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Release Notes

Version	Date	Notes
v2.0.0	8/2022	Added OAuth 2.0 support for SMTP. Multiple out of box changes
v1.3.1	1/2022	Bug fixes for get_datatable function in template_helper.py
v1.3.0	7/2021	Username in app.config does not need to be an email
v1.2.1	5/2021	Bug fix for python 2
v1.2.0	4/2021	Added capability for task attachments
v1.1.1	2/2021	Bug fixes associated with sending attachments
v1.1.0	10/2020	Bug fixes and send all or specific attachments
v1.0.9	5/2020	App Host compatibility
v1.0.8	4/2020	Initial Release after internal development by Professional Services, no prior release notes

v2.0

Version 2.0 represents a comprehensive set of changes to make the use of outbound email more out-the-box with inbound mail. This release incorporates many changes which are summarized here:

- Unified display of inbound emails with outbound email through a datatable. See Script - Outbound Email Results and [Datatable - Email Conversations].(#datatable---email-conversations).
- Auto modification of the Email tab to include email conversations datatable.
- Multiple template support defined in the app.config file.
- Additional header available for outbound email (i.e. message-id, in-reply-to, importance).
- Enhanced incident data available to include from templates (i.e. artifacts, notes and links back to SOAR).
- A new function to preserve the original outbound email capability and allow all the new functionality in v2.0 to be added. See Function - Outbound Email: Send Email2.

Overview

IBM QRadar SOAR app for Outbound Email

The Outbound Email App for IBM SOAR provides a way of sending email from the SOAR platform. The email message contains information about the incident that the email action was performed on.

Key Features

The Outbound Email App provides the following functionality:

- Send email to lists of recipients (to, cc, bcc).
- Format email using a predefined html template or specify your own template.
- Send attachments with the email at the incident level or task level.
- Example rules included at the incident and task levels.
- Unified view of inbound and outbound emails
- Manage threaded conversations

Requirements

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

SOAR platform

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

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

- SOAR platform >= `43.1.0`.
- The app is in a container-based format (available from the AppExchange as a `zip` file).

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

- SOAR platform >= `43.1.0`.
- 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`.
- If using an API key account, make sure the account provides the following minimum permissions:
  - Org Data: Read and Edit
  - Incident: Read
  - Functions: Read
  - Layout: Read, Update

The following SOAR 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/soar-docs. On this web page, select your SOAR platform version. On the follow-on page, you can find the *App Host Deployment Guide* or *Integration Server Guide* by expanding **Apps** in the Table of Contents pane. The System Administrator Guide is available by expanding **System Administrator**.

Cloud Pak for Security

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

- IBM Cloud Pak for Security >= 1.4.
- 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 not** support a proxy server.

Python Environment

Python 2.7, 3.6 and 3.9 are supported. Additional package dependencies may exist for each of these packages:

- Jinja2>=2.9.6
- resilient_circuits>=39.0.0
- resilient_lib>=32.0.0
- six
- BeautifulSoup

Prerequisites

Basic authentication

- A password is required for the SMTP server.

OAuth 2.0 authorization

- You need to setup a web application for an OAuth 2.0 SMTP identity provider service from which you get the required configuration settings to use OAuth 2.0 authorization.
- The required settings are:

```
client_id
client_secret
scope
token_url
auth_url
```

These values are used to generate a refresh_token which is used by the SOAR app to generate an access token.

Configuration

OAuth 2.0 authorization

- Setup a web app and note the prerequisite settings above and add them to the `app.config` for the app.

Authorize

- Use the settings to create an authorization code URL similar to the following example:

```
https://smtpservice.com/oauth2/auth?
state=123456abcde&scope=https%3A%2F%2Fmail.smtpservice.com%2F&client_id=123&response_type=co
de&response_mode=query&redirect_uri=https%3A%2F%2Flocalhost%3A8080%2Fcallback
```

- To authorize a token, copy the URL into a browser login as the app user and follow the directions. After the user gets authorized for the web app you will eventually end up with a redirect or callback URL in the browser location window similar to the following.

```
https://localhost:8080/callback?
state=123456abcde&code=123456&scope=https://mail.smtpservice.com/
```

- The user should verify that the state value matches the one it sent to the authorization server to help prevent any malicious attacks.

Fetch the tokens

- Exchange the authorization code for an access and refresh token.

The user sends an HTTP POST request to the authorization server's token endpoint with the following values:

```
https://api.authorization-server.com/token
  grant_type=authorization_code
  &code=123456
  &redirect_uri=https://localhost:8080/callback
  &client_id=123
  &client_secret=456
```

- If the authorization code is valid, the authorization generates an access and refresh token and returns them to the client.

For example:

```
{
  'access_token': 'abcdefg1234567',
  'expires_in': 3599,
  'refresh_token': 'hijklmn89123456',
```

```
    'scope': 'https://mail.smtpservice.com/',
    'token_type': 'Bearer'
  }
```

- Add the refresh token to the app.config for the SOAR app.

Using oauth-utils package

Instead of using the manual steps outlined above, the user can simplify the process by using the generate_oauth2_refresh_token utility from the oauth-utils package to generate a refresh token. The oauth-utils package includes setup examples for some popular email providers.

Permissions

- The user must have permission or authorization to send messages using the SMTP protocol.

