None

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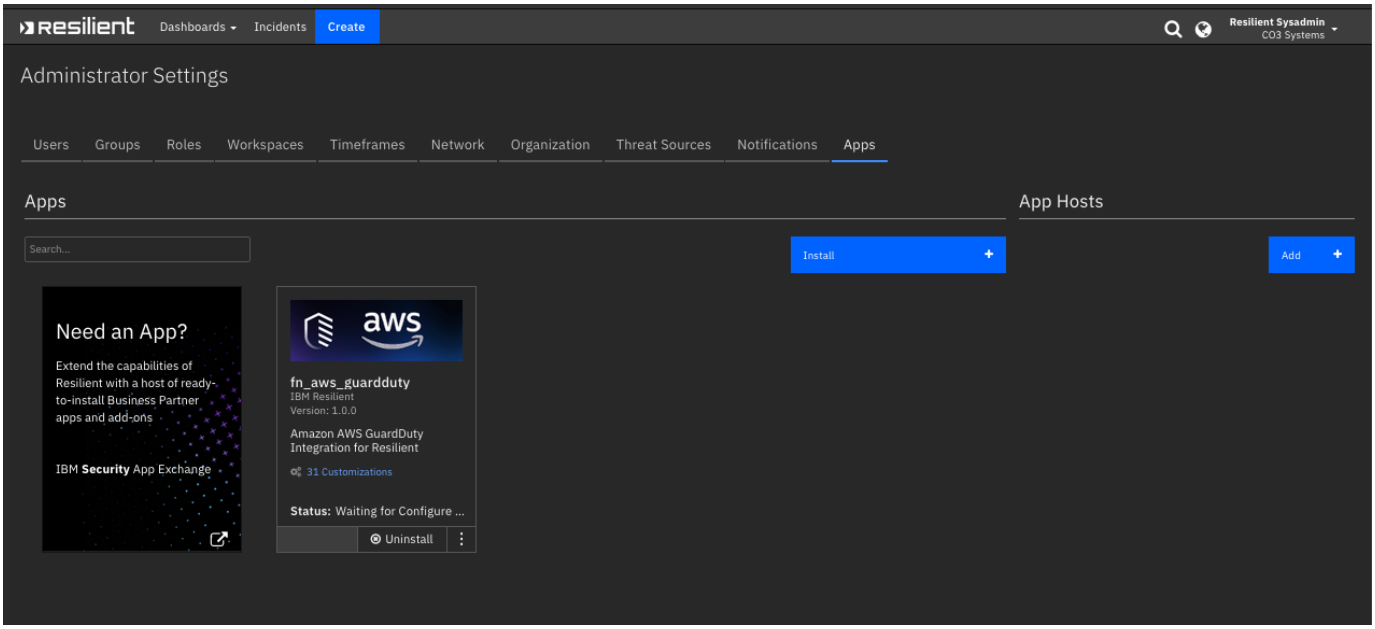
Release Notes

Version	Date	Notes
1.0.0	02/2021	Initial Release

Overview

Amazon AWS GuardDuty Integration for Resilient.



Amazon AWS GuardDuty is a continuous security monitoring service that identifies unexpected and potentially unauthorized and malicious activity within an AWS environment. GuardDuty informs the user of the status of their AWS environment by producing security findings that can be viewed in the GuardDuty console. A finding is a potential security issue discovered by GuardDuty.

The Amazon AWS GuardDuty Integration for Resilient allows you to process and respond to GuardDuty findings within the IBM Resilient Platform.

Key Features

The GuardDuty Integration provides the following functionality:

- A poller which gathers current findings from GuardDuty and escalates to the Resilient platform as incidents.
- A function to archive a GuardDuty finding when the corresponding Resilient incident is closed.
- A function to refresh a Resilient incident with the latest information from the corresponding GuardDuty finding.
- Close Resilient incidents if the corresponding GuardDuty findings are archived.
- Archive GuardDuty findings if the corresponding Resilient incidents are closed.
- Trigger a refresh for a Resilient incident if the corresponding GuardDuty finding gets updated.
- A refresh of Resilient incidents can be executed manually.

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 >= `39.0.6328`.
- 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 >= `39.0.6328`.
- 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>=35.0.0,<v39.0.0`.
- If using an API key account, make sure the account provides the following minimum permissions:

Name	Permissions
Org Data	Read
Function	Read
incident	create
all_incidents	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** support a proxy server.

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
aws_gd_access_key_id	Yes	`ABCD1EFGHI2JK3L4MNOP`	*AWS access key id of user with programmatic (API) access to AWS GuardDuty services for an AWS account. Note: User must have sufficent permissions to be able to manage GuardDuty resources for the AWS account.*
aws_gd_secret_access_key	Yes	`aBcdeFGH/iJkl1MNo2P3Q4rs5tuV6wXYZAbc+Def`	*AWS secret access key used for programmatic (API) access to AWS services.*
aws_gd_master_region	Yes	`us-west-1`	*Default or master region for the integration.*
aws_gd_regions	Yes	`"^us.*"`	*Filter by GuardDuty region names. Can be a string or regular expression.*

Config	Required	Example	Description
aws_gd_regions_interval	Yes	`60`	*Interval to refresh regions information (in minutes).*
aws_gd_polling_interval	Yes	`15`	*Interval to poll Guardduty for findings (in minutes).*
aws_gd_severity_threshold	No	`7`	*Severity threshold (int) to use in criterion to filter findings .*
aws_gd_lookback_interval	No	`60`	*How long, (in minutes) to check back for previous findings at startup. Filter to process only more recent findings.*
aws_gd_close_incident_template	No	``	*User defined JSON template file to use for closing Resilient incidents.*
http_proxy	No	`http://proxy:80`	*Optional setting for an http proxy if required.*
https_proxy	No	`https://proxy:443`	*Optional setting for an https proxy if required.*

Custom Layouts

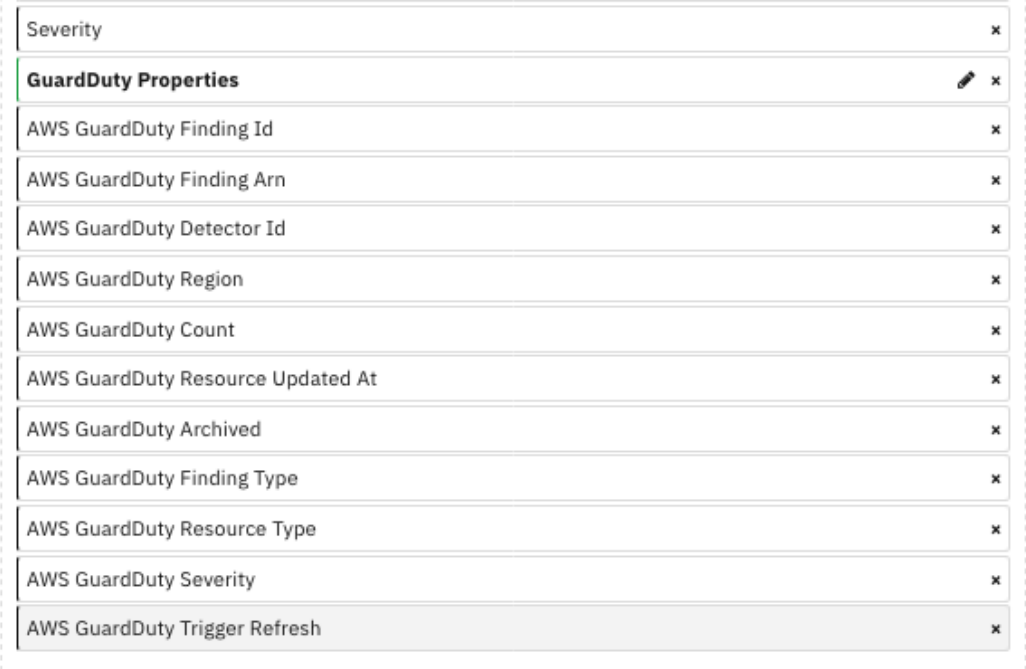
Import the Data Tables and Custom Fields as shown in the screenshot below.

