Integration using the Integration Server see the ibm.biz/res-install-int

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App Configuration

The following table describes the settings you need to configure in the app.config file. If using App Host, see the Resilient System Administrator Guide. If using the integration server, see the Integration Server Guide.

Config	Required	Example	Description
icdx_amqp_host	Yes	`icdx.example.com`	*Hostname for the ICDx installation, should be like my-server.com.*
icdx_amqp_port	Yes	`5672`	*Port for the ICDx AMQP Service, defaults to 5672.*
icdx_amqp_vhost	Yes	`dx`	*Virtual Host for the AMQP Exchange. Default is dx.*
icdx_amqp_username	Yes	`admin`	*Username of ICDx user.*
icdx_amqp_password	Yes	`supersecret`	*Password of ICDx user.*
icdx_search_limit	Yes	`100`	*A limiter for how many results are queried in ICDx. Default is 100 unless this value exceeds that.*
icdx_forwarder_toggle	Yes	`<True / False>`	*Boolean specifying whether the forwarder should be enabled when circuits is started.*
icdx_forwarder_inc_owner	Yes	`<USER_EMAIL / USER_ID / GROUP_NAME>`	*Who will be assigned incidents created by the forwarder*

Custom Layouts

- Import the Data Tables and Custom Fields like the screenshot below:

   screenshot: custom_layouts

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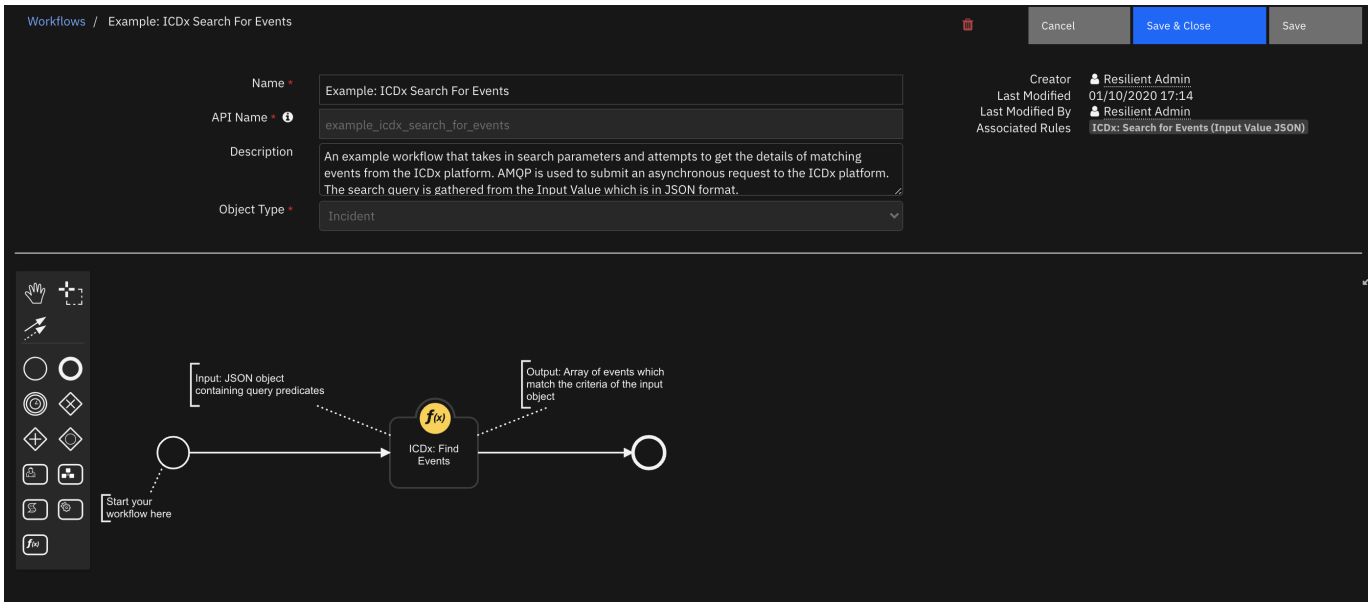
Function - ICDx: Find Events

Takes a number of parameters in a search request and attempts to gather events from the ICDx Platform. Returns a response containing a list of events or a response with a 204 status code when no results are found.



▶ Inputs:

Name	Type	Required	Example	Tooltip
icdx_search_request	textarea	Yes	A JSON Payload containing search Query	The Find Events request retrieves the events that are within the specified time range and satisfy this search condition.