NOTE: The SMTP user will use either OAuth 2.0 authorization settings or use a password for basic authentication.

For Google with OAuth2 see: Setting up OAuth 2.0 with Google Cloud.

For Microsoft with OAuth2 see: Using OAuth 2.0 with Microsoft for Office 365 users.

For the oauth-utils package see IBM Resilient Community or IBM X-Force App Exchange.

Installation

Install

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

App Configuration

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

Config	Required	Example	Description
smtp_server	Yes	`xxx.xxx.xxx.xxx`	*IP Address or fully qualified domain name for SMTP server.*
smtp_user	Yes	`a@mail.smtpservice.com`	*SMTP authentication user.*
smtp_password	No	`Abcd1234!`	*SMTP basic authentication user password.*
client_id	No	`1234567a-abc8-90d1-2efa3-123456789abcd`	*SMTP OAuth 2.0 Authorization client ID*
client_secret	No	`ABCDEF-123456789abcd123456789a_aWX4`	*SMTP OAuth 2.0 Authorization client secret.*
scope	No	`https://mail.smtpservice.com/`	*SMTP OAuth 2.0 Authorization scope.*

Config	Required	Example	Description
token_url	No	`https://smtpservice.com/oauth2/token`	*SMTP OAuth 2.0 Authorization token URL.*
auth_url	No	`https://smtpservice.com/oauth2/auth`	*SMTP OAuth 2.0 Authorization authorization URL.*
refresh_token	No	``	*SMTP OAuth 2.0 Authorization refresh token.*
from_email_address	No	`a@example.com`	*Introduced in 1.3.0. Email address for use as email sender.*
smtp_port	Yes	`25`	*Defaults to unauthenticated, 587/2525 for TLS.*
smtp_conn_timeout	Yes	`20`	*Timeout value in seconds to wait for a connection.*
smtp_ssl_mode	Yes	`None`	*Set to 'starttls' when using smtp_user and smtp_password.*
smtp_ssl_cafile	No	`false or /path/to/smtp_certifcate.pem or crt file`	*TLS certificate setting. Can be a path to a CA bundle or 'false'.*
template_file	No	`data/example_send_email.jinja`	*Path to template.jinja for rendering the email body.*

NOTE: The SMTP user will use either OAuth2 2.0 authorization settings or use a password for basic authentication.

NOTE: The auth_url setting is optional and is not used by the SOAR app itself. It can be used by the generate_oauth2_refresh_token utility from the oauth-utils package to generate a refresh token.

NOTE: For customers upgrading from a pervious release, the app.config file must be manually edited.

For the oauth-utils package see IBM Resilient Community or IBM X-Force App Exchange.

2.0 changes

In v2.0, an additional section, `[fn_outbound_email:templates]`, is added to track the use of multiple templates. These templates are automatically added to the mail_template_select rule activity field used within the example rules. For MSSP environments, this automatic update capability will not work. It's recommended that your playbook or workflow use a `text` activity field instead for template name input.

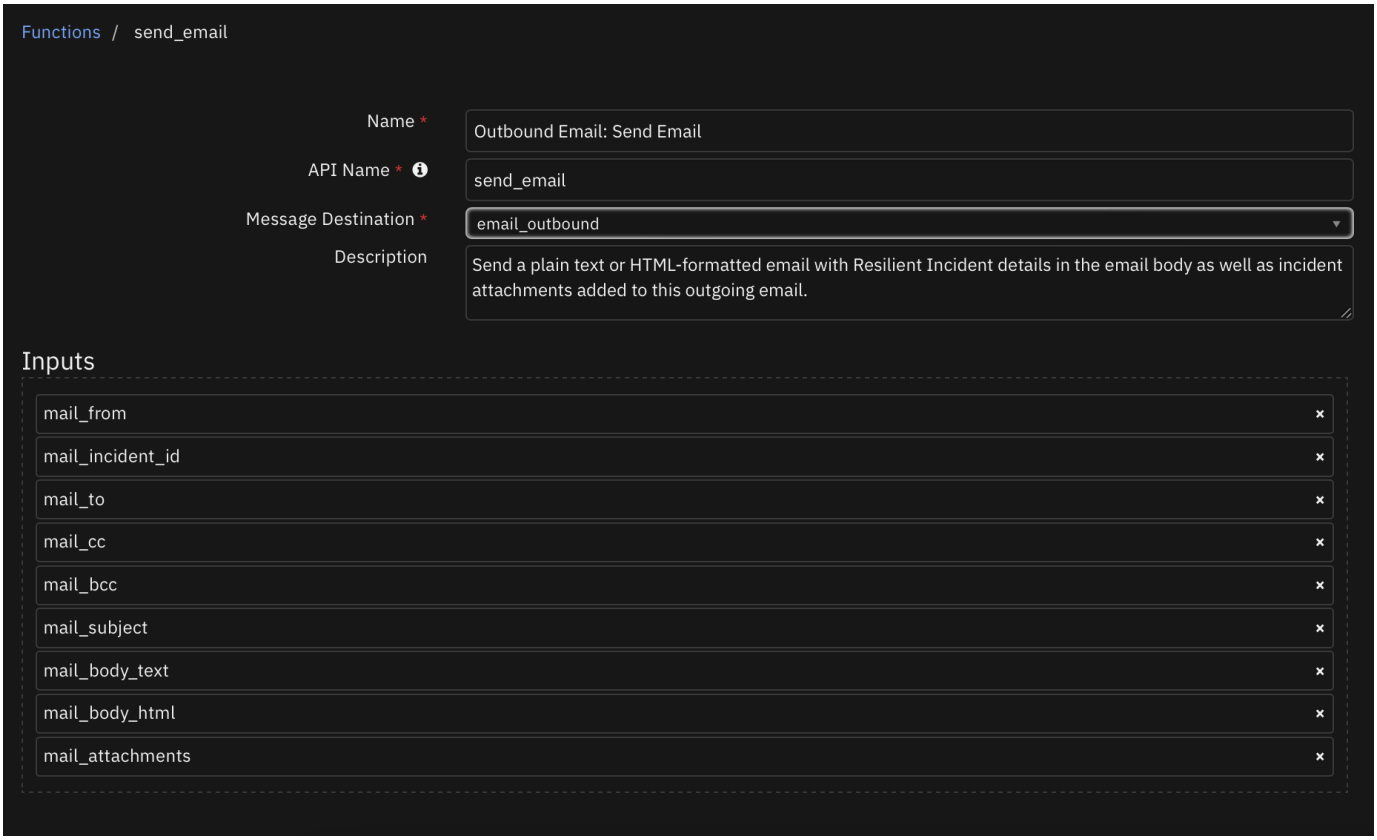
Below is the section and it's definitions:

```
[fn_outbound_email:templates]
## specify templates for email processing. These templates are added to the
mail_template_select activity field
#   choose a label which will identify the template to use
#labelA=/path/to/template.jinja
#labelB=/path/to/another_template.jinja
```