Configure the Incident Details tab layout to display the AWS GuardDuty information as follows:

1. Navigate to the 'Customization Settings' and select the Layouts tab.

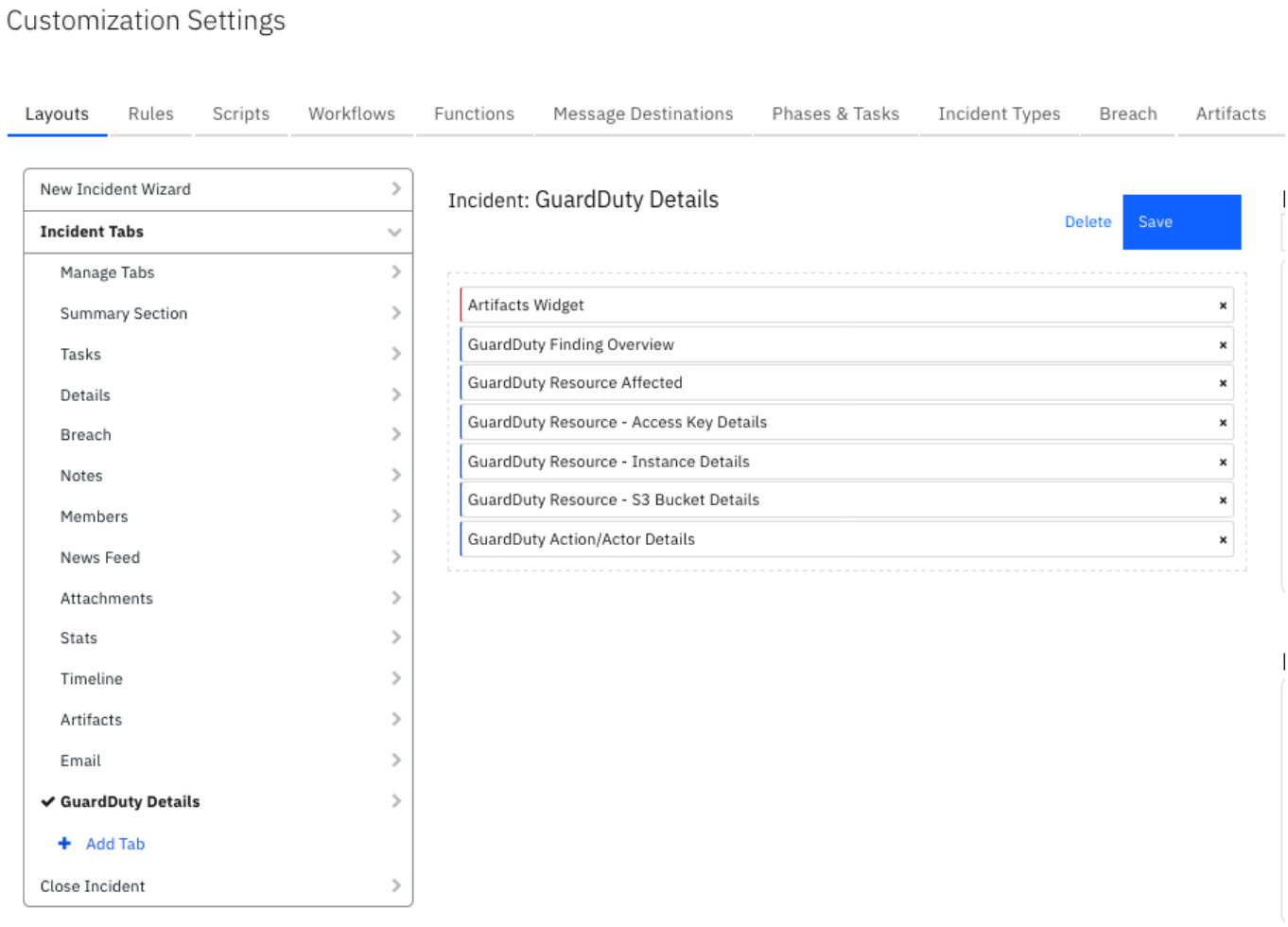
2. Click on ‘Incident Tabs’.
3. Create new heading 'AWS GuardDuty Properties' in the Details tab.
4. Drag and Drop the GuardDuty custom properties under the new heading.

The following screenshot shows the GuardDuty fields added to the Details tab.



5. Add a new incident tab named ‘AWS GuardDuty Details’.
6. Drag and drop the GuardDuty data tables under the new tab.
7. Click Save.

The following screenshot shows the GuardDuty data tables added to the GuardDuty tab:



Poller - AWS GUARDDUTY: Escalate Findings

The GuardDuty integration poller starts querying GuardDuty for findings as soon as the app begins running.

The poller provide the following functionality.

- For any new findings discovered, creates a matching incident in the Resilient platform.
- Enhances the incidents by adding artifacts, data tables and a note with data from the findings. The note includes the JSON content of the finding.
- Can be configured to filter the findings, which are escalated to the Resilient incidents.
- Closes Resilient incidents if the corresponding GuardDuty findings are archived.
- Archives GuardDuty findings if the corresponding Resilient incidents are closed.
- Triggers a refresh of GuardDuty information for a Resilient incident if the corresponding GuardDuty finding is updated.

The following screenshot shows examples of Resilient incidents created by the poller from GuardDuty findings:

Date Created: All | Name: All | Severity: All | More...

75 results Show 100 Columns

AWS GuardDuty Findin...	AWS GuardDuty Region	Date Closed	Name	Description	ID	Date Discovered	Next Due Date	Date Created
00bbd33198d025decc9f9ccb50abe004	eu-west-1	02/22/2021 12:39	AWS GuardDuty: Unusual user permission reconnaissance activity by GeneratedFindingUserName.	APIs commonly used to discover the users, groups, policies and permissions in an account, was invoked by IAM principal GeneratedFindingUserName under unusual circumstances. Such activity is not typically	2095	02/15/2021 15:50	—	02/19/2021 14:28
28bbd377e6bd83b8e3ec9d8f26d58c7e	us-east-2	02/22/2021 12:34	AWS GuardDuty: API GeneratedFindingAPIName was invoked from a remote host potentially running Kali Linux.	API GeneratedFindingAPIName was used to access S3 Bucket GeneratedFindingS3Bucket from a remote host with IP address 198.51.100.0 that is potentially running the Kali Linux	2105	02/15/2021 18:24	—	02/19/2021 14:29
9cbb95a0bcace4c905c53edffa06ea4e	us-east-2	—	AWS GuardDuty: Unusual user permission reconnaissance activity by GeneratedFindingUserName.	APIs commonly used to discover the users, groups, policies and permissions in an account, was invoked by IAM principal GeneratedFindingUserName under unusual circumstances. Such activity is not typically	2188	01/22/2021 18:00	—	02/19/2021 14:35
9ebbc3f0544997e11bcf0ebeb8c77ba3	us-west-2	—	AWS GuardDuty: API ListInstanceProfiles was invoked using root credentials.	API ListInstanceProfiles was invoked using root credentials from IP address 86.43.201.231.	2189	02/09/2021 17:39	—	02/19/2021 14:37
60baffd3f9042e38640f2300d5c5a631	us-west-2	—	AWS GuardDuty: API GeneratedFindingAPIName was invoked from an IP address on a custom threat list.	An API was used to access a bucket from an IP address on a custom threat list.	2190	11/25/2020 13:46	—	02/19/2021 14:37
b8baffd3f90472ebf26adce5cea33685	us-west-2	—	AWS GuardDuty: API GeneratedFindingAPIName was invoked from a Tor exit node.	API GeneratedFindingAPIName was used to access bucket GeneratedFindingS3Bucket from Tor exit node IP address 198.51.100.0.	2191	11/25/2020 13:46	—	02/19/2021 14:37

The following screenshot shows an example of a Resilient incident Details tab created by the poller:

AWS GuardDuty: Resource discovery API GeneratedFindingAPINam...

Actions

Description

API GeneratedFindingAPIName, commonly used in resource discovery, was used to access bucket GeneratedFindingS3Bucket from Tor exit node IP address 198.51.100.0. Unauthorized actors perform such activity to gather information about your Amazon S3 buckets and objects in order to further tailor the attack.

Tasks | Details | Breach | Notes | Members | News Feed | Attachments | Stats | Timeline | Artifacts | Email

GuardDuty Details

Edit

Basic Details

Name	AWS GuardDuty: Resource discovery API GeneratedFindingAPIName was invoked from a Tor exit node.
Description	API GeneratedFindingAPIName, commonly used in resource discovery, was used to access bucket GeneratedFindingS3Bucket from Tor exit node IP address 198.51.100.0. Unauthorized actors perform such activity to gather information about your Amazon S3 buckets and objects in order to further tailor the attack.
Incident Type	—
NIST Attack Vectors	—
Incident Disposition	Unconfirmed
Phase	Respond
Resolution	—
Resolution Summary	—
Owner	Resilient Sysadmin
Created By	Resilient Sysadmin

Summary

ID	2192
Phase	Respond
Severity	Low
Date Created	02/19/2021 14:37
Date Occurred	—
Date Discovered	11/25/2020 13:46
Data Compromised	Unknown
Incident Type	—

People

Created By	Resilient Sysadmin
Owner	Resilient Sysadmin
Members	*There are no members.*

Related Incidents

#2260 AWS GuardDuty: Unusual reads of ...
#2259 AWS GuardDuty: Impact:S3/Permiss...
#2257 AWS GuardDuty: Unusual deletion ...
#2256 AWS GuardDuty: Unusual enumerati...
#2249 AWS GuardDuty: Amazon S3 Block P...
#2247 AWS GuardDuty: Amazon S3 Public ...
#2246 AWS GuardDuty: Amazon S3 Block P...

