AutomationEdge

AutomationEdge Beta Plugin Reference Guide

(Release Beta)

Plugins Compatibility

Plugins in Beta Release are compatible with AutomationEdge Release 6.0.0 onwards.

Contents

I. Advanced Workflow Steps

1 AdobeSign

AdobeSign plugin steps can be used for creating templates, download agreements, and uploading transient document ID for the uploaded file.

Prerequisites

- Adobe Sign instance details.

- Connection parameters like Application ID and Client Secret should be generated beforehand from the Adobe Sign console. In exchange for the Application ID and Client Secret, a Refresh token can be generated.

- Appropriate permission as required.

Reference links

- Create Application ID and Client Secret

  https://helpx.adobe.com/sign/kb/how-to-create-client-id-and-client-secret-adobe-sign.html

- Generate Refresh Token

  https://www.adobe.io/apis/documentcloud/sign/docs.html#!adobedocs/adobe-sign/master/gstarted/get_access_token.md

1.1 Create Template [Community]

1.1.1 Description

AdobeSign: Create Template step creates a template that is placed in the library of the user for reuse.

1.1.2 Configurations

Configuration:

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Configuration	
2	API Base URI	Specify the API Base URI for the AdobeSign application. The Data Type is String. This field is mandatory. Note: Go to https://api.na4.adobesign.com. **API** is the hostname that can be changed to the custom hostname and **na4** is an access point where the adobe sign instance is created.

		The hostname can be found in the Account tab of Adobe Sign web application under **Account Settings group > Account setup** option.
3	Application ID	Specify the Application ID of the Adobe Sign application to authenticate the user. The Data Type is String. This field is mandatory.
4	Accept value as variable/static	Leave checkbox unchecked to accept Client Secret value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Client Secret field to appear as Text box.
5	Client Secret	Specify or select the Client Secret of the Adobe Sign application to authenticate the user in the widget. The widget handles both Text (static value or environment variable) or Combo (drop down containing values from previous steps). This field is mandatory.
6	Accept value as variable/static	Select the checkbox if you want to specify the refresh token details, else the select the refresh token from the dropdown.
7	Refresh Token	Specify or select the generated refresh token in the widget. The widget handles both Text (static value or environment variable) or Combo (drop down containing values from previous steps). This field is mandatory.
8	Button: Test Connection	Verifies whether the connection is available or not. For the purpose of verification fields coming from previous steps are not allowed. Static values and environment variables are allowed.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Transient Document ID(s)	Enter the ID for a transient document that will be added to the library document. Multiple Transient Document IDs can be given using comma-separated (,) values. The Data Type is String. This field is mandatory.
2	Template Name	Specify the name of the library template that will be used to identify it, in emails and on the website. The Data Type is String. This field is mandatory.

	Additional Input Tab	
No.	Field Name	Description

1	Template Type	Specify a list of one or more library template types. Allowed Values are *DOCUMENT*, *FORM_FIELD_LAYER*, or *BOTH*. Default value is: *DOCUMENT*.
2	Sharing Mode	Specify who should have access to the library document. Allowed values are: *USER*, *GROUP*, *ACCOUNT*, or *GLOBAL*. Default value is: *USER*. Note: GLOBAL sharing is a restricted operation.
3	State	Specify the state of the template document. Allowed values are: *DRAFT* or *ACTIVE*. Default value is: *ACTIVE*

Output Tab:	
Field Name	Description
Output Fields:	
Template ID	Specify an output field to hold the Template ID generated after successful plugin execution. The default value is: *TemplateID*.

Common Buttons:		
No.	Field Name	Description
	Buttons:	
1	OK	On click of this button the field values are checked. If any required field values are missing, then it displays a validation error message. If all the required field values are provided then it will save the field values.
2	Cancel	On click of this button, it will cancel the window and does not save any values.