When upgrading from previous outbound email app versions, please add this section information to your app.config file manually.

Function - Outbound Email: Send Email

Send a plain text or HTML-formatted email with SOAR Incident details in the email body as well as incident attachments added to this outgoing email.



▶ Inputs:

Name	Type	Required	Example	Tooltip
`mail_attachments`	`text`	No	–	Comma separated list of attachments or '*' for all.
`mail_bcc`	`text`	No	–	Comma separated list of bcc recipients.
`mail_body_html`	`text`	No	–	JINJA template file to use to produce html email content from incident data. This content overrides the use of the `template_file` setting in our app.config file.
`mail_body_text`	`text`	No	–	Already rendered email body content.
`mail_cc`	`text`	No	–	Comma separated list of cc recipients.
`mail_from`	`text`	No	–	Email sender.
`mail_incident_id`	`number`	No	–	The SOAR incident_id.
`mail_subject`	`text`	No	–	Email subject.
`mail_to`	`text`	No	–	Comma separated list of email recipients.

▶ Outputs:

```
results = {
  "version": "1.0",
  "success": true,
  "reason": null,
  "content": {
    "inputs": [
      "aExample@email.com",
      "Example@email.com",
      "",
      "",
      "[2104] example"
    ],
    "message": null,
    "text": "\n\n<table width=\"100%\" >\n<tr>\n    <td colspan=\"2\">\n        <h3
style=\"color: rgb(68,114,196)\">INCIDENT DETAILS</h3>\n        <hr size=\"1\"
width=\"100%\" noshade style=\"color:#FFDF57\" align=\"center\"/>\n    </td>\n</tr>\n
\n\t\n    \n    <tr>\n        <td width=\"100\" style=\"font-family: Calibri; color:
rgb(31,73,125); font-weight:bold\">Severity:</td>\n        <td style=\"font-family:
Calibri; color: rgb(31,73,125)\">Low</td>\n    </tr>\n    \n    \n\t\n    \n    <tr>\n
<td width=\"100\" style=\"font-family: Calibri; color: rgb(31,73,125); font-
weight:bold\">Status:</td>\n        <td style=\"font-family: Calibri; color:
rgb(31,73,125)\">A</td>\n    </tr>\n    <br>\n    \n\t\n    \n    <tr>\n        <td
width=\"100\" style=\"font-family: Calibri; color: rgb(31,73,125); font-
weight:bold\">Created:</td>\n        <td style=\"font-family: Calibri; color:
rgb(31,73,125)\">2022-01-25T14:48:32.389000</td>\n    </tr>\n    <br>\n    \n\t\n
\n<tr>\n    <td colspan=\"2\">\n        <br><h3 style=\"color:
rgb(68,114,196)\">INCIDENT DESCRIPTION</h3>\n        <hr size=\"1\" width=\"100%\"
noshade style=\"color:#FFDF57\" align=\"center\"/>\n    </td>\n    \n\t\n
\n</tr>\n</table>\n<br>",
    "success": false
  },
  "raw": "",
  "inputs": {
    "mail_to": "Example@email.com",
    "mail_incident_id": 2104,
    "mail_attachments": null,
    "mail_subject": "[2104] example",
    "mail_body_html": "{% set NOT_FOUND = [\"Not Found!\",\"-\",\"None\",None] %}\n{%
macro get_row(label,field_name) -%}\n\t{% set value =
template_helper.get_incident_value(incident,field_name) %}\n\t{% set style = \"font-
family: Calibri; color: rgb(31,73,125)\" %}\n    {% if value and value not in
NOT_FOUND and not value.startswith('-') %}\n    <tr>\n        <td width=\"100\"
style=\"{{style}}; font-weight:bold\">{{ label }}</td>\n        <td style=\"
{{style}}\">{{ value | striptags }}</td>\n    </tr>\n    {% endif %}\n{%- endmacro
%}\n<table width=\"100%\" >\n<tr>\n    <td colspan=\"2\">\n        <h3 style=\"color:
rgb(68,114,196)\">INCIDENT DETAILS</h3>\n        <hr size=\"1\" width=\"100%\" noshade
style=\"color:#FFDF57\" align=\"center\"/>\n    </td>\n</tr>\n    {{
get_row('Severity:','severity_code') }}\n    {{ get_row('Status:','plan_status') }}
<br>\n    {{ get_row('Created:','create_date') }}<br>\n    {{
get_row('Category:','incident_type_ids') }}\n<tr>\n    <td colspan=\"2\">\n
<br><h3 style=\"color: rgb(68,114,196)\">INCIDENT DESCRIPTION</h3>\n        <hr
size=\"1\" width=\"100%\" noshade style=\"color:#FFDF57\" align=\"center\"/>\n
</td>\n    {{ get_row('Description:','description') }}\n</tr>\n</table>\n<br>\n",
    "mail_from": "changeme@resilientsystems.com",
    "mail_cc": null
  },
  "metrics": {
    "version": "1.0",
    "package": "fn-outbound-email",
    "package_version": "1.3.1",
```

```
    "execution_time_ms": 1977,
    "timestamp": "2022-01-25 09:48:57"
  }
}
```

