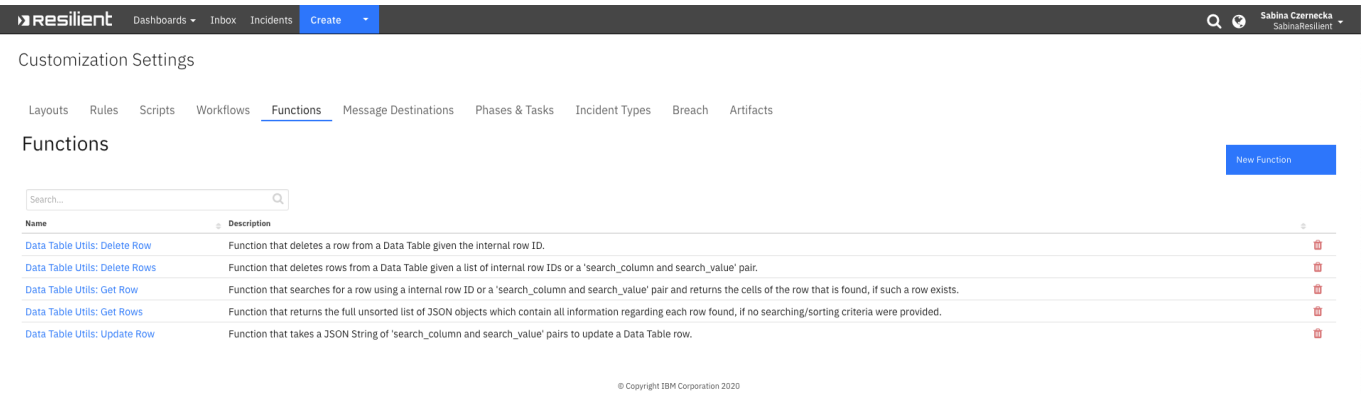


IBM Resilient - Data Table Helper Functions

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This package contains 5 functions that help you manipulate IBM Resilient Data Tables



The 5 functions allow you to GET, UPDATE, DELETE a row and GET and DELETE rows in a Data Table

Function - Get Row:

Function that searches for a row using a internal row ID or a 'search_column and search_value' pair and returns the cells of the row that is found, if such a row exists.

Inputs:

Name	Type	Required	Example	Info
incident_id	Number	Yes	2095	ID of the current Incident
dt_utils_datatable_api_name	String	Yes	"dt_utils_test_data_table"	API name of the Data Table to search
dt_utils_row_id	Number	No	5	ID of the Row to get
dt_utils_search_column	String	No	"dt_col_name"	API name of the column to search
dt_utils_search_value	String	No	"Mary Murphy"	Cell value to search for

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```
results = {
  'inputs': {
    'incident_id': 2095,
    'dt_utils_row_id': None,
    'dt_utils_search_column': 'dt_col_name',
    'dt_utils_search_value': 'Mary Murphy',
    'dt_utils_datatable_api_name': 'dt_utils_test_data_table'
  },
  'success': True,
  'row': {
    'type_id': 1000,
    'cells': {
      'dt_col_name': {
        'row_id': 1,
        'id': 'dt_col_name',
        'value': 'Mary Murphy'
      },
      'dt_col_status': {
        'row_id': 1,
        'id': 'dt_col_status',
        'value': 'Incomplete'
      },
      'dt_col_time': {
        'row_id': 1,
        'id': 'dt_col_time',
        'value': '10:45'
      },
      'dt_col_id': {
        'row_id': 1,
        'id': 'dt_col_id',
        'value': '635'
      }
    },
    'actions': [],
    'inc_owner': 'admin@res.com',
    'version': 2,
    'table_name': 'Test Data Table',
    'inc_name': 'Test DT Utils',
    'inc_id': 2095,
    'id': 1
  }
}
```

Pre-Process Script:

This example uses the Artifact Value as the value to search the data table for

```
# The ID of this incident
inputs.incident_id = incident.id

# The api name of the Data Table to update
```

```
inputs.dt_utils_datatable_api_name = "dt_utils_test_data_table"