The following screenshot shows an example of GuardDuty finding custom properties in the Details tab of a Resilient incident created by the poller:

Edit

Date and Location

Date Created	02/19/2021 14:37
Date Occurred	—
Date Discovered	11/25/2020 13:46:37
Address	—
City	—
Country	—
Postal Code	—

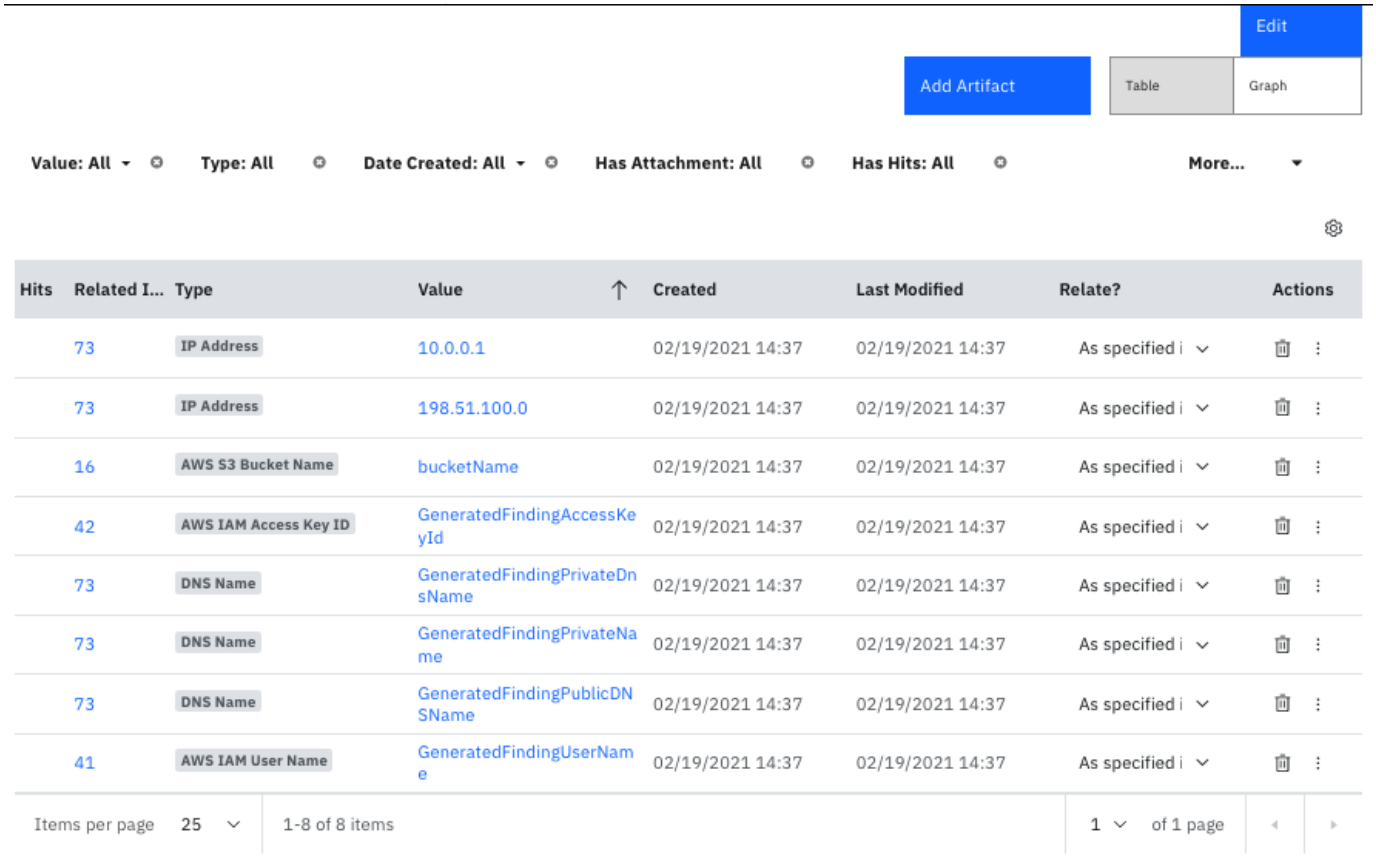
Implications

Criminal or nefarious activity?	No
Exposure Type	Unknown
Department	—
Negative PR	Unknown
Reporting Individual	—
Severity	Low

GuardDuty Properties

AWS GuardDuty Finding Id	18baffd3f9039ba840cdf3ad226e36f7
AWS GuardDuty Finding Arn	arn:aws:guardduty:us-west-2:834299573936:detector/f2baedb0ac74f8f42fc929e15f56da6a/finding/18baffd3f9039ba840cdf3ad226e36f7
AWS GuardDuty Detector Id	f2baedb0ac74f8f42fc929e15f56da6a
AWS GuardDuty Region	us-west-2
AWS GuardDuty Count	4
AWS GuardDuty Resource Updated At	2020-11-26T15:18:12.619Z
AWS GuardDuty Archived	False
AWS GuardDuty Finding Type	Discovery:S3/TorIPCaller
AWS GuardDuty Resource Type	S3Bucket
AWS GuardDuty Severity	2
AWS GuardDuty Trigger Refresh	Unknown

The following screenshot shows examples of artifacts added to a Resilient incident created by the poller:

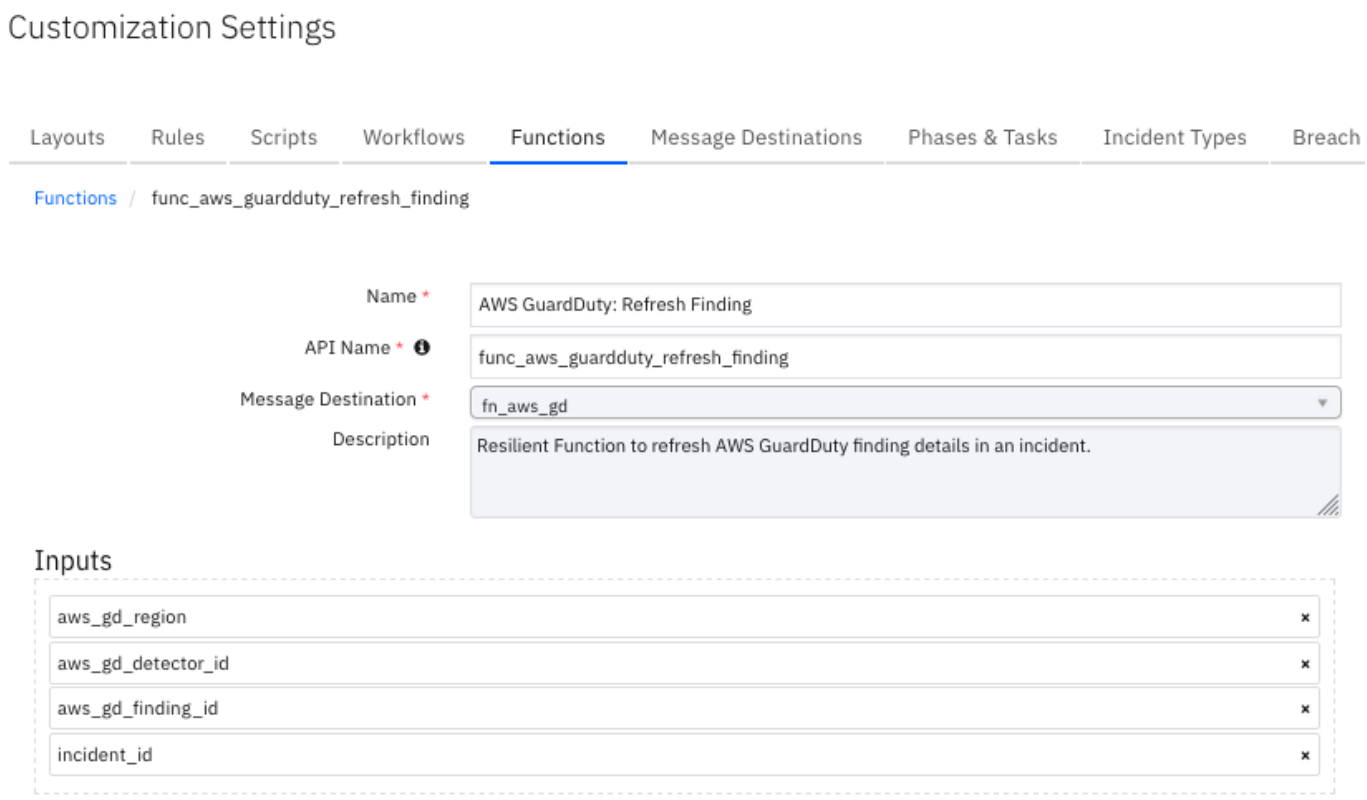


The following screenshot shows an example of a note added to a Resilient incident created by the poller:

Note: See the data tables section for examples of data tables added by the poller.