1.2 Download Agreement [Community]

1.2.1 Description

AdobeSign: Download Agreement step downloads a single combined PDF document associated with an agreement.

1.2.2 Configurations

Configuration:		
No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Configuration:	
2	API Base URI	Specify the API Base URI for the Adobe Sign application. Note: Go to https://api.na4.adobesign.com. **API** is the hostname that can be changed to the custom hostname and **na4** is an access point where the adobe sign instance is created. The hostname can be found in the Account tab of Adobe Sign web application under **Account Settings group > Account setup** option.
2	Application ID	Specify the Application ID of the Adobe Sign application to authenticate the user. The Data Type is String. This field is mandatory.
3	Accept value as variable/static	Leave checkbox unchecked to accept Client Secret value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Client Secret field to appear as Text box.
4	Client Secret	Specify or select the Client Secret of the Adobe Sign application to authenticate the user in the widget. The widget handles both Text (static value or environment variable) or Combo (drop down containing values from previous steps). This field is mandatory.
5	Accept value as variable/static	Select the checkbox if you want to specify the refresh token details, else the select the refresh token from the dropdown.
6	Refresh Token	Specify or select the generated refresh token in the widget. The widget handles both Text (static value or environment variable) or Combo (drop down containing values from previous steps). This field is mandatory.
7	Button: Test Connection	Verifies whether the connection is available or not. For the purpose of verification fields coming from previous steps are not allowed. Static values and environment variables are allowed.

Input Tab:		
No.	Field Name	Description

	Input Fields:	
1	Agreement ID	Specify the ID for an agreement document that is to be downloaded. The Data Type is String. This field is mandatory. The Agreement ID can be found in URL: https://secure.in1.adobesign.com/public/agreements/view/CBJCHBCAABAAyOIQRFEQziascSRZeB2tG_Hf69uqeKxY?type=esign For example, https://secure.in1.adobesign.com/public/agreements/view/**CBJCHBCAABAAIGBKghjnDRaWJomTDu9IlXNO9MDBK7mt**?type=esign
2	Output Folder Path	Specify the folder path to download a file at the given location. The Data Type is String. This field is mandatory.
	Button: Browse	Click to select the folder path to save the downloaded file.
3	Save As (File Name)	Specify a name for the file. The extension should be .pdf. The Data Type is String. This field is mandatory.
4	Attach Audit Report	Select *True* or *False*. When set to *True*, an audit report is attached to the signed agreement PDF. Default value: *False*
5	Attach Supporting Documents	Select *True* or *False.* When set to *True*, a corresponding supporting documents is attached to the signed agreement PDF. Default value: *True*

Additional Input Tab:		
No.	Field Name	Description
1	Delete Output Folder Contents Before Downloading	Specify *Yes* to delete output folder contents before downloading else Specify *No*. Allowed Values are: *Yes*, *No*. Default value: *No*
2	Add Date TimeStamp For Duplicate File	Specify *Yes* to add Date TimeStamp for duplicate files. Allowed Values are: *Yes*, *No*. Default value: *No*
3	Add File To Result	Specify *Yes* to add the downloaded files to the result set and display the download link on AE otherwise else select *No*. Allowed Values are: *Yes*, *No*.

		Default value: *No*

Output Tab:	
Field Name	Description
Output Fields:	
File Overwritten	Specify a field name that returns *Yes* if the file is overwritten else *No.* The default value for this field is *FileOverwritten*.

Common Buttons:		
No.	Field Name	Description
	Buttons:	
1	OK	On click of this button the field values are checked. If any required field values are missing, then it displays a validation error message. If all the required field values are provided then it will save the field values.
2	Cancel	On click of this button, it will cancel the window and does not save any values.

1.3 Download Template [Community]

Adobe Sign: Download Template step downloads a single template.