▶ Outputs:


```
results = {
   "version":"1.0",
   "success":False,
   "reason":"None",
   "content":{
      "result_set":"None",
      "num_of_results":0,
      "execution_time":1601631906772
   },
   "raw":"{\"result_set\": null, \"num_of_results\": 0, \"execution_time\":
1601631906772}",
   "inputs":{
      "icdx_search_request":{
         "format":"text",
         "content":"{\"from\":[\"default\",\"dedicated/d900b5f0-aa0d-11e9-
e053-000000000001\",\"dedicated/13547310-aec6-11e9-eb82-
000000000002\",\"dedicated/3c7b5bd0-1f21-11e9-fa8e-
000000000001\"],\"start\":\"-7d\",\"filter\":\"type =
\\'NETWORK_EVENT\\'\",\"Query_Title\":\"Search for available archives, then
search for NETWORK_EVENTs, limited to all available archives except
system.\",\"limit\":5,\"where\":\"severity_id >= 3\",\"id\":1}"
      }
   },
   "metrics":{
      "version":"1.0",
```

```
      "package":"fn-icdx",
      "package_version":"1.0.1",
      "host":"RG-MBP-18.local",
      "execution_time_ms":1889,
      "timestamp":"2020-10-02 10:45:06"
   }
}
```

▶ Workflows

▶ Example Pre-Process Script:

```
########################################
### Define pre-processing functions ###
########################################
payload = {
 "Query_Title": "Search for available archives, then search for
NETWORK_EVENTs, limited to all available archives except system.",
 "id" : 1,
 "start"  : "-7d",
 "where"  : "severity_id >= 3",
 "filter": "type = 'NETWORK_EVENT'",
 "limit"  : 5
 }
def dict_to_json_str(d):
"""Function that converts a dictionary into a JSON stringself.
   Supports basestring, bool and int.
   If the value is None, it sets it to False"""

json_str = '"{ {0} }"'
json_entry = '"{0}":{1}'
json_entry_str = '"{0}":"{1}"'
list_str = '"{0}":[{1}]'
entries = []

# Grab the available archives from the previous function
archives_to_search = workflow.properties.archive_search["archives"]

"""

  Here we take the result of the previous function -- a list of available
archives_to_search
  A comma separated string of archives is prepared and then appended to our
payload

  In the below example, we exclude the system archive by adding every other
archive to our payload

  Replace 'system' with any archives you DONT want to be searched
"""
list_builder_str = ''
for archive in archives_to_search:
  # If the archive isin't the system archive
  if archive["path"] != "system":
    # Append to the list of archives we will search
```

```
    list_builder_str += '"{0}",'.format(archive["path"])

# Finally prepare our CSV string to be appended to the payload
if list_builder_str.endswith(','):
  list_builder_str = list_builder_str[:-1]
entries.append(list_str.format("from", list_builder_str))

for entry in d:
  key = entry
  value = d[entry]

  if value is None:
    value = False


  if isinstance(value, basestring):
    entries.append(json_entry_str.format(key, value))

  elif isinstance(value, bool):
    value = 'true' if value == True else 'false'
    entries.append(json_entry.format(key, value))

  else:
    entries.append(json_entry.format(key, value))

return '{' + ','.join(entries) + '}'


inputs.icdx_search_request = dict_to_json_str(payload)
```