Function - AWS GUARDDUTY: Refresh Finding

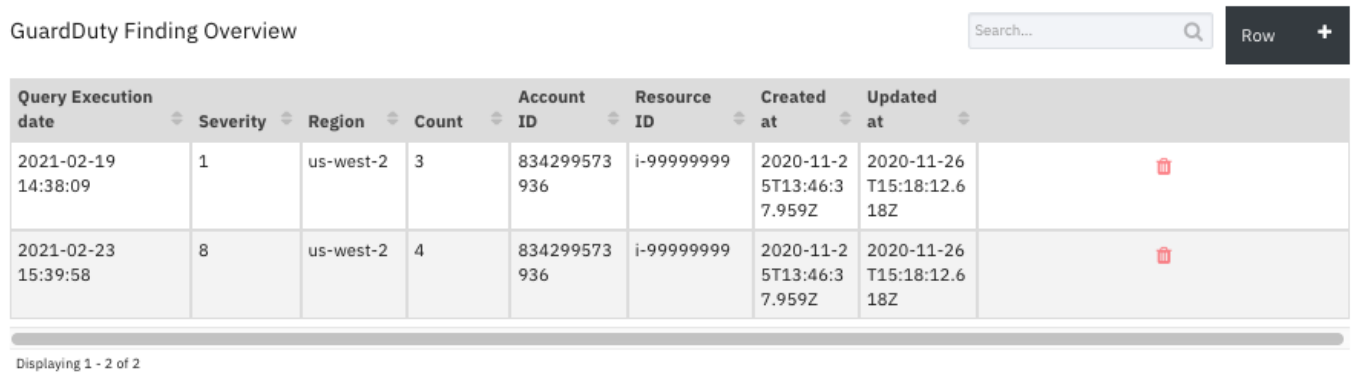
Resilient function to refresh AWS GuardDuty finding details in an incident.



The function provides the following functionality.

- Updates incident fields such as the `aws_guardduty_count` , `aws_guardduty_finding_updated_at` and `aws_guardduty_severity`.
- Refreshes all related data tables of the Resilient incident.
- Adds new or missing artifacts discovered in the GuardDuty finding.
- Adds two notes to the Resilient incident. One of the notes includes the JSON refreshed content of the finding.

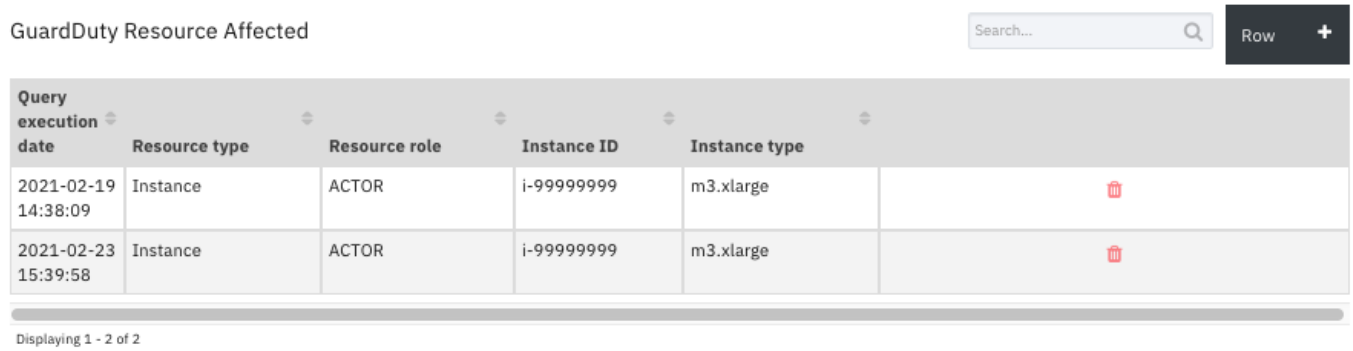
The following screenshot shows an example of data tables updated by the function:


GuardDuty Finding Overview

Search... Row +

Query Execution date	Severity	Region	Count	Account ID	Resource ID	Created at	Updated at	
2021-02-19 14:38:09	1	us-west-2	3	834299573936	i-99999999	2020-11-25T13:46:37.959Z	2020-11-26T15:18:12.618Z	
2021-02-23 15:39:58	8	us-west-2	4	834299573936	i-99999999	2020-11-25T13:46:37.959Z	2020-11-26T15:18:12.618Z	

Displaying 1 - 2 of 2

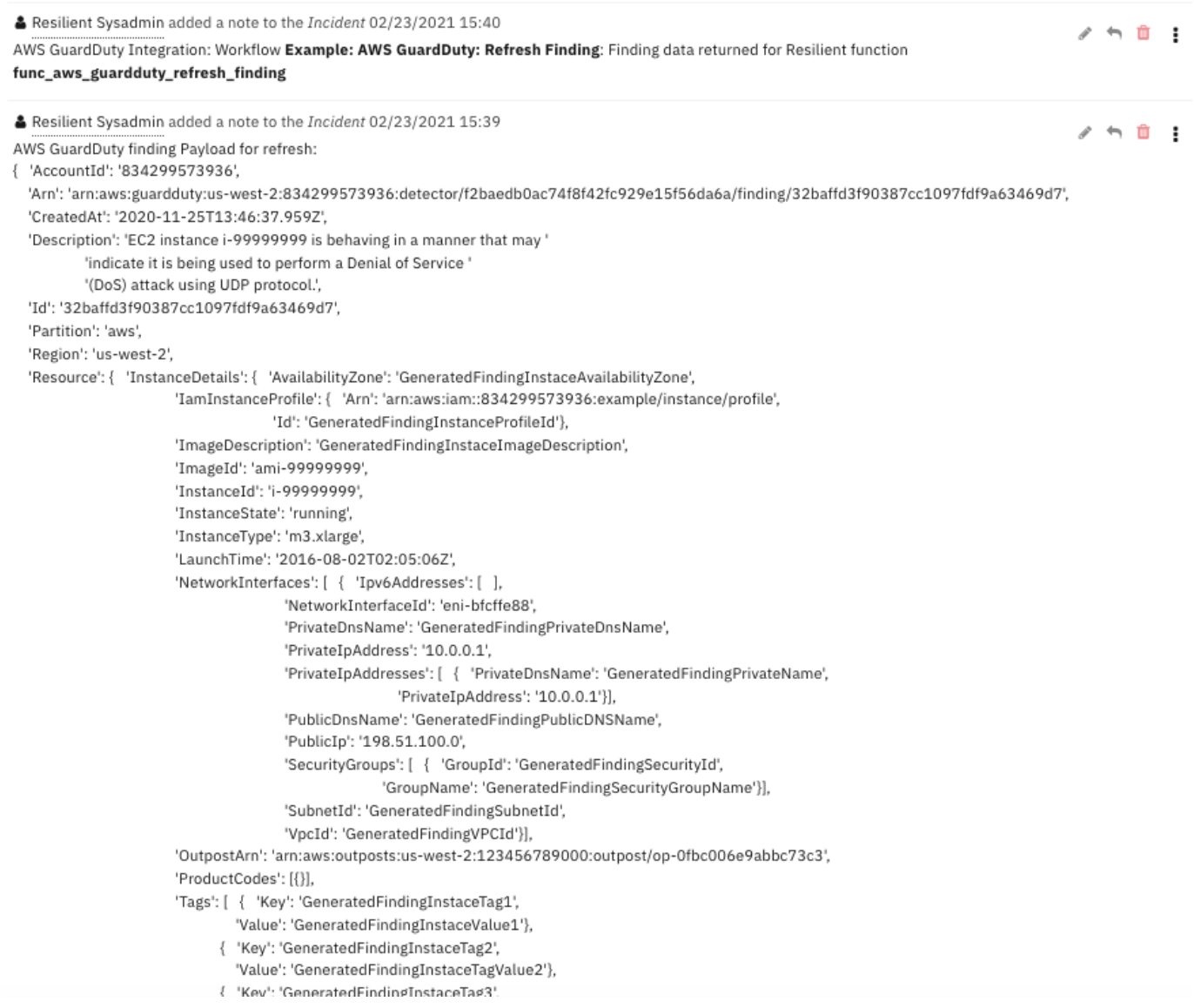

GuardDuty Resource Affected

Search... Row +

Query execution date	Resource type	Resource role	Instance ID	Instance type	
2021-02-19 14:38:09	Instance	ACTOR	i-99999999	m3.xlarge	
2021-02-23 15:39:58	Instance	ACTOR	i-99999999	m3.xlarge	