▶ Example Pre-Process Script:

```
inputs.mail_to = rule.properties.mail_to
inputs.mail_cc = rule.properties.mail_cc
inputs.mail_attachments = rule.properties.mail_attachments
inputs.mail_incident_id = incident.id
inputs.mail_from = "changeme@resilientsystems.com"
inputs.mail_subject = u"[{0}] {1}".format(incident.id, incident.name)

inputs.mail_body_html = """{% set NOT_FOUND = ["Not Found!","-","None",None] %}
{% macro get_row(label,field_name) -%}
    {% set value = template_helper.get_incident_value(incident,field_name) %}
    {% set style = "font-family: Calibri; color: rgb(31,73,125)" %}
    {% if value and value not in NOT_FOUND and not value.startswith('-') %}
    <tr>
        <td width="100" style="{{style}}; font-weight:bold">{{ label }}</td>
        <td style="{{style}}">{{ value | striptags }}</td>
    </tr>
    {% endif %}
{%- endmacro %}
<table width="100%" >
<tr>
    <td colspan="2">
        <h3 style="color: rgb(68,114,196)">INCIDENT DETAILS</h3>
        <hr size="1" width="100%" noshade style="color:#FFDF57" align="center"/>
    </td>
</tr>
    {{ get_row('Severity:','severity_code') }}
    {{ get_row('Status:','plan_status') }}<br>
    {{ get_row('Created:','create_date') }}<br>
    {{ get_row('Category:','incident_type_ids') }}
<tr>
    <td colspan="2">
        <br><h3 style="color: rgb(68,114,196)">INCIDENT DESCRIPTION</h3>
        <hr size="1" width="100%" noshade style="color:#FFDF57" align="center"/>
    </td>
    {{ get_row('Description:','description') }}
</tr>
</table>
<br>
"""
```