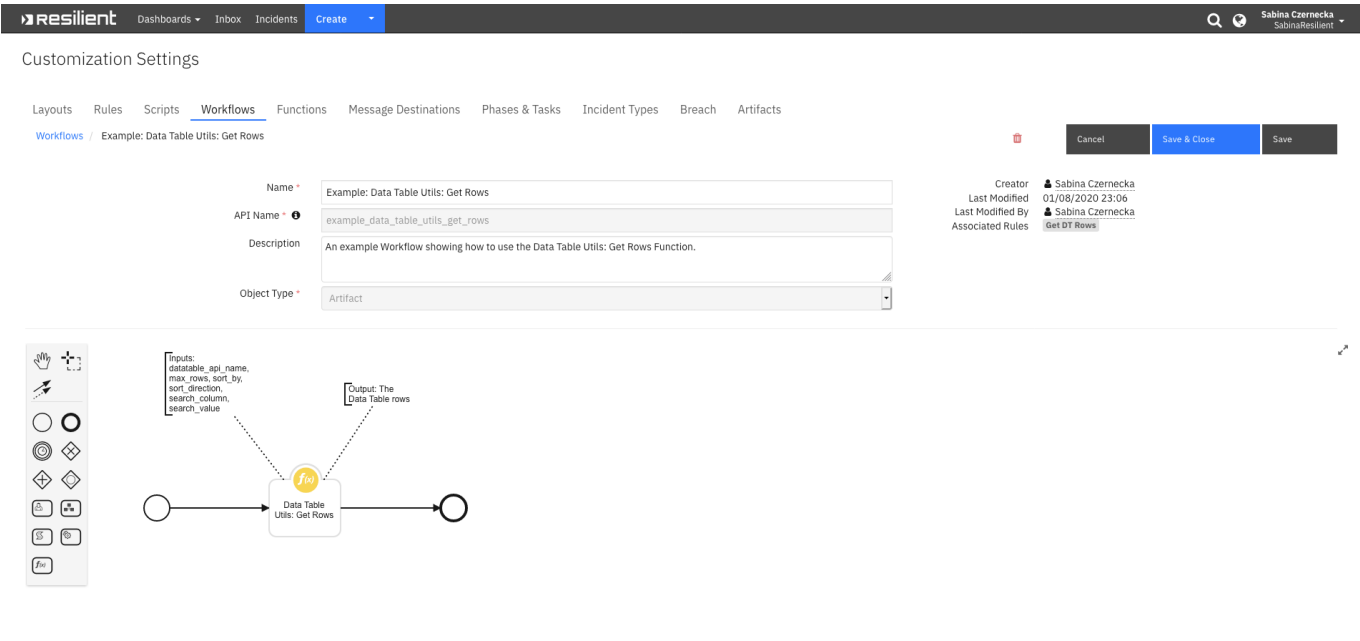
# The column api name to search for
inputs.dt_utils_search_column = "dt_col_name"

# The cell value to search for
inputs.dt_utils_search_value = artifact.value

## Alternatively you can get the row by its ID by defining this input:
# inputs.dt_utils_row_id = 3
```

Function - Get Rows:

Function that returns the full unsorted list of JSON objects which contain all information regarding each row found, if no searching/sorting criteria were provided.



Inputs:

Name	Type	Required	Example	Tooltip
incident_id	Number	Yes	2095	ID of the current Incident
dt_utils_datatable_api_name	String	Yes	"dt_utils_test_data_table"	API name of the Data Table to search

Name	Type	Required	Example	Tooltip
<code>dt_utils_sort_by</code>	String	No	<code>"dt_col_status"</code>	The name of the API column
<code>dt_utils_sort_direction</code>	Select	No	<code>{'name': 'ASC'}</code>	-
<code>dt_utils_max_rows</code>	Number	No	1	A number of max rows to return
<code>dt_utils_search_column</code>	String	No	<code>"dt_col_name"</code>	API name of the column to search
<code>dt_utils_search_value</code>	String	No	<code>"Mary Murphy"</code>	Cell value to search for

Output:

```

results={
  'inputs': {
    'incident_id': 2095,
    'dt_utils_datatable_api_name': 'dt_utils_test_data_table',
    'dt_utils_sort_by': 'dt_col_status',
    'dt_utils_sort_direction': 'ASC',
    'dt_utils_max_rows': 1,
    'dt_utils_search_column': 'dt_col_name',
    'dt_utils_search_value': 'Mary Murphy'
  },
  'success': True,
  'rows': [
    {
      'type_id': 1000,
      'cells': {
        'dt_col_name': {
          'row_id': 1,
          'id': 'dt_col_name',
          'value': 'Mary Murphy'
        },
        'dt_col_status': {

```