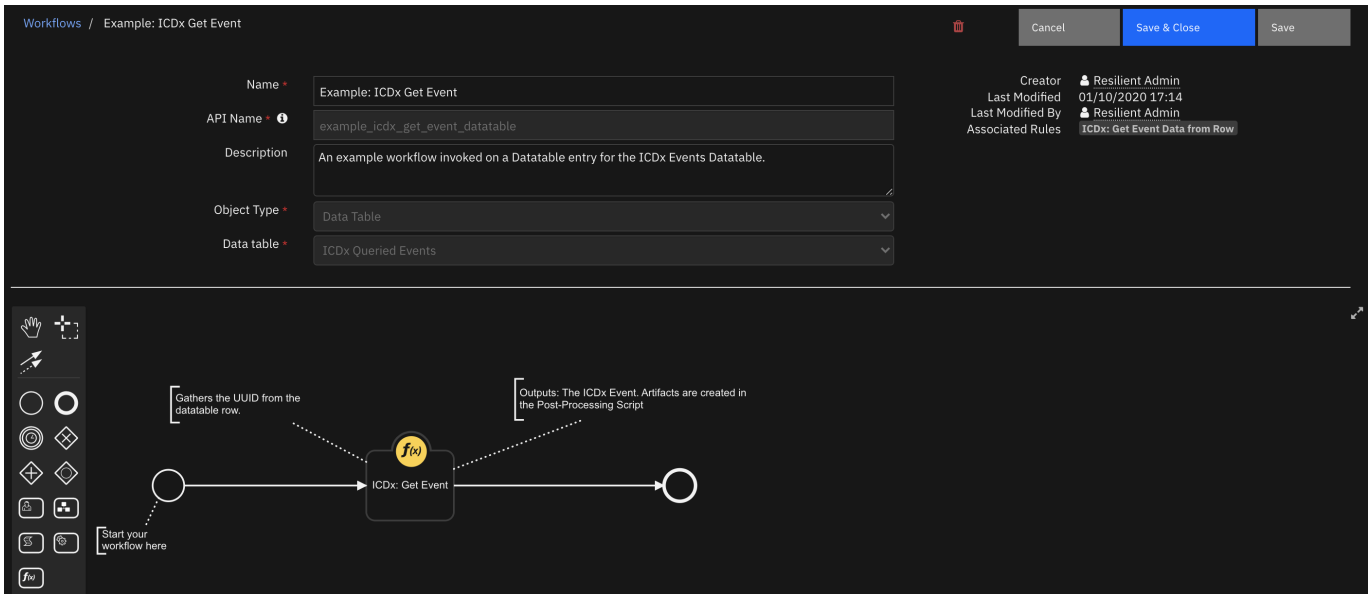
▶ Example Post-Process Script:

```
"""
Example of the return data for this workflow
results = {
          "success": True or False
          "result_set": [{
            Object containing ICDx event data
          }],
          "num_of_results": How many results returned (INT),
          "execution_time": The time the function was executed
        }

"""
noteText = u"""<br><b>Search Request executed on ICDx :</b>"""

noteText += u"""<br>Number of results found: <b>{0}</b>
             <br>Results are being inserted into the ICDX Event
Datatable""".format(results.num_of_results)

if results.inputs["icdx_search_request"]["Query_Title"] != None:
noteText += u"""<br><br>A Query_Title attribute was provided with the input
payload.
```

```
                <br>Query Title: <b>{0}
</b>""".format(results.inputs["icdx_search_request"]["Query_Title"])
if results.inputs["icdx_search_request"]["where"] not in (None, ''):
  noteText += u"""<br> Where Condition: <b>{0}
</b>""".format(results.inputs["icdx_search_request"]["where"])
if results.inputs["icdx_search_request"]["filter"] not in (None, ''):
  noteText += u"""<br> Filter Condition: <b>{0}
</b>""".format(results.inputs["icdx_search_request"]["filter"])

if results.num_of_results >= results.inputs["icdx_search_request"]
["hard_limit"]:
noteText += u"""<br><br>Query resulted in {0} matching events. ICDx Event
Requests are batched with a configurable limit of {1}.
            <br> To access any results after the {1}th returned result, please
review the app.config parameter `icdx_search_limit` and update where
necessary.
            <br> The Last UUID appears to be <b>{2}
</b>""".format(results.inputs["icdx_search_request"]
["limit"],results.inputs["icdx_search_request"]["hard_limit"],
results.result_set[-1]["uuid"])


incident.addNote(helper.createRichText(noteText))
if results.result_set:
for event in results.result_set:
  # Now have a handle on each event; Prepare DataTable
  row = incident.addRow("icdx_events")
  row["icdx_uuid"]  = event['uuid']
  row["icdx_severity_id"]  = event['severity_id']
  row["icdx_device_name"]  = event['device_name']
  row["icdx_device_ip"]  = event['device_ip']

  try:
    row["icdx_type"] = event['type']
  except:
    row["icdx_type"] = u"""No Type"""

  row["execution_time"] = results.execution_time
```

Function - ICDx: Get Event

Takes in an input of a UUID for an event and attempts to get the details of this event from the ICDx platform.



▶ Inputs:

Name	Type	Required	Example	Tooltip
icdx_uuid	text	Yes	–	A UUID value for an ICDx Event.