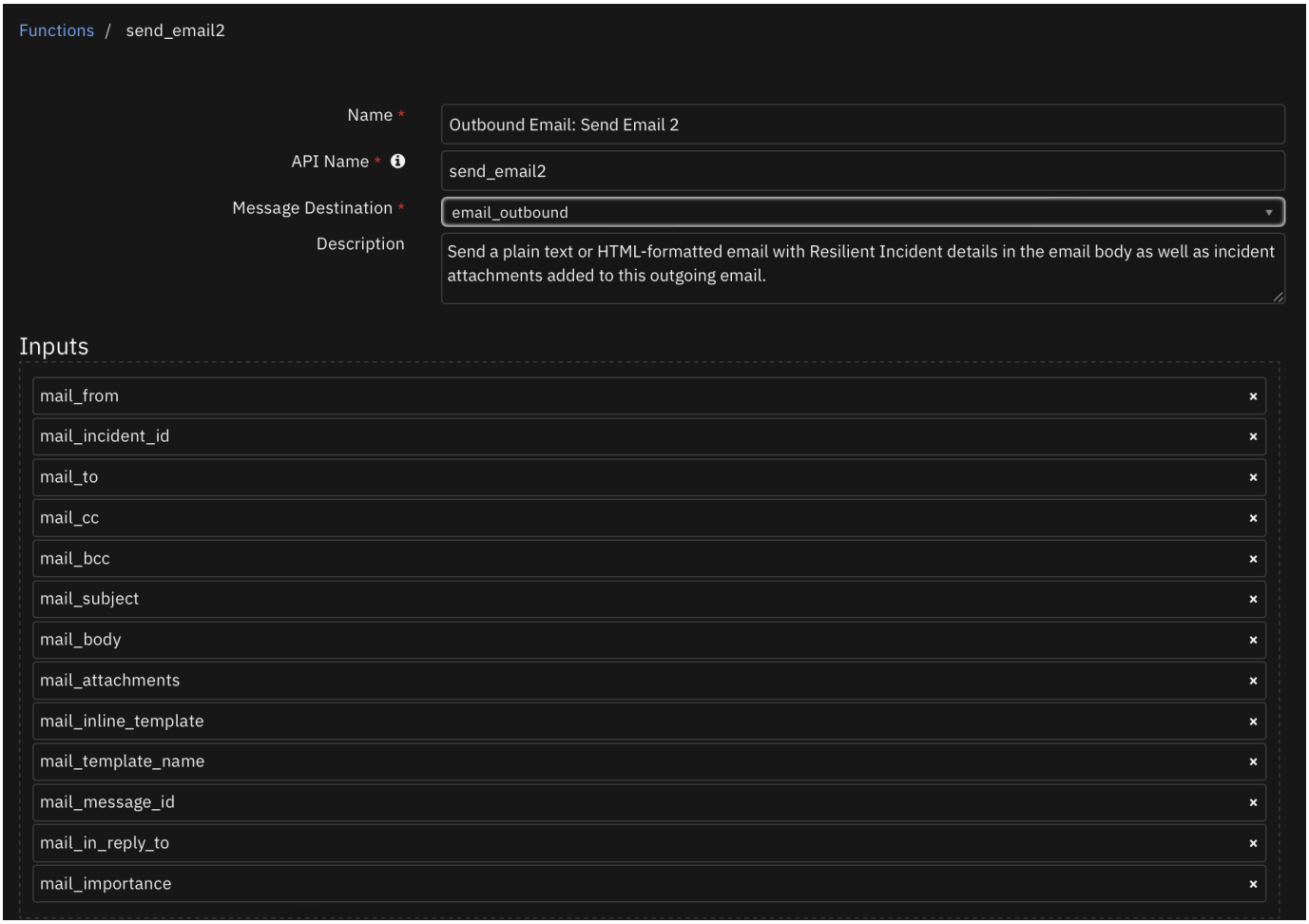
▶ Example Post-Process Script:

```
if results.success:
  noteText = u"""Email Sent if mail server is valid/authenticated\n
  <br>From: {0}<br> To: {1}<br> CC: {2}<br> BCC: {3}<br> Subject: {4} <br>
  Body: {5} <br>""".format(results.content.inputs[0].strip("u\"[]"),
results.content.inputs[1].strip("u\"[]"), results.content.inputs[2].strip("u\"[]"),
results.content.inputs[3].strip("u\"[]"), results.content.inputs[4].strip("u\""),
results.content.text)
else:
```

```
  noteText = u"Email NOT Sent\n From: {0}\n To:
{1}".format(results.content.inputs[0].strip("u\"[]"),
results.content.inputs[1].strip("u\"[]"))
incident.addNote(helper.createRichText(noteText))
```

Function - Outbound Email: Send Email 2

Send a plain text or HTML-formatted email with SOAR incident details in the email body. Additional capability exists to refer to pre-defined templates as well add contextual email headers. This function replaces the send_email function which remains for legacy use.



▶ Inputs:

Name	Type	Required	Example	Tooltip
mail_from	text	No	–	email address of the email sender. If null, then the app.config from_email_address is used.
mail_to	text	Yes	–	comma separated list of recipients
mail_cc	text	No	–	comma separated list of cc recipients
mail_bcc	text	No	–	comma separated list of blind cc recipients
mail_subject	text	No	–	-
mail_body	text	No	–	body of message sent asis
mail_attachments	text	No	–	comma separated list of incident attachments
mail_importance	select	No	–	specify Importance (X-Priority) header to use

Name	Type	Required	Example	Tooltip
mail_in_reply_to	text	No	-	specify in-replay-to header to use: ex: 1638585706.2677204.1655401056967@mail.com
mail_incident_id	number	Yes	-	-
mail_inline_template	text	No	jinja formatted document	inline template as alternative to app.config mail_template_label
mail_message_id	text	No	-	message-id header to use: ex: 1638585706.2677204.1655401056967@mail.com. See pre-processor scripts for auto-generation
mail_template_label	text	No	template_xx	The label of a specific template as defined in app.config.

▶ Outputs:

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


```
results = {
  "content": {
    "mail_body": "\n\u003ch2\u003eIncident Summary\u003c/h2\u003e\n    Severity Code:
Low\n\u003cbr\u003e\n    Plan Status: A\n\u003cbr\u003e\n    Created: 2022-08-05
14:03:23.441000\n\u003cbr\u003e\n    Incident Type: Lost PC / laptop /
tablet\n\u003cbr\u003e\n    Task: \u003ca target=\u0027_blank\u0027
href=\u0027https://9.30.55.116:443/#incidents/2139?
orgId=201\u0026amp;taskId=994\u0026amp;tabName=details\u0027\u003eNotify
carrier/ISP\u003c/a\u003e\n\u003cbr\u003e\n    Instructions: \n\u003cbr\u003e\nIf the
lost or stolen device has cellular access, call the device service provider and notify
them of the device loss."
  },
  "inputs": {
    "mail_attachments": "original_msg,.txt",
    "mail_cc": null,
    "mail_from": "userA@example.com",
    "mail_importance": "normal",
    "mail_incident_id": 2139,
    "mail_inline_template": "\n\u003ch2\u003eIncident Summary\u003c/h2\u003e\n
Severity Code: Low\n\u003cbr\u003e\n    Plan Status: A\n\u003cbr\u003e\n    Created:
2022-08-05 14:03:23.441000\n\u003cbr\u003e\n    Incident Type: Lost PC / laptop /
tablet\n\u003cbr\u003e\n    Task: \u003ca target=\u0027_blank\u0027 href=\u0027{{
template_helper.generate_task_url(2139,994) }}\u0027\u003eNotify
carrier/ISP\u003c/a\u003e\n\u003cbr\u003e\n    Instructions: \n\u003cbr\u003e\nIf the
lost or stolen device has cellular access, call the device service provider and notify
them of the device loss.\n",
    "mail_subject": "[2139] Incident generated from email \"send -\u003e receive\" via
mailbox outlook Task:Notify carrier/ISP",
    "mail_to": "userB@example.com"
  },
  "metrics": {
    "execution_time_ms": 3363,
    "host": "localhost",
    "package": "fn-outbound-email",
    "package_version": "2.0.0",
    "timestamp": "2022-08-08 15:37:59",
    "version": "1.0"
  },
```

```
  "raw": null,
  "reason": null,
  "success": true,
  "version": 2.0
}
```