1.3.1 Configurations

Configuration:		
No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Configuration:	
2	API Base URI	Specify the API Base URI for the Adobe Sign application. Note: Go to https://api.na4.adobesign.com. **API** is the hostname that can be changed to the custom hostname and **na4** is an access point where the adobe sign instance is created. The hostname can be found in the Account tab of Adobe Sign web application under **Account Settings group > Account setup** option.

2	Application ID	Specify the Application ID of the Adobe Sign application to authenticate the user. The Data Type is String. This field is mandatory.
3	Accept value as variable/static	Leave checkbox unchecked to accept Client Secret value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Client Secret field to appear as Text box.
4	Client Secret	Specify or select the Client Secret of the Adobe Sign application to authenticate the user in the widget. The widget handles both Text (static value or environment variable) or Combo (drop down containing values from previous steps). This field is mandatory.
5	Accept value as variable/static	Select the checkbox if you want to specify the refresh token details, else the select the refresh token from the dropdown.
6	Refresh Token	Specify or select the generated refresh token in the widget. The widget handles both Text (static value or environment variable) or Combo (drop down containing values from previous steps). This field is mandatory.
7	Button: Test Connection	Verifies whether the connection is available or not. For the purpose of verification fields coming from previous steps are not allowed. Static values and environment variables are allowed.

Input Tab:		
No.	**Field Name**	**Description**
	Input Fields:	
1	Agreement ID	Specify the ID for an agreement template that is to be downloaded. The Data Type is String. This field is mandatory. The Agreement ID can be found in URL: For example, https://secure.in1.adobesign.com/public/agreements/view/**CBJCHBCAABAAIGBKghjnDRaWJomTDu9IlXNO9MDBK7mt**?type=library_template
2	Output Folder Path	Specify the folder path to download the template at the given location. The Data Type is String. This field is mandatory.
	Button: Browse	Click to select the folder path to save the downloaded template.

3	Save As (File Name)	Specify a name for the file. The extension should be .pdf. The Data Type is String. This field is mandatory.
4	Attach Audit Report	Select *True* or *False*. When set to True, an audit report is attached to the signed agreement PDF. Default value: *False*
5	Attach Supporting Documents	Select *True* or *False*. When set to *True*, a corresponding supporting documents is attached to the signed agreement PDF. Default value: *True*

Additional Input Tab:		
No.	Field Name	Description
1	Delete Output Folder Contents Before Downloading	Specify *Yes* to delete output folder contents before downloading else specify *No*. Allowed Values are: *Yes*, *No*. Default value: *No*
2	Add Date TimeStamp For Duplicate File	Specify *Yes* to add Date TimeStamp for duplicate files. Allowed Values are: *Yes*, *No*. Default value: *No*
3	Add File To Result	Specify *Yes* to add the downloaded templates to the result set and display the download link on AE otherwise else select *No*. Allowed Values are: *Yes*, *No*. Default value: *No*

Output Tab:	
Field Name	Description
Output Fields:	
File Overwritten	Specify a field name that returns *Yes* if the file is overwritten else *No*. The default value for this field is *FileOverwritten*.

Common Buttons:		
No.	Field Name	Description
	Buttons:	

1	OK	On click of this button the field values are checked. If any required field values are missing, then it displays a validation error message.
		If all the required field values are provided then it will save the field values.
2	Cancel	On click of this button, it will cancel the window and does not save any values.

1.4 Get All Templates [Community]

Adobe Sign: Get All Templates step retrieves or gets all templates.