Displaying 1 - 2 of 2

The following screenshot shows an example of notes added to a Resilient incident created by the poller:


Resilient Sysadmin added a note to the *Incident* 02/23/2021 15:40

AWS GuardDuty Integration: Workflow **Example: AWS GuardDuty: Refresh Finding**: Finding data returned for Resilient function **func_aws_guardduty_refresh_finding**

Resilient Sysadmin added a note to the *Incident* 02/23/2021 15:39

AWS GuardDuty finding Payload for refresh:

```
{  'AccountId': '834299573936',
   'Arn': 'arn:aws:guardduty:us-west-2:834299573936:detector/f2baedb0ac74f8f42fc929e15f56da6a/finding/32baffd3f90387cc1097fdf9a63469d7',
   'CreatedAt': '2020-11-25T13:46:37.959Z',
   'Description': 'EC2 instance i-99999999 is behaving in a manner that may '
                  'indicate it is being used to perform a Denial of Service '
                  '(DoS) attack using UDP protocol.',
   'Id': '32baffd3f90387cc1097fdf9a63469d7',
   'Partition': 'aws',
   'Region': 'us-west-2',
   'Resource': {  'InstanceDetails': {  'AvailabilityZone': 'GeneratedFindingInstaceAvailabilityZone',
                                        'IamInstanceProfile': {  'Arn': 'arn:aws:iam::834299573936:example/instance/profile',
                                                                 'Id': 'GeneratedFindingInstanceProfileId'},
                                        'ImageDescription': 'GeneratedFindingInstaceImageDescription',
                                        'ImageId': 'ami-99999999',
                                        'InstanceId': 'i-99999999',
                                        'InstanceState': 'running',
                                        'InstanceType': 'm3.xlarge',
                                        'LaunchTime': '2016-08-02T02:05:06Z',
                                        'NetworkInterfaces': [  {  'Ipv6Addresses': [  ],
                                                                   'NetworkInterfaceId': 'eni-bfcffe88',
                                                                   'PrivateDnsName': 'GeneratedFindingPrivateDnsName',
                                                                   'PrivateIpAddress': '10.0.0.1',
                                                                   'PrivateIpAddresses': [  {  'PrivateDnsName': 'GeneratedFindingPrivateName',
                                                                                               'PrivateIpAddress': '10.0.0.1'}],
                                                                   'PublicDnsName': 'GeneratedFindingPublicDNSName',
                                                                   'PublicIp': '198.51.100.0',
                                                                   'SecurityGroups': [  {  'GroupId': 'GeneratedFindingSecurityId',
                                                                                           'GroupName': 'GeneratedFindingSecurityGroupName'}],
                                                                   'SubnetId': 'GeneratedFindingSubnetId',
                                                                   'VpcId': 'GeneratedFindingVPCId'}],
                                        'OutpostArn': 'arn:aws:outposts:us-west-2:123456789000:outpost/op-0fbc006e9abbc73c3',
                                        'ProductCodes': [{}],
                                        'Tags': [  {  'Key': 'GeneratedFindingInstaceTag1',
                                                      'Value': 'GeneratedFindingInstaceValue1'},
                                                   {  'Key': 'GeneratedFindingInstaceTag2',
                                                      'Value': 'GeneratedFindingInstaceTagValue2'},
                                                   {  'Key': 'GeneratedFindingInstaceTag3',
```

▶ Inputs:

Name	Type	Required	Example	Tooltip
aws_gd_detector_id	text	No	-	AWS GuardDuty detector ID.
aws_gd_finding_id	text	No	-	AWS GuardDuty finding ID.
aws_gd_region	text	No	-	AWS GuardDuty region.
incident_id	number	No	-	Resilient incident ID.

▶ 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.aws_gd_region = incident.properties.aws_guardduty_region
inputs.aws_gd_detector_id = incident.properties.aws_guardduty_detector_id
inputs.aws_gd_finding_id = incident.properties.aws_guardduty_finding_id
inputs.incident_id = incident.id
```

▶ Example Post-Process Script:

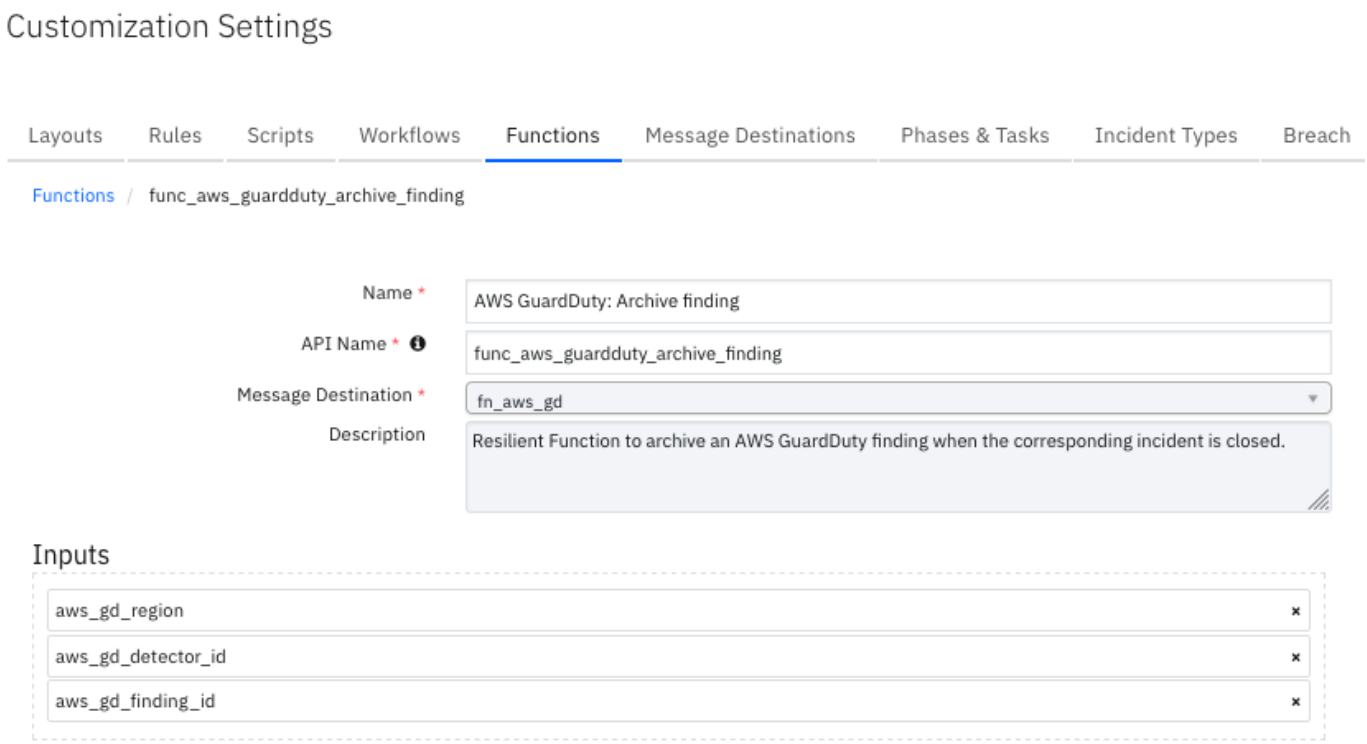
```
##  wf_aws_guardduty_refresh_finding ##
# Example result:
"""
Result: { 'version': '1.0',
          'success': True,
          'reason': None,
          'content': {'payload': {'name': 'AWS GuardDuty: API
GeneratedFindingAPIName was invoked from an IP address on a custom threat list.',
                                  'description': {'format': 'text', 'content': 'An
API was used to access a bucket from an IP address on a custom threat list.'},
                                  'discovered_date': '2020-11-25T13:46:37.960Z',
                                  'severity_code': 'Low',
                                  'properties': {'aws_guardduty_finding_id':
'60baffd3f9042e38640f2300d5c5a631',
                                                 'aws_guardduty_finding_arn':
'arn:aws:guardduty:us-west-
2:834299573936:detector/f2baedb0ac74f8f42fc929e15f56da6a/finding/60baffd3f9042e38640
f2300d5c5a631',
                                                 'aws_guardduty_finding_type':
'UnauthorizedAccess:S3/MaliciousIPCaller.Custom',
                                                 'aws_guardduty_finding_updated_at':
'2020-11-26T15:18:12.620Z', 'aws_guardduty_region': 'us-west-2',
                                                 'aws_guardduty_resource_type':
'S3Bucket', 'aws_guardduty_count': 4,
```