▶ Example Pre-Process Script:

```
import hashlib
import time

MESSAGE_ID_DOMAIN = "qradarsoar.ibm.com"

inputs.mail_to = rule.properties.mail_to
inputs.mail_cc = rule.properties.mail_cc
inputs.mail_attachments = rule.properties.mail_attachments
inputs.mail_incident_id = incident.id
inputs.mail_from = rule.properties.mail_from
inputs.mail_subject = "[{0}] {1}".format(incident.id, incident.name) if not
rule.properties.get('mail_subject') else rule.properties.mail_subject

if rule.properties.get('mail_message_id'):
  # generate a message-id
  seed_value = str(int(time.time()*1000))
  uuid_hash = hashlib.md5(seed_value.encode()).hexdigest()
  msg_id = "{}-{}-{}-{}-{}".format(uuid_hash[0:8], uuid_hash[8:12], uuid_hash[12:16],
uuid_hash[16:20], uuid_hash[20:])
  inputs.mail_message_id = "{}@{}".format(msg_id, MESSAGE_ID_DOMAIN)

if rule.properties.get('mail_in_reply_to') and incident.properties.email_message_id:
  inputs.mail_in_reply_to = incident.properties.email_message_id

if rule.properties.get('mail_importance'):
  inputs.mail_importance = rule.properties.mail_importance if
rule.properties.mail_importance else None

if rule.properties.get('mail_body') and rule.properties.get('mail_body').content:
  inputs.mail_body = rule.properties.mail_body.content
elif rule.properties.mail_template_select:
  inputs.mail_template_label=rule.properties.mail_template_select
else:
  inputs.mail_inline_template = """{% set NOT_FOUND = ["Not Found!","-","None",None]
%}
{% set style = "font-family: Calibri; color: rgb(31,73,125)" %}
{% macro get_row(label,field_name) -%}
    {% set value = template_helper.get_incident_value(incident,field_name) %}
    {% if value and value not in NOT_FOUND and not value.startswith('-') %}
    <tr>
        <td width="100" style="{{style}}; font-weight:bold">{{ label }}</td>
        <td style="{{style}}">{{ value | striptags }}</td>
    </tr>
    {% endif %}
{%- endmacro %}
<table width="100%" >
<tr>
    <td colspan="2">
        <h3 style="color: rgb(68,114,196)">INCIDENT DETAILS</h3>
        <hr size="1" width="100%" noshade style="color:#FFDF57" align="center"/>
    </td>
```

```
</tr>
    {{ get_row('Incident:','severity_code') }}
    {{ get_row('Severity:','severity_code') }}
    {{ get_row('Status:','plan_status') }}<br>
    {{ get_row('Created:','create_date') }}<br>
    {{ get_row('Category:','incident_type_ids') }}
<tr>
    <td colspan="2">
        <br><h3 style="color: rgb(68,114,196)">INCIDENT DESCRIPTION</h3>
        <hr size="1" width="100%" noshade style="color:#FFDF57" align="center"/>
    </td>
</tr>
    {{ get_row('Description:','description') }}
<tr>
    <td width="100" style="{{style}}; font-weight:bold">Incident link</td>
    {% set inc_url = template_helper.generate_incident_url(incident.id) %}
    <td style="{{style}}"><a target="_blank" href="{{ inc_url }}">{{ incident.id }}
</a></td>
</tr>
</table>
<br>
"""
```

▶ Example Post-Process Script:

```
# results managed through the Outbound Email Results script which uses the workflow
property `outbound_email_results`.
```

Script - Save Outbound Email Results

Save outbound email results in the Email Conversations datatable. This script uses the `outbound_email_results` workflow or playbook property.