▶ Outputs:


```
results = {
   "version":"1.0",
   "success":True,
   "reason":"None",
   "content":{
      "event":{
         "user_name":"admin",
         "session_uid":"hz73OQByQay0mAGlHJz4iw",
         "feature_uid":"default",
         "uuid":"85c62850-0490-11eb-c000-000000000000",
         "  feature_type":"system",
         "device_name":"integration-icdx-ubuntu-2",
         "subfeature_name":"com.symantec.platform.identity.audit.AuditLogger",
         "status_id":1,
         "category_id":4,
         "id":1,
         "feature_path":"system/id_epmp_dx",
         "device_time":1601630433109,
         "feature_name":"Identity Service",
         "x-epmp-sampled":"0",
         "device_os_name":"Linux",
         "log_name":"system",
         "type_id":20,
         "device_os_ver":"4.4.0-131-generic",
         "log_level":"INFO",
         "device_os_bits":"amd64",
         "message":"Successful login of admin",
         "version":"1.0",
         "product_name":"Symantec Integrated Cyber Defense Exchange",
         "log_time":"2020-10-02T05:20:33.109-04:00",
```

```
            "device_ip":"9.70.194.66",
            "event_id":20001,
            "x-epmp-traceId":"0482fb724eca2f19",
            "x-epmp-spanId":"0482fb724eca2f19",
            "time":"2020-10-02T05:20:33.109-04:00",
            "severity_id":1,
            "status_thread_name":"SimpleAsyncTaskExecutor-2"
         },
         "artifacts":{

         },
         "artifact_keys_as_list":[

         ],
         "artifact_values_as_list":[

         ]
      },
      "raw":"{\"event\": {\"user_name\": \"admin\", \"session_uid\":
\"hz73OQByQay0mAGlHJz4iw\", \"feature_uid\": \"default\", \"uuid\":
\"85c62850-0490-11eb-c000-000000000000\", \"  feature_type\": \"system\",
\"device_name\": \"integration-icdx-ubuntu-2\", \"subfeature_name\":
\"com.symantec.platform.identity.audit.AuditLogger\", \"status_id\": 1,
\"category_id\": 4, \"id\": 1, \"feature_path\": \"system/id_epmp_dx\",
\"device_time\": 1601630433109, \"feature_name\": \"Identity Service\", \"x-
epmp-sampled\": \"0\", \"device_os_name\": \"Linux\", \"log_name\":
\"system\", \"type_id\": 20, \"device_os_ver\": \"4.4.0-131-generic\",
\"log_level\": \"INFO\", \"device_os_bits\": \"amd64\", \"message\":
\"Successful login of admin\", \"version\": \"1.0\", \"product_name\":
\"Symantec Integrated Cyber Defense Exchange\", \"log_time\": \"2020-10-
02T05:20:33.109-04:00\", \"device_ip\": \"9.70.194.66\", \"event_id\": 20001,
\"x-epmp-traceId\": \"0482fb724eca2f19\", \"x-epmp-spanId\":
\"0482fb724eca2f19\", \"time\": \"2020-10-02T05:20:33.109-04:00\",
\"severity_id\": 1, \"status_thread_name\": \"SimpleAsyncTaskExecutor-2\"},
\"artifacts\": {}, \"artifact_keys_as_list\": [], \"artifact_values_as_list\":
[]}",
      "inputs":{
         "icdx_uuid":"85c62850-0490-11eb-c000-000000000000"
      },
      "metrics":{
         "version":"1.0",
         "package":"fn-icdx",
         "package_version":"1.0.1",
         "host":"RG-MBP-18.local",
         "execution_time_ms":1851,
         "timestamp":"2020-10-02 14:47:25"
      }
   }
```