```
                                                    'aws_guardduty_detector_id':
'f2baedb0ac74f8f42fc929e15f56da6a'},
                                    'artifacts': [],
                                    'comments': [{'text': {'format': 'text',
'content': "AWS GuardDuty finding Payload:\n<FINDING_PAYLOAD_AS_STRING>"}}]

                                },
                        "data_tables": {"gd_action_details": [{"cells":
{"action_type": {"value": "AWS_API_CALL"},
                                                               "action_api": {"value":
"GeneratedFindingAPIName"},
                                                               "event_first_seen":
{"value": "2020-11-25T13:46:37.960Z"},
                                                               "event_last_seen":
{"value": "2020-11-26T15:18:12.620Z"},
                                                              "actor_caller_type":
{"value": "Remote IP"}, "city_name": {"value": "GeneratedFindingCityName"},
"country_name": {"value": "GeneratedFindingCountryName"}, "asn": {"value": "-1"},
"asn_org": {"value": "GeneratedFindingASNOrg"}, "isp": {"value":
"GeneratedFindingISP"}, "org": {"value": "GeneratedFindingORG"},
"action_service_name": {"value": "GeneratedFindingAPIServiceName"}, "remote_ip":
{"value": "198.51.100.0"}}}],
                                        "gd_resource_affected": [{"cells":
{"resource_type": {"value": "S3Bucket"}, "instance_id": {"value": "i-99999999"},
"instance_type": {"value": "m3.xlarge"}, "instance_state": {"value": "running"},
"resource_role": {"value": "TARGET"}, "instance_private_ip": {"value": "10.0.0.1"},
"instance_private_dns": {"value": "GeneratedFindingPrivateName"},
"instance_public_ip": {"value": "198.51.100.0"}, "instance_public_dns": {"value":
"GeneratedFindingPublicDNSName"}, "s3bucket_name": {"value": "bucketName"},
"s3bucket_owner": {"value": "CanonicalId of Owner"}}}]

                        }}',
            'inputs': {'incident_id': 2168, 'aws_gd_finding_id':
'60baffd3f9042e38640f2300d5c5a631',
                       'aws_gd_region': 'us-west-2', 'aws_gd_detector_id':
'f2baedb0ac74f8f42fc929e15f56da6a'},
            'metrics': {'version': '1.0', 'package': 'fn-aws-guardduty',
'package_version': '1.0.0',
                        'host': 'Johnp-MacBook-Pro-2.galway.ie.ibm.com',
'execution_time_ms': 10739,
                        'timestamp': '2021-01-18 16:51:10'}
}
"""
#  Globals
# List of fields in datatable for wf_aws_guardduty_refresh_finding script
DATA_TABLES = ["gd_action_details", "gd_resource_affected"]
FN_NAME = "func_aws_guardduty_refresh_finding"
WF_NAME = "Example: AWS GuardDuty: Refresh Finding"
# Resilient artifact names to api names.
ARTIFACT_API_TO_TYPE = {
    "aws_iam_access_key_id": "AWS IAM Access Key ID",
    "aws_iam_user_name": "AWS IAM User Name",
    "aws_s3_bucket_name": "AWS S3 Bucket Name",
    "IP Address": "IP Address",
    "DNS Name": "DNS Name",
    "Port": "Port"
}
CONTENT = results.content
QUERY_EXECUTION_DATE = results["metrics"]["timestamp"]
```

```
if CONTENT:
    FINDING = CONTENT.finding
    PAYLOAD = CONTENT.payload
    ARTIFACTS = PAYLOAD.artifacts
    DATA_TABLES = CONTENT.data_tables

# Processing

def main():
    note_text = ''
    if CONTENT:
        note_text = "AWS GuardDuty Integration: Workflow <b>{0}</b>: Finding data
returned for Resilient function " \
                    "<b>{2}</b>".format(WF_NAME, len(CONTENT), FN_NAME)

        update_fields()
        update_datatables()
        if ARTIFACTS:
            add_artifacts()
    else:
        note_text = "AWS GuardDuty Integration: Workflow <b>{0}</b>: No finding data
returned for Resilient function " \
                    "<b>{2}</b>".format(WF_NAME, len(CONTENT), FN_NAME)

    incident.addNote(helper.createRichText(note_text))

def update_fields():
    incident.severity_code = PAYLOAD["severity_code"]
    incident.properties.aws_guardduty_finding_updated_at = PAYLOAD["properties"]
["aws_guardduty_finding_updated_at"]
    incident.properties.aws_guardduty_count = str(PAYLOAD["properties"]
["aws_guardduty_count"])
    incident.properties.aws_guardduty_archived = str(PAYLOAD["properties"]
["aws_guardduty_archived"])
    incident.properties.aws_guardduty_severity = str(PAYLOAD["properties"]
["aws_guardduty_severity"])

def update_datatables():
    for data_table in DATA_TABLES:
        for row in DATA_TABLES[data_table]:
            newrow = incident.addRow(data_table)
            newrow.query_execution_date = QUERY_EXECUTION_DATE
            data_table_fields = row["cells"]
            for f, v_info in data_table_fields.items():
                newrow[f] = v_info.value


def add_artifacts():
    for artifact in ARTIFACTS:
        artifact_type = ARTIFACT_API_TO_TYPE[artifact["type"]["name"]]
        artifact_value = artifact["value"]
        description = artifact["description"]["content"]
        incident.addArtifact(artifact_type, artifact_value, description)


if __name__ == "__main__":
    main()
```

Function - AWS GUARDDUTY: Archive finding

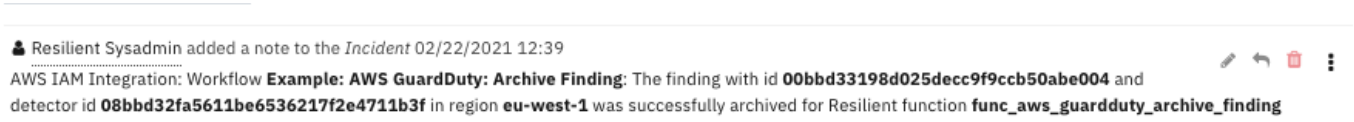
Resilient function to archive an AWS GuardDuty finding when the corresponding incident is closed.



The function provides the following functionality.

- When a Resilient incident corresponding to a GuardDuty find is closed, an automatic rule `Example: AWS GuardDuty: Archive Finding` is triggered which executes the function.
- Archives the related GuardDuty finding.
- Adds a note to the Resilient incident.

The following screenshot shows an example of a note added to a Resilient incident created by the function:



▶ Inputs:

Name	Type	Required	Example	Tooltip
`aws_gd_detector_id`	`text`	No	–	AWS GuardDuty detector ID.
`aws_gd_finding_id`	`text`	No	–	AWS GuardDuty finding ID.
`aws_gd_region`	`text`	No	–	AWS GuardDuty region.

▶ 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:

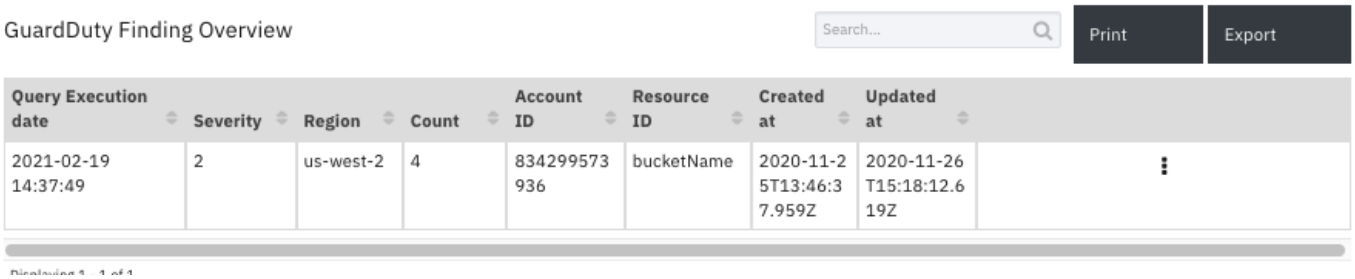
```
inputs.aws_gd_region = incident.properties.aws_guardduty_region
inputs.aws_gd_detector_id = incident.properties.aws_guardduty_detector_id
inputs.aws_gd_finding_id = incident.properties.aws_guardduty_finding_id
```

▶ Example Post-Process Script:

```
##  wf_aws_guardduty_refresh_finding ##
# Example result:
"""
Good
====
Result: {'version': '1.0', 'success': True, 'reason': None,
         'content': {'status': 'ok'},
         'raw': '{"status": "ok"}',
         'inputs': {'aws_gd_finding_id': 'c2bb95a17b879bffc96c58f8a1689785',
'aws_gd_region': 'us-east-2',
                    'aws_gd_detector_id': '32b7017d2019dfe922abc4e07c3fdded'
                    },
         'metrics': {'version': '1.0', 'package': 'fn-aws-guardduty',
'package_version': '1.0.0',
         'host': 'myhost.ibm.com', 'execution_time_ms': 1310, 'timestamp': '2021-01-
28 11:31:30'
        }
}
Error:
Result: {'version': '1.0', 'success': True, 'reason': None,
         'content': {'status': 'error',
                     'msg': 'An error occurred (BadRequestException) when calling
the ArchiveFindings operation:
                     The request is rejected because the input detectorId is not
owned by the current account.'},
                     'raw': '<content_as_string>',
         'inputs': {'aws_gd_finding_id': 'c2bb95a17b879bffc96c58f8a1689784',
'aws_gd_region': 'us-east-2',
                    'aws_gd_detector_id': '32b7017d2019dfe922abc4e07c3fdfff'
                    },
         'metrics': {'version': '1.0', 'package': 'fn-aws-guardduty',
'package_version': '1.0.0',
         'host': 'myhost.ibm.com', 'execution_time_ms': 1446, 'timestamp': '2021-01-
28 11:34:53'
         }
}
"""
#  Globals
FN_NAME = "func_aws_guardduty_archive_finding"
WF_NAME = "Example: AWS GuardDuty: Archive Finding"
# Resilient artifact names to api names.
# Processing
# Processing
CONTENT = results.content
```

```
INPUTS = results.inputs
QUERY_EXECUTION_DATE = results["metrics"]["timestamp"]


# Processing

def main():
    note_text = ''
    if CONTENT:
        if CONTENT["status"] == "ok":
            note_text = "AWS IAM Integration: Workflow <b>{0}</b>: The finding with
id <b>{1}</b> and detector id " \
                        "<b>{2}</b> in region <b>{3}</b> was successfully archived
for Resilient function <b>{4}</b>"\
                .format(WF_NAME, INPUTS["aws_gd_finding_id"],
INPUTS["aws_gd_detector_id"], INPUTS["aws_gd_region"], FN_NAME)
            # Update archived property.
            incident.properties.aws_guardduty_archived = "True"


        elif CONTENT["status"] == "error":
            note_text = "AWS IAM Integration: Workflow <b>{0}</b>: The finding with
id <b>{1}</b> and detector id " \
                        "<b>{2}</b> in region <b>{3}</b> failed archive with error
<b>{4}</b> for Resilient function <b>{5}</b>"\
                .format(WF_NAME, INPUTS["aws_gd_finding_id"],
INPUTS["aws_gd_detector_id"], INPUTS["aws_gd_region"],
                        CONTENT["msg"], FN_NAME)

        else:
            note_text = "AWS IAM Integration: Workflow <b>{0}</b>: The finding with
id <b>{1}</b> and detector id " \
                        "<b>{2}</b> in region <b>{3}</b> got unexpected status <b>
{4}</b> for Resilient function <b>{5}</b>" \
                .format(WF_NAME, INPUTS["aws_gd_finding_id"],
INPUTS["aws_gd_detector_id"], CONTENT["status"], INPUTS["aws_gd_region"],
                        FN_NAME)

    else:
        note_text += "AWS IAM Integration: Workflow <b>{0}</b>: There was no result
returned for Resilient function <b>{0}</b>"\
            .format(WF_NAME, FN_NAME)

    incident.addNote(helper.createRichText(note_text))