```

        'row_id': 1,
        'id': 'dt_col_status',
        'value': 'Incomplete'
    },
    'dt_col_time': {
        'row_id': 1,
        'id': 'dt_col_time',
        'value': '10:45'
    },
    'dt_col_id': {
        'row_id': 1,
        'id': 'dt_col_id',
        'value': '635'
    }
},
'actions': [

],
'inc_owner': 'admin@res.com',
'version': 2,
'table_name': 'Test Data Table',
'inc_name': 'Test DT Utils',
'inc_id': 2095,
'id': 1
}
]
}

```

Pre-Process Script:

This example uses the Artifact Value as the value to search the data table for

```

# The ID of this incident
inputs.incident_id = incident.id

# The api name of the Data Table to update
inputs.dt_utils_datatable_api_name = "dt_utils_test_data_table"

# The number of max rows to return
if rule.properties.dt_utils_max_rows:
    inputs.dt_utils_max_rows = rule.properties.dt_utils_max_rows
else:
    inputs.dt_utils_max_rows = 0

# The direction of the sort
inputs.dt_utils_sort_direction = rule.properties.dt_utils_sort_direction

# The api name of the column to sort by
if rule.properties.dt_utils_sort_by:
    inputs.dt_utils_sort_by = rule.properties.dt_utils_sort_by
else:
    inputs.dt_utils_sort_by = None

```

```
# The column api name to search for
inputs.dt_utils_search_column = "dt_col_name"

# The cell value to search for
inputs.dt_utils_search_value = artifact.value
```

Post-Processing Script

```
noteText = str(results["rows"])
incident.addNote(noteText)
```

Function - Update Row:

Function that takes a JSON String of 'search_column and search_value' pairs to update a Data Table row.

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Workflows / Example: Data Table Utils: Update Row

Name *

Example: Data Table Utils: Update Row

API Name *

example_data_table_utils_update_row

Description

An example Workflow showing how to use the Data Table Utils: Update Row Function. It uses an Artifact value to search and find a row in the data table. Then updates the cells with the given values.

Object Type *

Artifact

Cancel

Save & Close

Save

Creator

Sabina Czernecka

Last Modified

15/07/2020 12:11

Last Modified By

API_ALL

Associated Rules

Update DT Row

Inputs: data_table_api_name, search_column, search_value

Output: the data table row that contains its ID and Cells

if we find a row, continue, else end

Inputs: data_table_api_name, row_id, cells_to_update

Output: the updated row

Inputs:

Name	Type	Required	Example	Info
incident_id	Number	Yes	2095	ID of the current Incident

Name	Type	Required	Example	Info
dt_utils_datatable_api_name	String	Yes	"dt_utils_test_data_table"	API name of the Data Table to search
dt_utils_row_id	Number	Yes	5	ID of the Row to update
dt_utils_cells_to_update	JSON String	Yes	'{"dt_col_status": "Done", "dt_col_time": "Just Now"}'	A JSON String of column name and cell value pairs to update

Output:

```

results = {
  'inputs': {
    'incident_id': 2095,
    'dt_utils_row_id': 1,
    'dt_utils_cells_to_update': {
      'dt_col_status': 'Done',
      'dt_col_time': 'Just Now'
    },
    'dt_utils_datatable_api_name': 'dt_utils_test_data_table'
  },
  'success': True,
  'row': {
    'type_id': 1000,
    'cells': {
      'dt_col_name': {
        'row_id': 1,
        'id': 'dt_col_name',
        'value': 'Mary Murphy'
      },
      'dt_col_status': {
        'row_id': 1,
        'id': 'dt_col_status',
        'value': 'Done'
      },
      'dt_col_time': {

```



```

        'row_id': 1,
        'id': 'dt_col_time',
        'value': 'Just Now'
    },
    'dt_col_id': {
        'row_id': 1,
        'id': 'dt_col_id',
        'value': '635'
    }
},
'actions': [],
'inc_owner': 'admin@res.com',
'version': 3,
'table_name': 'Test Data Table',
'inc_name': 'Test DT Utils',
'inc_id': 2095,
'id': 1
}
}

```

Pre-Process Script:

In this example we make use of the **dict_to_json_str** function to allow us to easily form a JSON String to pass column name and cell value pairs to the function in order to update the Data Table

```

#####
### Define pre-processing functions ###
#####
def dict_to_json_str(d):
    """Function that converts a dictionary into a JSON string.
    Supports types: basestring, bool, int and nested dicts.
    Does not support lists.
    If the value is None, it sets it to False."""