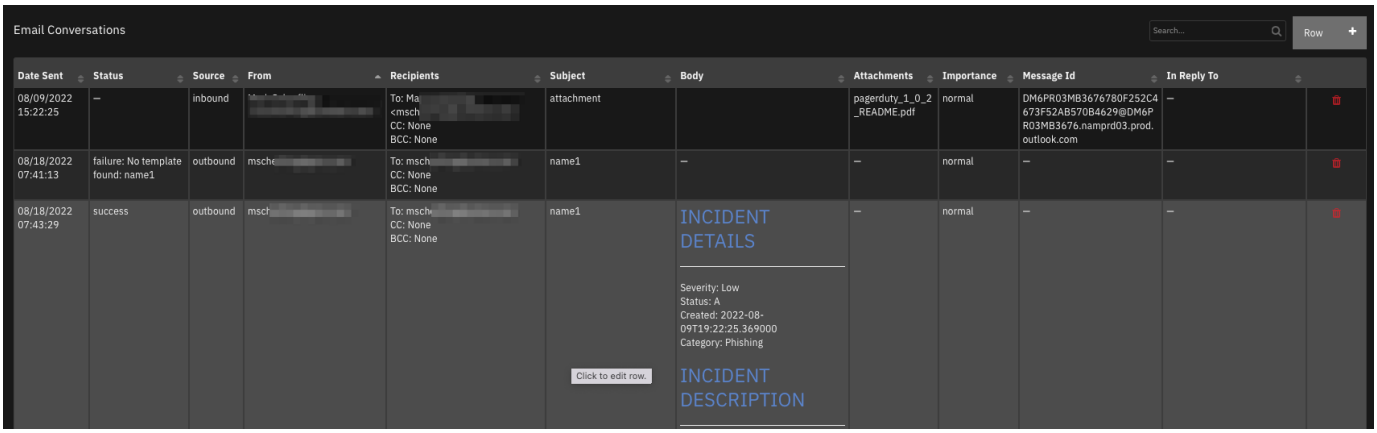
Object: incident

▶ Script Text:

```
import time

try:
  e_results = workflow.properties.outbound_email_results
except:
  try:
    e_results = playbook.functions.results.outbound_email_results
  except:
    pass

if e_results:
  row = incident.addRow('email_conversations')
  row['status'] = "success" if e_results.get('success') else "failure:
{}".format(e_results.get('reason'))

  row['date_sent'] = int(time.time()*1000)
  row['source'] = "outbound"
  row['recipients'] = "To: {}\nCC: {}\nBCC: {}".format(e_results.get('inputs',
{}).get('mail_to'), e_results.get('inputs', {}).get('mail_cc'),
```

```
  e_results.get('inputs', {}).get('mail_bcc'))
    row['from'] = e_results.get('inputs', {}).get('mail_from')
    row['subject'] = e_results.get('inputs', {}).get('mail_subject')
    row['body'] = e_results.get('content', {}).get("mail_body")
    row['attachments'] = e_results.get('inputs', {}).get('mail_attachments')
    row['importance'] = e_results.get('inputs', {}).get('mail_importance')
    row['in_reply_to'] = e_results.get('inputs', {}).get('mail_in_reply_to')
    row['message_id'] = e_results.get('inputs', {}).get('mail_message_id')
  else:
    incident.addNote("workflow.properties.outbound_email_results not found:
  {}".format(workflow.properties.keys()))
```

Data Table - Email Conversations



API Name:

email_conversations

Columns:

Column Name	API Access Name	Type	Tooltip
Date Sent	`date_sent`	`datetimepicker`	-
Source	`source`	`text`	inbound/outbound
Status	`status`	`text`	success/failure
From	`from`	`text`	-
Recipients	`recipients`	`textarea`	To/CC/BCC
Subject	`subject`	`text`	-
Body	`body`	`textarea`	-
Attachments	`attachments`	`text`	-
Message Id	`message_id`	`text`	-
In Reply To	`in_reply_to`	`text`	-
Importance	`importance`	`text`	low/normal/high

Custom Fields

Label	API Access Name	Type	Prefix	Placeholder	Tooltip
Email Message-ID	email_message_id	text	properties	-	message-id associated with the inbound email message

Rules

Rule Name	Object	Workflow Triggered
Example: Send Incident Email HTML	incident	example_send_incident_email_html
Example: Send Incident Email HTML2	incident	example_send_incident_email_html2
Example: Send Incident Email Text	incident	example_send_incident_email_text
Example: Send Task Email HTML	task	example_send_task_email_html
Example: Send Task Email HTML2	task	example_send_task_email_html2
Outbound Email: Reply to Message	email_conversations	outbound_email_reply_to_message

Further customization

In V2.0, you can defined multiple Jinja templates to support different email messages can be created in the AppHost by navigating to the Outbound Email app > Configuration section. Under App Settings, you can select New File. Copy the file path that you save for this template and set the value for `template_file` in app.config to this path.

In the default template packaged with this app, `data/example_send_email.jinja`, there is example logic to include artifact and note data. This logic is commented out in the example template and can be used to:

▶ Include artifact value and description

```
{% set NOT_FOUND = ["Not Found!","-","None",None] %}
{% macro get_row(label,field_name) -%}
    {% set value = template_helper.get_incident_value(incident,field_name) %}
    {% set style = "font-family: Calibri; color: rgb(31,73,125)" %}
    {% if value and value not in NOT_FOUND and not value.startswith('-') %}
    <tr>
        <td width="100" style="{{style}}; font-weight:bold">{{ label }}</td>
        <td style="{{style}}">{{ value | safe }}</td>
    </tr>
    {% endif %}
{%- endmacro %}

{# UNCOMMENT TO INCLUDE ARTIFACTS #}
{# {% macro get_artifact(art) -%}
    {% set values = template_helper.get_artifacts(art) %}
    {% set style = "font-family: Calibri; color: rgb(31,73,125)" %}
    {% for a in values %}
        <tr>
            <td width="200" style="{{style}}">{{ a.get("value") | safe }}</td>
            <td width="200" style="{{style}}">{{ a.get("description") | safe }}</td>
        </tr>
    {% endfor %}
{%- endmacro %} #}

{# UNCOMMENT TO INCLUDE NOTES #}
{# {% macro get_note(note) -%}
    {% set get_children = True %}
```

```
    {% set values = template_helper.get_notes(note, get_children) %}
    {% set style = "font-family: Calibri; color: rgb(31,73,125)" %}
    {% for n in values %}
        {% if n.get("text", "")%}
            <tr>
                <td colspan="2" style="{{style}}">{{ n.get("text", "") | safe }}</td>
            </tr>
        {% endif %}
    {% endfor %}
{%- endmacro %} #}

<table width="100%" >
<tr>
    <td colspan="2">
        <h3 style="color: rgb(68,114,196)">INCIDENT DETAILS</h3>
        <hr size="1" width="100%" noshade style="color:#FFDF57" align="center"/>
    </td>
</tr>
    {{ get_row('Severity:','severity_code') }}<br>
    {{ get_row('Status:','plan_status') }}<br>
    {{ get_row('Created:','create_date') }}<br>
    {{ get_row('Category:','incident_type_ids') }}<br>
<tr>
    <td colspan="2">
        <br><h3 style="color: rgb(68,114,196)">INCIDENT DESCRIPTION</h3>
        <hr size="1" width="100%" noshade style="color:#FFDF57" align="center"/>
    </td>
</tr>
{{ get_row('Description:','description') }}

{# UNCOMMENT TO INCLUDE ARTIFACTS #}
{# <tr>
    <td colspan="2">
        <br><h3 style="color: rgb(68,114,196)">INCIDENT ARTIFACTS</h3>
        <p style="color: rgb(68,114,196)">Note: Artifacts are included in the e-mail
if present in the incident.</p>
        <hr size="1" width="100%" noshade style="color:#FFDF57" align="center"/>
    </td>
</tr>
{{ get_artifact(artifact) }}
#}

{# UNCOMMENT TO INCLUDE NOTES #}
{# <tr>
    <td colspan="2">
        <br><h3 style="color: rgb(68,114,196)">INCIDENT NOTES</h3>
        <p style="color: rgb(68,114,196)">Note: Notes are included in the e-mail if
present in the incident.</p>
        <hr size="1" width="100%" noshade style="color:#FFDF57" align="center"/>
    </td>
</tr>
{{ get_note(note) }}
#}

<tr>
    <td colspan="2">
        <h3 style="color: rgb(68,114,196)">INCIDENT LINK</h3>
        <hr size="1" width="100%" noshade style="color:#FFDF57" align="center"/>
    </td>
</tr>
<tr>
```

```
    <td colspan="2">
        {% set inc_url = template_helper.generate_incident_url(incident.id) %}
        <a target='_blank' href='{{ inc_url }}'>{{ incident.id }}: {{ incident.name }}
</a>
    </td>
</tr>
</table>
<br>
```

▶ Include note text (by default also includes all child note data; set `get_children = False` if you would like to exclude child note data).

```
{# UNCOMMENT TO INCLUDE NOTES #}
{# {% macro get_note(note) -%}
  {% set get_children = True %}
    {% set values = template_helper.get_note_values(note, get_children) %}
    {% set style = "font-family: Calibri; color: rgb(31,73,125)" %}
    {% for n in values %}
        <tr>
            <td width="200" style="{{style}}">{{ n.get("text") | safe }}</td>
        </tr>
    {% endfor %}
{%- endmacro %} #}
...
{# UNCOMMENT TO INCLUDE NOTES #}
{# <tr>
    <td colspan="2">
        <br><h3 style="color: rgb(68,114,196)">INCIDENT NOTES</h3>
        <hr size="1" width="100%" noshade style="color:#FFDF57" align="center"/>
    </td>
    {{ get_note(note) }}
</tr> #}
```

Troubleshooting & Support

Common connection issues with TLS and TroubleShooting

Use `resilient-circuits selftest -l fn-outbound-email` to confirm if your connection is successful.

```
fn-outbound-email:
    SMTP AUTH extension not supported by server.
    selftest: failure, Elapsed time: 0.416000 seconds
```

- Email servers are often restrictive on which applications or users are authorized to send emails. For example, if you have 2FA authentication enabled on a gmail account, you must add a specific application password or allow less secure apps. (Not recommended.)

  https://hotter.io/docs/email-accounts/app-password-gmail/

  https://hotter.io/docs/email-accounts/secure-app-gmail/

- Occasionally, mail servers might indicate that emails have been sent successfully (including a successful note on the the associated incident) but they are blocked by the receiving mail server due to insecure spam filters. This is a

limitation of SMTP authentication mechanism.

- The port for TLS handshakes might also differ between mail servers (587/2525). A short history of port allocation can be found at: https://pepipost.com/blog/25-465-587-2525-choose-the-right-smtp-port/
- More info on SMTP protocol:

  https://pepipost.com/blog/what-is-smtp
- Some mailservers do not work with this level of authentication/protocal.

For Support

This is a IBM Community provided App. Please search the Community https://ibm.biz/soarcommunity for assistance and use the My Support link to open a support case.