if __name__ == "__main__":
    main()
```

Data Table - GuardDuty Finding Overview



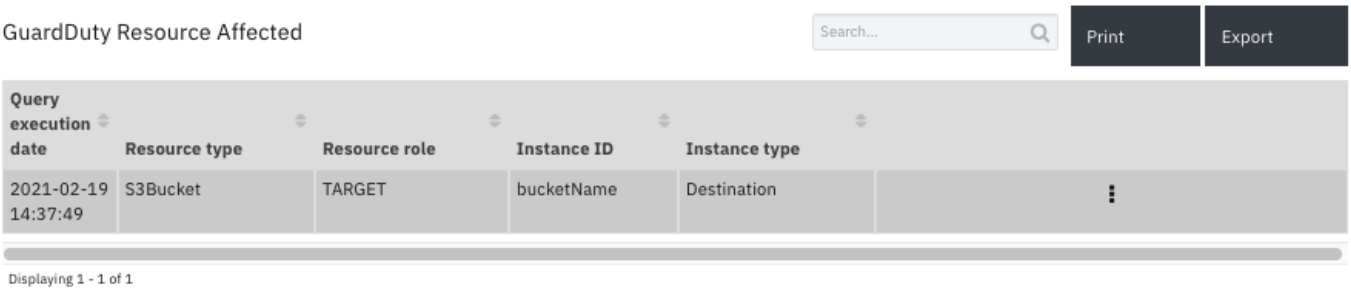
API Name:

gd_finding_overview

Columns:

Column Name	API Access Name	Type	Tooltip
Account ID	account_id	text	-
Count	count	text	-
Created at	created_at	text	-
Query Execution date	query_execution_date	text	-
Region	region	text	-
Resource ID	resource_id	text	-
Severity	severity	text	-
Updated at	updated_at	text	-

Data Table - GuardDuty Resource Affected



API Name:

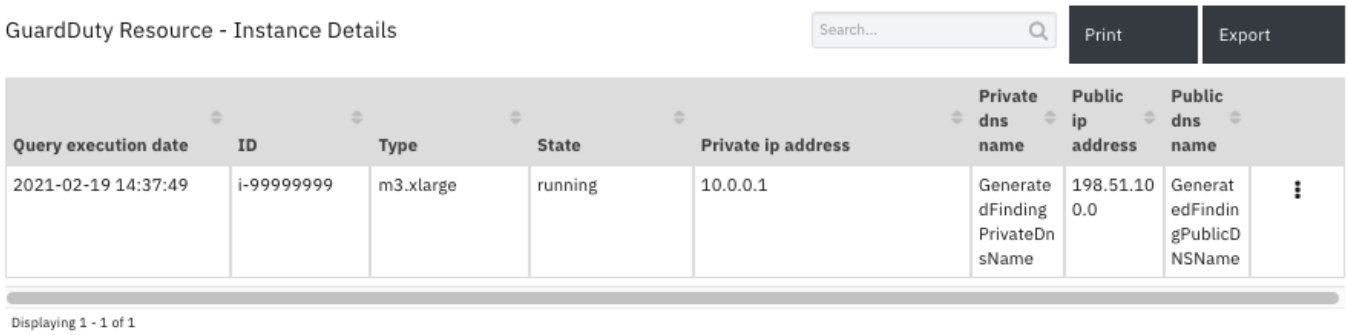
gd_resource_affected

Columns:

Column Name	API Access Name	Type	Tooltip
Instance ID	instance_id	text	-
Instance type	instance_type	text	-
Query execution date	query_execution_date	text	-
Resource role	resource_role	text	-

Column Name	API Access Name	Type	Tooltip
Resource type	resource_type	text	-

Data Table - GuardDuty Resource - Instance Details



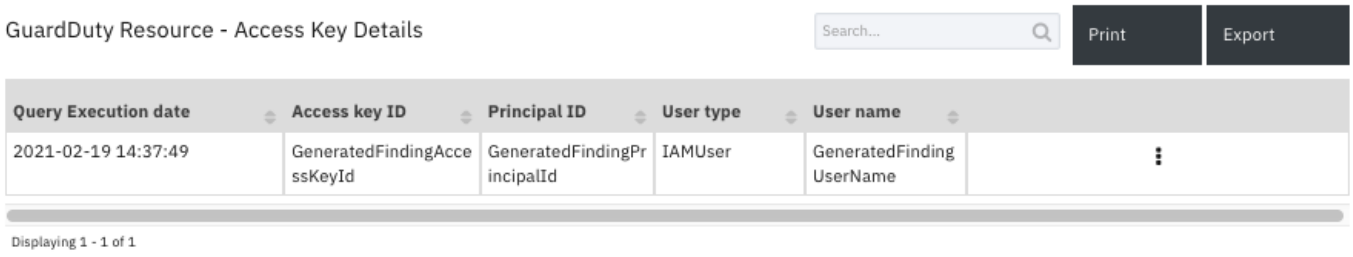
API Name:

gd_instance_details

Columns:

Column Name	API Access Name	Type	Tooltip
ID	instance_id	text	-
State	instance_state	text	-
Private dns name	private_dns_name	text	-
Private ip address	private_ip	text	-
Public dns name	public_dns_name	text	-
Public ip address	public_ip	text	-
Query execution date	query_execution_date	text	-
Type	type	text	-

Data Table - GuardDuty Resource - Access Key Details



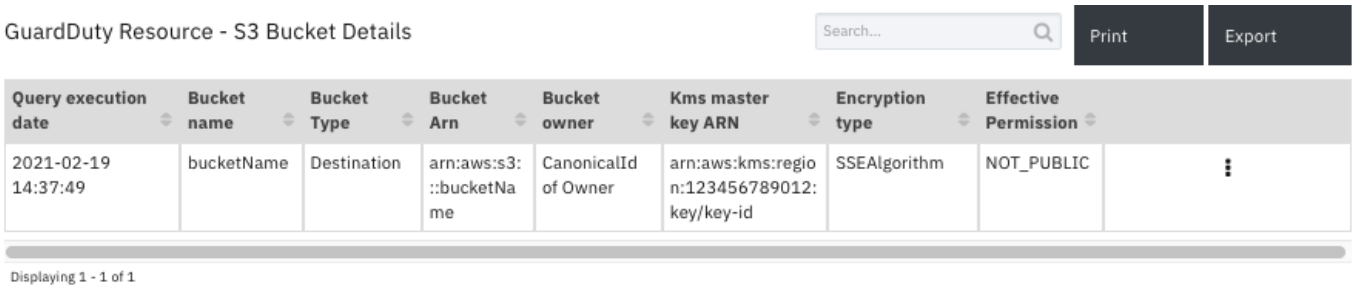
API Name:

gd_access_key_details

Columns:

Column Name	API Access Name	Type	Tooltip
Access key ID	access_key_id	text	-
Principal ID	principal_id	text	-
Query Execution date	query_execution_date	text	-
User name	user_name	text	-
User type	user_type	text	-

Data Table - GuardDuty Resource - S3 Bucket Details



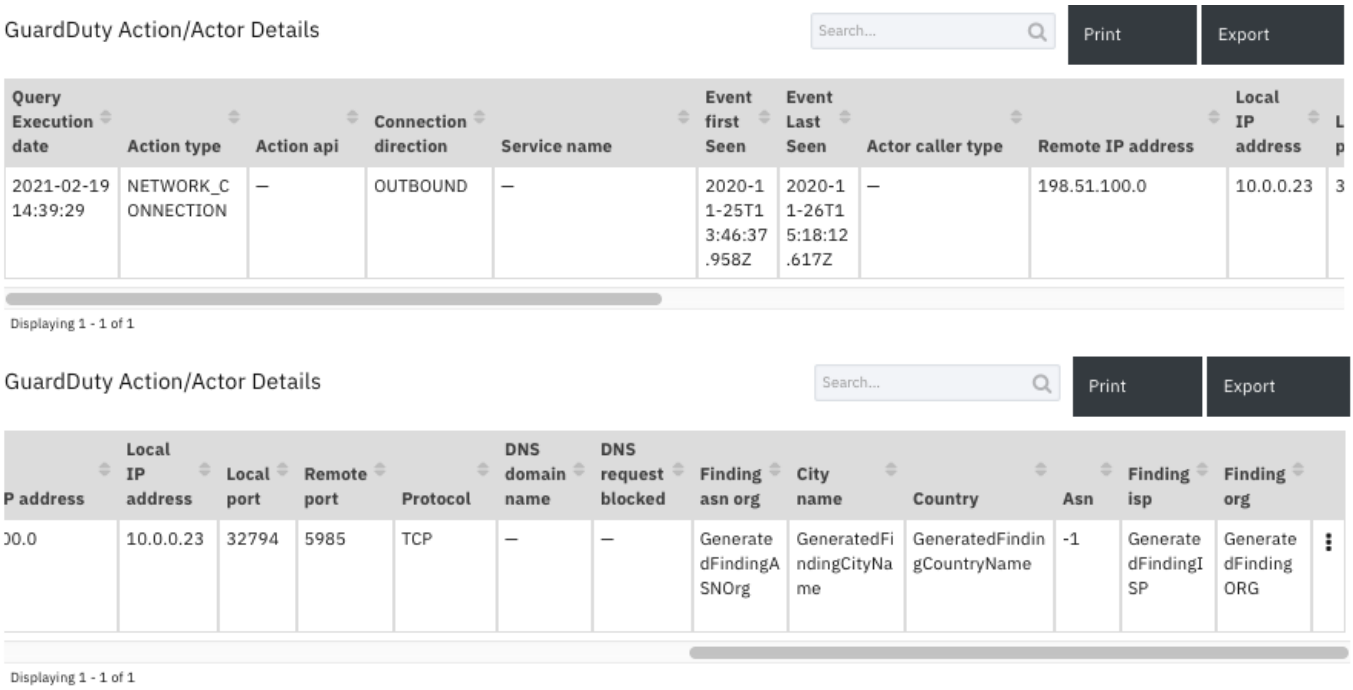
API Name:

gd_s3_bucket_details

Columns:

Column Name	API Access Name	Type	Tooltip
Bucket Arn	bucket_arn	text	-
Bucket name	bucket_name	text	-
Bucket owner	bucket_owner	text	-
Bucket Type	bucket_type	text	-
Effective Permission	effective_permissions	text	-
Encryption type	encryption_type	text	-
Kms master key ARN	kms_master_key_arn	text	-
Query execution date	query_execution_date	text	-

Data Table - GuardDuty Action/Actor Details



API Name:

gd_action_details

Columns:

Column Name	API Access Name	Type	Tooltip
Action api	action_api	text	-
Action type	action_type	text	-
Actor caller type	actor_caller_type	text	-
Asn	asn	text	-
Finding asn org	asn_org	text	-
City name	city_name	text	-
Connection direction	connection_direction	text	-
Country	country_name	text	-
DNS request blocked	dns_blocked	text	-
DNS domain name	dns_domain_name	text	-
Event first Seen	event_first_seen	text	-
Event Last Seen	event_last_seen	text	-
Finding isp	isp	text	-
Local IP address	local_ip	text	-
Local port	local_port	text	-
Finding org	org	text	-
Protocol	protocol	text	-

Column Name	API Access Name	Type	Tooltip
Query Execution date	query_execution_date	text	-
Remote IP address	remote_ip	text	-
Remote port	remote_port	text	-
Service name	service_name	text	-

Custom Fields

Label	API Access Name	Type	Prefix	Placeholder	Tooltip
AWS GuardDuty Finding Arn	aws_guardduty_finding_arn	text	properties	-	Arn of the GuardDuty finding.
AWS GuardDuty Resource Updated At	aws_guardduty_finding_updated_at	text	properties	The last time this finding was updated with new activity matching the pattern that prompted GuardDuty to generate this finding.	-
AWS GuardDuty Resource Type	aws_guardduty_resource_type	text	properties	-	The type of the affected resource of the GuardDuty finding. This value is either AccessKey, S3 bucket or Instance.

Label	API Access Name	Type	Prefix	Placeholder	Tooltip
AWS GuardDuty Finding Id	aws_guardduty_finding_id	text	properties	-	A unique Finding ID for this GuardDuty finding type and set of parameters. New occurrences of activity matching this pattern will be aggregated to the same ID.
AWS GuardDuty Region	aws_guardduty_region	text	properties	-	The AWS Region in which the GuarDuty finding was generated.
AWS GuardDuty Archived	aws_guardduty_archived	text	properties	-	A true or false value that indicates whether this is GuardDuty finding has been archived.
AWS GuardDuty Detector Id	aws_guardduty_detector_id	text	properties	-	The detector ID where the GuardDuty finding was detected.

Label	API Access Name	Type	Prefix	Placeholder	Tooltip
AWS GuardDuty Count	aws_guardduty_count	text	properties	-	The number of times GuardDuty has aggregated an activity matching this pattern to this finding ID.
AWS GuardDuty Trigger Refresh	aws_guardduty_trigger_refresh	boolean	properties	False	Used by integration to trigger an refresh of GuarDuty incidents.
AWS GuardDuty Finding Type	aws_guardduty_finding_type	text	properties	-	The type of activity that triggered the GuardDuty finding.

Custom Artifact Types

Display Name	API Access Name	Description
AWS S3 Bucket Name	aws_s3_bucket_name	Amazon Web Services (AWS) S3 bucket name.
AWS IAM Access Key ID	aws_iam_access_key_id	Amazon Web Services (AWS) IAM access key id.
AWS IAM User Name	aws_iam_user_name	Amazon Web Services (AWS) IAM user name.

Rules

Rule Name	Object	Workflow Triggered
Example: AWS GuardDuty: Refresh Finding Details	incident	wf_aws_guardduty_refresh_finding
Example: AWS GuardDuty: Archive Finding	incident	wf_aws_guardduty_archive_finding
Example: AWS GuardDuty: Update Finding Details	incident	wf_aws_guardduty_refresh_finding

Troubleshooting & Support

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

For Support

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