1.4.1 Configurations

Configuration:		
No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Configuration:	
2	API Base URI	Specify the API Base URI for the Adobe Sign application.
		Note: Go to https://api.na4.adobesign.com. **API** is the hostname that can be changed to the custom hostname and **na4** is an access point where the adobe sign instance is created.
		The hostname can be found in the Account tab of Adobe Sign web application under **Account Settings group > Account setup** option.
2	Application ID	Specify the Application ID of the Adobe Sign application to authenticate the user.
		The Data Type is String. This field is mandatory.
3	Accept value as variable/static	Leave checkbox unchecked to accept Client Secret value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Client Secret field to appear as Text box.
4	Client Secret	Specify or select the Client Secret of the Adobe Sign application to authenticate the user in the widget. The widget handles both Text (static value or environment variable) or Combo (drop down containing values from previous steps).
		This field is mandatory.
5	Accept value as variable/static	Select the checkbox if you want to specify the refresh token details, else the select the refresh token from the dropdown.

| 6 | Refresh Token | Specify or select the generated refresh token in the widget. The widget handles both Text (static value or environment variable) or Combo (drop down containing values from previous steps). This field is mandatory. |
| 7 | Button: Test Connection | Verifies whether the connection is available or not. For the purpose of verification fields coming from previous steps are not allowed. Static values and environment variables are allowed. |

Output Tab:	
Field Name	Description
Output Fields:	
Template ID	Specify an output field to hold the Template ID generated after successful plugin execution. The default value for this field is *TemplateID*.
JSON Output	Specify an output field to hold the JSON Output generated after successful plugin execution. The default value for this field is *JSONOutput*.

Common Buttons:		
No.	Field Name	Description
	Buttons:	
1	OK	On click of this button the field values are checked. If any required field values are missing, then it displays a validation error message. If all the required field values are provided then it will save the field values.
2	Cancel	On click of this button, it will cancel the window and does not save any values.

1.5 Get Participants [Community]

Adobe Sign: Get Participants step retrieves information of members of the agreement.

1.5.1 Configurations

Configuration:		
No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.

	Configuration:	
2	API Base URI	Specify the API Base URI for the Adobe Sign application. Note: Go to https://api.na4.adobesign.com. **API** is the hostname that can be changed to the custom hostname and **na4** is an access point where the adobe sign instance is created. The hostname can be found in the Account tab of Adobe Sign web application under **Account Settings group > Account setup** option.
2	Application ID	Specify the Application ID of the Adobe Sign application to authenticate the user. The Data Type is String. This field is mandatory.
3	Accept value as variable/static	Leave checkbox unchecked to accept Client Secret value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Client Secret field to appear as Text box.
4	Client Secret	Specify or select the Client Secret of the Adobe Sign application to authenticate the user in the widget. The widget handles both Text (static value or environment variable) or Combo (drop down containing values from previous steps). This field is mandatory.
5	Accept value as variable/static	Select the checkbox if you want to specify the refresh token details, else the select the refresh token from the dropdown.
6	Refresh Token	Specify or select the generated refresh token in the widget. The widget handles both Text (static value or environment variable) or Combo (drop down containing values from previous steps). This field is mandatory.
7	Button: Test Connection	Verifies whether the connection is available or not. For the purpose of verification fields coming from previous steps are not allowed. Static values and environment variables are allowed.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Agreement ID	Specify the ID for an agreement for which one wants to get participants. The Data Type is String. This field is mandatory. The Agreement ID can be found in URL:

		https://secure.in1.adobesign.com/public/agreements/view/**CBJCHBCAABAAyOIQRFEQziascSRZeB2tG_Hf69uqeKxY**?type=esign
		For example, https://secure.in1.adobesign.com/public/agreements/view/**CBJCHBCAABAAIGBKghjnDRaWJomTDu9IIXNO9MDBK7mt**?type=esign

Output Tab:	
Field Name	Description
Output Fields:	
Participant Set ID	Specify an output field to hold the Participant Set ID generated after successful plugin execution. The default value for this field is *ParticipantSetID*.
JSON Output	Specify an output field to hold the JSON Output generated after successful plugin execution. The default value for this field is *JSONOutput*.

Common Buttons:		
No.	Field Name	Description
	Buttons:	
1	OK	On click of this button the field values are checked. If any required field values are missing, then it displays a validation error message. If all the required field values are provided then it will save the field values.
2	Cancel	On click of this button, it will cancel the window and does not save any values.