▶ Workflows

▶ Example Pre-Process Script:

```
inputs.icdx_uuid = row.icdx_uuid
```

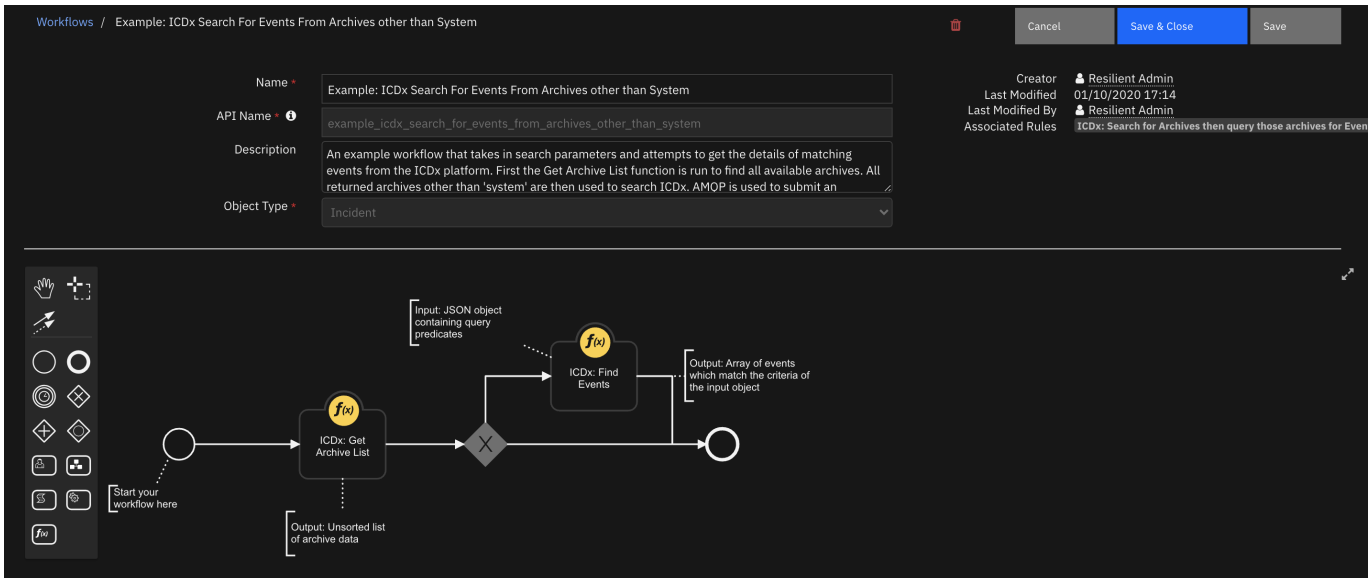
▶ Example Post-Process Script:

```
"""
Example of return data

results = {
          "inputs":{
              "icdx_uuid": The UUID we ran the request with
          },
          "success": True or False,
          "event":  {
            Object containing the ICDx Event data
          },
          "artifacts": {
            Object containing the artifacts we parsed from the event.
            Structure is name_of_artifact:artifact_data
          },
          "artifact_keys_as_list": [
            List containing the types of artifacts we parsed from the event.
          ],
          "artifact_values_as_list": [
            List containing the artifact data we parsed from the event.
          ]
        }

"""

# Add a note detailing what happened
noteText = u"""<br><b>Get Event request executed on ICDx :</b>
              <br>UUID Provided: <b>{0}
</b>""".format(results.inputs["icdx_uuid"])

if results.success:
noteText += u"""<br>Query successful and found an event with matching UUID."""

if results.event['type'] != None:
  noteText += u"""<br> Type of Event : <b>{0}
</b>""".format(results.event["type"])
else:
  noteText += u"""<br> Event Type ID : <b>{0}
</b>""".format(results.event["type_id"])

noteText += u"""<br> Event was gathered from the <b>{0}</b>
archive""".format(results.event["log_name"])
if len(results.artifact_keys_as_list) > 0:
  noteText += """<br>Artifacts generated from Event: <b>{0}</b>""".format("
['{}']".format("', '".join(results.artifact_keys_as_list)))
else:
  noteText += """<br><b>No artifacts generated from Event.</b>"""
else:
noteText += u"""<br>Query did not find a corresponding event or an exception
occured.
Check the action status for more information"""
```

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


# First save the UUID as an artifact, exposing it to artifact level workflows
incident.addArtifact('String', results.inputs["icdx_uuid"], 'Escalated from
ICDx Event with UUID {}. Gathered from the ICDx Utilities
Integration'.format(results.inputs["icdx_uuid"]))

""" Will only work in v31 upwards
if results.artifacts not None:
for artifact_type, artifact_values in results.artifacts.items():
  for artifact_value in artifact_values:
    incident.addArtifact(artifact_type, artifact_value, 'Escalated from ICDx
Event with UUID {}. Gathered from the ICDx Utilities
Integration'.format(results.inputs["icdx_uuid"]))
"""

# Parse over the keys and values and add them as artifacts
if results.artifact_keys_as_list != None and results.artifact_values_as_list
!= None:
for artifact_type, artifact_values in
zip(results.artifact_keys_as_list,results.artifact_values_as_list):
  for artifact_value in artifact_values:
    incident.addArtifact(artifact_type, artifact_value, 'Escalated from ICDx
Event with UUID {}. Gathered from the ICDx Utilities
Integration'.format(results.inputs["icdx_uuid"]))
```

Function - ICDx: Get Archive List

The Get Archive List API is used to return a list of archives in the ICDx system. The response is an unsorted list of archive metadata objects which can then be searched by a user.



▶ Inputs:

Name	Type	Required	Example	Tooltip

▶ Outputs:


```
results = {
   "version":"1.0",
   "success":True,
   "reason":"None",
   "content":{
      "archives":[
         {
            "name":"System Archive",
            "path":"system"
         },
         {
            "name":"Default Archive",
            "path":"default"
         },
         {
            "path":"dedicated/d900b5f0-aa0d-11e9-e053-000000000001",
            "uuid":"d900b5f0-aa0d-11e9-e053-000000000001"
         },
         {
            "path":"dedicated/13547310-aec6-11e9-eb82-000000000002",
            "uuid":"13547310-aec6-11e9-eb82-000000000002"
         },
         {
            "path":"dedicated/3c7b5bd0-1f21-11e9-fa8e-000000000001",
            "uuid":"3c7b5bd0-1f21-11e9-fa8e-000000000001"
         }
      ]
   },
   "raw":"{\"archives\": [{\"name\": \"System Archive\", \"path\":
\"system\"}, {\"name\": \"Default Archive\", \"path\": \"default\"},
{\"path\": \"dedicated/d900b5f0-aa0d-11e9-e053-000000000001\", \"uuid\":
\"d900b5f0-aa0d-11e9-e053-000000000001\"}, {\"path\": \"dedicated/13547310-
aec6-11e9-eb82-000000000002\", \"uuid\": \"13547310-aec6-11e9-eb82-
000000000002\"}, {\"path\": \"dedicated/3c7b5bd0-1f21-11e9-fa8e-
000000000001\", \"uuid\": \"3c7b5bd0-1f21-11e9-fa8e-000000000001\"}]}",
   "inputs":{

   },
   "metrics":{
      "version":"1.0",
      "package":"fn-icdx",
      "package_version":"1.0.1",
      "host":"RG-MBP-18.local",
      "execution_time_ms":1874,
      "timestamp":"2020-10-02 14:48:23"
   }
}
```


▶ Workflows

▶ Example Pre-Process Script:

```
None
```

▶ Example Post-Process Script:

```
"""
results = {
          "success": True or False,
          "archives": List of available archives or None
        }
"""
noteText = """<br>Found <b>{0}</b> archives available for
searching""".format(len(results.archives))

for archive in results.archives:
noteText += """<br> Archive Name: <b>{0}</b> with path:
{1}""".format(archive["name"], archive["path"])

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

Data Table - ICDx Queried Events

 screenshot: dt-icdx-queried-events

API Name:

icdx_events

Columns:

Column Name	API Access Name	Type	Tooltip
Artifact Type	artifact_type	text	Input Artifact Type that was queried
Execution Time	execution_time	datetimepicker	-
Device IP	icdx_device_ip	text	A Device IP gathered from Event (If Any)
Device Name	icdx_device_name	text	A Device Name gathered from Event (If Any)
Severity ID	icdx_severity_id	text	The Severity of the Event. [1] Info; [2] Warning; [3] Minor; [4] Major; [5]; Critical; [6] Fatal
Type	icdx_type	text	A Type of Event.
UUID	icdx_uuid	text	A Unique Identifier for the ICDx Event

Rules

Rule Name	Object	Workflow Triggered
ICDx: Search for Events (Input Value JSON)	incident	`example_icdx_search_for_events`
ICDx: Get Event Data	artifact	`example_icdx_get_event_data`
ICDx: Search for Archives then query those archives for Events	incident	`example_icdx_search_for_events_from_archives_other_than_system`
ICDx: Search for Events related to Device Name (Pre-Processing JSON)	artifact	`example_icdx_search_for_events_related_to_device_name`
ICDx: Get Event Data from Row	icdx_events	`example_icdx_get_event_datatable`
ICDx: Search for Events related to IP (Pre-Processing JSON)	artifact	`example_icdx_search_for_events_related_to_ip`

Troubleshooting & Support

If using the app with an App Host, see the Resilient System Administrator Guide and the App Host Deployment Guide for troubleshooting procedures. You can find these guides on the IBM Knowledge Center, where you can select which version of the Resilient platform you are using.

If using the app with an integration server, see the Integration Server Guide

For Support

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