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

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

        if value is None:
            value = False

        if isinstance(value, list):
            helper.fail('dict_to_json_str does not support Python Lists')

        if isinstance(value, basestring):
            value = value.replace(u'\"', u'\\\"')
            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))

elif isinstance(value, dict):
    entries.append(json_entry.format(key, dict_to_json_str(value)))

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

return '{0} {1} {2}'.format('{', ','.join(entries), '}')

#####
### Define Inputs ###
#####

# The ID of this incident
inputs.incident_id = incident.id

# The api name of the Data Table to update [here it is taken from previous
Get Row Function]
inputs.dt_utils_datatable_api_name =
workflow.properties.row_to_update.inputs.dt_utils_datatable_api_name

# The ID of the row to update [again, taken from previous Get Row Function]
inputs.dt_utils_row_id = workflow.properties.row_to_update.row["id"]

# The column api names and the value to update the cell to
inputs.dt_utils_cells_to_update = dict_to_json_str({
    "dt_col_time": "Just Now",
    "dt_col_status": "Done"
})

```

Function - Delete Row:

Function that deletes a row from a Data Table given the internal row ID.

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Workflows / Example: Data Table Utils: Delete Row

Name *

Example: Data Table Utils: Delete Row

API Name *

example_data_table_utils_delete_row

Description

An example Workflow showing how to use the Data Table Utils: Delete Row Function. It uses an Artifact value to search and find a row in the data table. Then deletes that row.

Object Type *

Artifact

Cancel

Save & Close

Save

Creator

Sabina Czernecka

Last Modified

15/07/2020 12:11

Last Modified By

API_ALL

Associated Rules

Delete DT Row

Inputs: data_table_api_name, search_column, search_value

Output: the data table row that contains its ID and Cells

if we find a row, continue, else end

Inputs: data_table_api_name, row_id

Output: a success flag if row deleted

Workflow Diagram

Start

Data Table Utils: Get Row

Decision

Data Table Utils: Delete Row

End

Inputs:

Name	Type	Required	Example	Info
incident_id	Number	Yes	2095	ID of the current Incident
dt_utils_datatable_api_name	String	Yes	"dt_utils_test_data_table"	API name of the Data Table to search
dt_utils_row_id	Number	Yes	5	ID of the Row to delete

Output:

```
results = {
  'inputs': {
    'incident_id': 2095,
    'dt_utils_row_id': 2,
    'dt_utils_datatable_api_name': 'dt_utils_test_data_table'
  },
  'success': True,
  'row': {
    'message': None,
```

```
    'hints': [],
    'success': True,
    'title': None
  }
}
```

Pre-Process Script:

```
# The ID of this incident
inputs.incident_id = incident.id

# The api name of the Data Table [here it is taken from previous Get Row
Function]
inputs.dt_utils_datatable_api_name =
workflow.properties.row_to_delete.inputs.dt_utils_datatable_api_name

# The ID of the row to delete [again, taken from previous Get Row Function]
inputs.dt_utils_row_id = workflow.properties.row_to_delete.row["id"]
```

Function - Delete Rows:

Function that deletes rows from a Data Table given a list of internal row IDs or a 'search_column and search_value' pair.

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Workflows / Example: Data Table Utils: Delete Rows

Name *Example: Data Table Utils: Delete Rows

API Name *example_data_table_utils_delete_rows

DescriptionAn example Workflow showing how to use the Data Table Utils: Delete Rows Function. It allows the user to delete rows using either internal row IDs or 'search_column and search_value' pair in a Data Table.

Object Type *Artifact

CreatorSabina Czernecka

Last Modified01/08/2020 23:09

Last Modified BySabina Czernecka

Associated RulesDelete DT Rows

Cancel

Save & Close

Save

Inputs:

Name	Type	Required	Example	Tooltip
dt_utils_datatable_api_name	text	Yes	–	The API name of the Data Table

Name	Type	Required	Example	Tooltip
<code>dt_utils_rows_ids</code>	text	No	–	The list of internal rows IDs of a Data Table to delete
<code>dt_utils_search_column</code>	text	No	–	The API name of the column to search
<code>dt_utils_search_value</code>	text	No	–	The cell value to search for within the search column
<code>incident_id</code>	number	Yes	–	–

Output:

```
results = [30,31]
```

Pre-Process Script:

```
# Data Table Utils: Example: Delete Row

#####
### Define Inputs ###
#####

# The ID of this incident
inputs.incident_id = incident.id

# The api name of the Data Table, search column, search value [here it is
taken from previous Get Rows Function inputs]
inputs.dt_utils_datatable_api_name =
workflow.properties.rows_to_delete.inputs.dt_utils_datatable_api_name

# The internal IDs of the rows that will be deleted [again, taken from
previous Get Rows Function]
if workflow.properties.rows_to_delete and
workflow.properties.rows_to_delete.rows:
    rows_ids = []
    for row in workflow.properties.rows_to_delete.rows:
        rows_ids.append(row["id"])
    inputs.dt_utils_rows_ids = str(rows_ids)

## Alternatively you can delete row/rows by defining the list of internal
row IDs or by defining the 'search_column and search_value' pair:
# inputs.dt_utils_rows_ids = "[2,3]" # or
# inputs.dt_utils_search_column = "dt_col_name"
# inputs.dt_utils_search_value = "Mary Murphy"
```

Post-Process Script:

```
incident.addNote("Rows deleted: {0}".format(str(results["rows_ids"])))
```

Rules

Rule Name	Object Type	Workflow Triggered
Get DT Row	Artifact	Example: Data Table Utils: Get Row
Get DT Rows	Artifact	Example: Data Table Utils: Get Rows
Update DT Row	Artifact	Example: Data Table Utils: Update Row
Delete DT Row	Artifact	Example: Data Table Utils: Delete Row
Delete DT Rows	Artifact	Example: Data Table Utils: Delete Rows

Data table

Data Table Utils: Test Data Table