1.6 Upload Transient Document [Community]

1.6.1 Description

AdobeSign: Upload Transient Document step returns the Transient Document ID for the uploaded file.

Note: The document uploaded through this step is referred to as transient, as it is available only for seven days after the upload. The returned transient document ID can be used in the API calls where the uploaded file needs to be referred.

1.6.2 Configurations

Configuration:		
No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Configuration:	
2	API Base URI	Specify the API Base URI for the Adobe Sign application. Note: Go to https://api.na4.adobesign.com. **API** is the hostname that can be changed to the custom hostname and **na4** is an access point where the adobe sign instance is created. The hostname can be found in the Account tab of Adobe Sign web application under **Account Settings group > Account setup** option.
3	Application ID	Specify the Application ID of the Adobe Sign application to authenticate the user. The Data Type is String. This field is mandatory.
4	Accept value as variable/static	Leave checkbox unchecked to accept Client Secret value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Client Secret field to appear as Text box.
5	Client Secret	Specify or select the Client Secret of the Adobe Sign application to authenticate the user in the widget. The widget handles both Text (static value or environment variable) or Combo (drop down containing values from previous steps). This field is mandatory.
6	Accept value as variable/static	Select the checkbox if you want to specify the refresh token details, else the select the refresh token from the dropdown.
7	Refresh Token	Specify or select the generated refresh token in the widget. The widget handles both Text (static value or environment variable) or Combo (drop down containing values from previous steps). This field is mandatory.
8	Button: Test Connection	Verifies whether the connection is available or not. For the purpose of verification fields coming from previous steps are not allowed. Static values and environment variables are allowed.

Input Tab:		
No.	Field Name	Description
	Input Fields:	

1	File To Upload	Specify the file path of the file to be uploaded on Adobe Sign.
2	Button: Browse	Click to browse select the file to be uploaded.

Output Tab:	
Field Name	Description
Output Fields:	
Transient Document ID	Specify an output field to hold the Transient Document ID generated because of successful plugin execution. Default value: *TransientDocumentID*

Common Buttons:		
No.	Field Name	Description
	Buttons:	
1	OK	On Click of this button the field values are checked. If any required field values are missing, then it displays a validation error message. If all the required field values are provided then it will save the field values.
2	Cancel	On click of this button, it will cancel the window and does not save any values.

2   AirWatch

AirWatch plugin steps can be used for MDM (Mobile Device Management) in AirWatch. AirWatch plugin is designed to provide your IT department with the ability to quickly enroll users, devices, Apps, Content, Email and Telecom in your enterprise environment, configure and update device settings over-the-air, enforce security policies and compliance, secure mobile access to corporate resources, and remotely lock and wipe managed devices.

Compatibility:
This plugin has been tested with AirWatch- 19.2.0.0(On-Cloud)

Prerequisites:
- AirWatch instance with access details.

Create REST API Keys in AirWatch:

- **Reference to Create REST API Keys in AirWatch:**
  https://docs.vmware.com/en/VMware-AirWatch/9.1.1/com.vmware.aw-vidm-ws1integration-911/GUID-1CBF64C9-5C17-4F98-8A76-C7A88F8E5E96.html

- **Steps to Create REST API Keys in AirWatch:**
  With Admin as account type, you can access all the managed content APIs.
  To do this navigate to,
  Groups & Settings >All Settings > System > Advanced > API > REST API, and select
  Add, to generate an API key for the service and account type as **Admin**.

Enroll Device:

You can enroll Android, Apple, QNX, Chrome OS and Windows OS devices in AirWatch.

The process of enrolling devices for MDM (Mobile Device Management) is discussed in
Appendix: Enrolling devices for MDM

You need to enroll a device before using any of the following AirWatch plugins,

- AW: Delete Device by Id [Community]
- AW: Delete Device by Username [Community]
- AW: Device Wipe by ID [Community]
- AW: Device Wipe by Username [Community]
- AW: Enterprise Wipe Device by ID [Community]
- AW: Enterprise Wipe Devices by Username [Community]

Future Enhancement:
- If required, 'Advance Input' tab can be introduced to accommodate the additional input
  parameters.