Test Data Table

PrintExport

ID	Time	Name	Status	
635	10:45	Mary Murphy	Incomplete	...

Displaying 1 - 1 of 1

API Name:

dt_utils_test_data_table

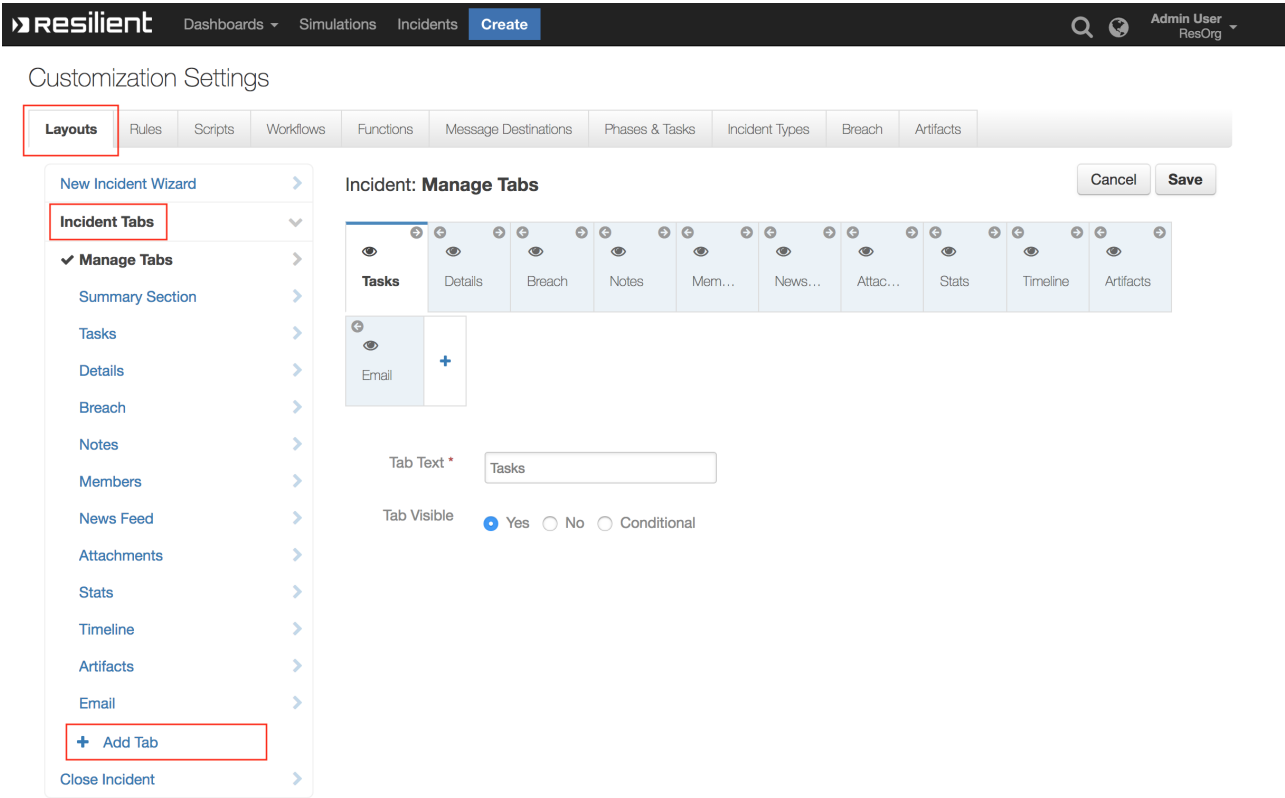
Columns:

Column Name	API Access Name	Type
ID	dt_col_id	Text
Time	dt_col_time	Text
Name	dt_col_name	Text
Status	dt_col_status	Text

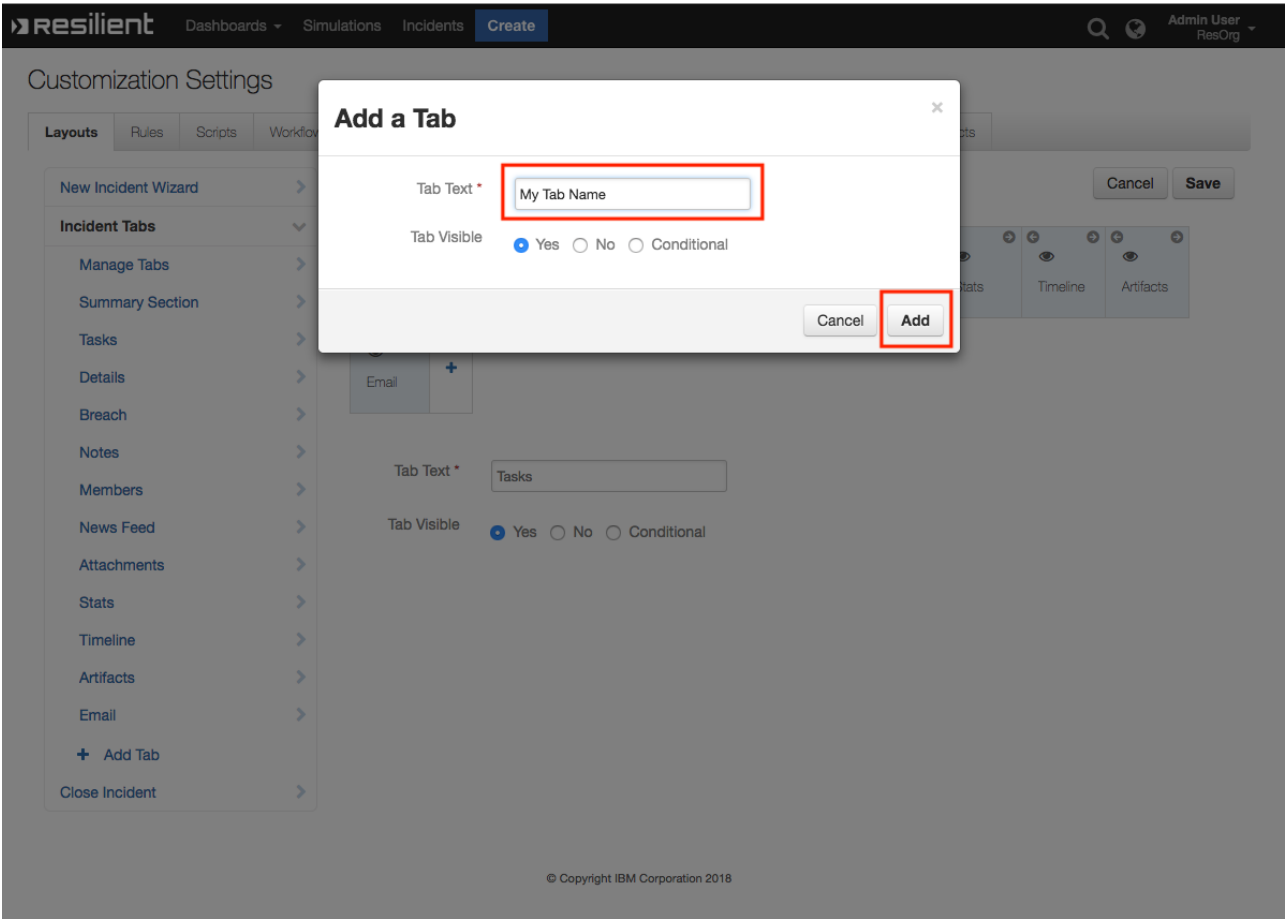
Display the Datatable in an Incident

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

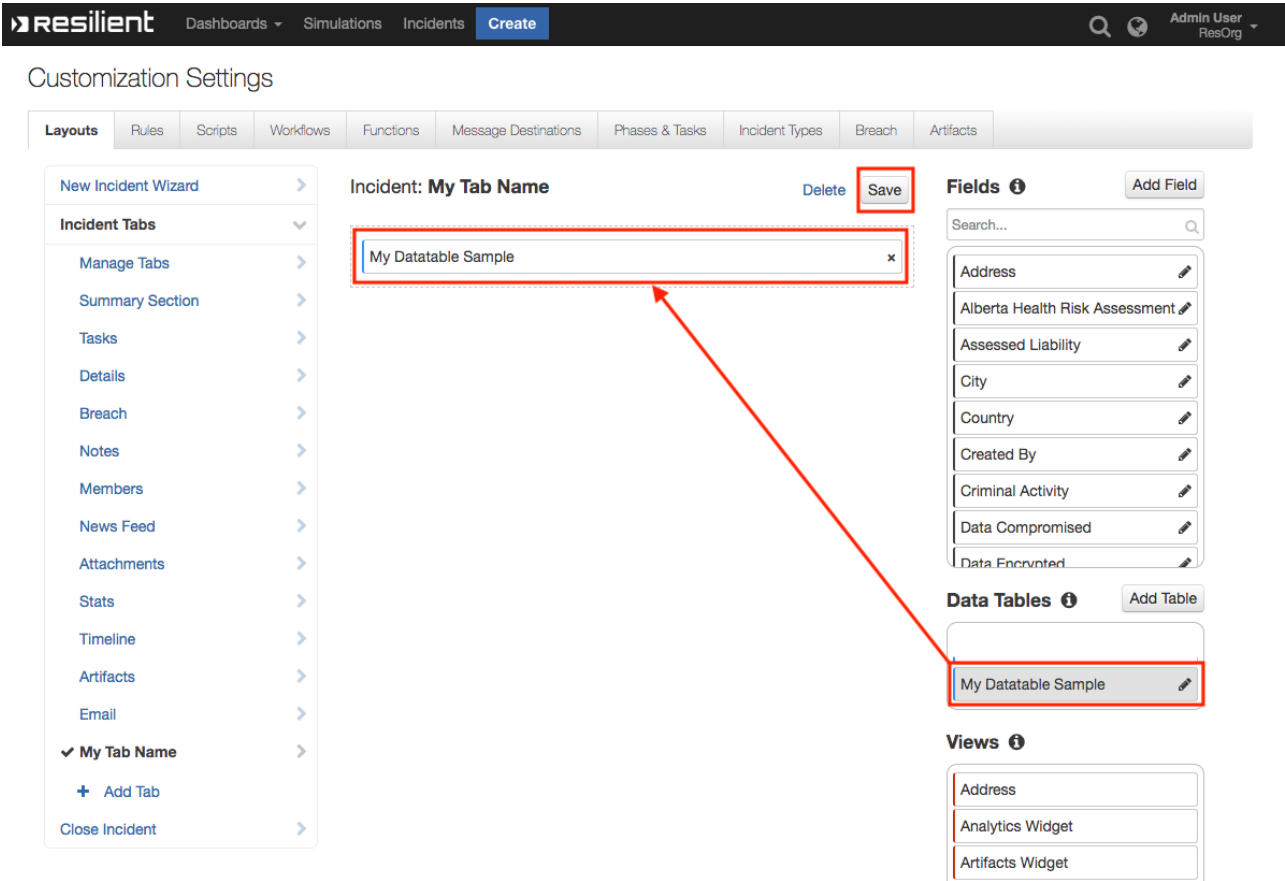
1. Go to **Customization Settings > Layouts > Incident Tabs > + Add Tab**



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



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



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