Known Issues:
- We can create a child Organization Group but cannot create a user under it.

2.1 AW: Delete Device by Id [Beta]

AW: Delete Device by Id plugin step deletes the device information from AirWatch and unenrolls

the device. The device to be deleted should be identified using the criteria search as UDID,

SerialNumber, ImeiNumber, and MacAddress.

Notes:-
1. If the same enrollment user is enrolled with different devices, then at the time of deletion
   all devices will get deleted.
2. For deleting the device, the device should be in the status like Enrolled.

2.1.1 Configurations
Configuration:

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
2	Base URL	Provide Fully Qualified Domain Name/IP address of machine Specify the AirWatch instance Server name

Specify the AirWatch instance Server URL (e.g. https://cn1106.awmdm.com) or IP address of the AirWatch instance. This field is mandatory. |
4	Username	Specify a username to authenticate to the AirWatch instance (e.g. xx.xx@automationedge.com). This field is mandatory.
	Password:	
5	Accept Values from fields	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
6	Password	Provide the password of the username to authenticate. Password is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). This field is mandatory.

If checkbox above is enabled Password field appears as Text box and accepts static values or variables. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps.

Username, Password and API Key for AirWatch instance are validated. |
| | API Key: | |
| 5 | Accept Values from fields | Leave checkbox unchecked to accept API Key value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for API Key field to appear as Text box. |
| 6 | API Key | API Key is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). This field is mandatory.

If checkbox above is enabled API Key field appears as Text box and accepts static values or variables. Else if checkbox above is disabled API Key field appears as a drop down to select fields from previous steps.

API Key is available in system settings when REST API access is enabled in AirWatch. API Key is needed to integrate VMware Identity Manager with AirWatch. |

		Steps to Create REST API Keys in AirWatch: With Admin as account type, you can access all the managed content APIs. To do this navigate to, Groups & Settings >All Settings > System > Advanced > API > REST API, and select Add, to generate an API key for the service and account type as **Admin**. Username, Password and API Key for AirWatch instance are validated.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Search By Criteria	Specify a device identifier from the following: UUID, ImeiNumber, Serial Number, MacAddress
2	Id/value	Provide a value for the identifier chosen above. (Id or value for UUID, ImeiNumber, Serial Number or MacAddress).

2.2   AW: Delete Device by Username [Beta]

AW: Delete Device by Username plugin step deletes device information from AirWatch Console and unenrolls the device.

Notes:-
1. If the same enrollment user is enrolled with different devices, then at the time of deletion all devices will get deleted.
2. For deleting the device, the device should be in the status like Enrolled.

2.2.1   Configurations

Configuration:		
No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
2	Base URL	Specify the AirWatch instance Server URL (e.g. https://cn1106.awmdm.com) or IP address of the AirWatch instance. This field is mandatory.

4	Username	Specify a username to authenticate to the AirWatch instance (e.g. xx.xx@automationedge.com). This field is mandatory.
	Password:	
5	Accept Values from fields	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
6	Password	Provide the password of the username to authenticate. Password is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). This field is mandatory. If checkbox above is enabled Password field appears as Text box and accepts static values or variables. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps. Username, Password and API Key for AirWatch instance are validated.
	API Key:	
5	Accept Values from fields	Leave checkbox unchecked to accept API Key value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for API Key field to appear as Text box.
6	API Key	API Key is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). This field is mandatory. If checkbox above is enabled API Key field appears as Text box and accepts static values or variables. Else if checkbox above is disabled API Key field appears as a drop down to select fields from previous steps. API Key is available in system settings when REST API access is enabled in AirWatch. API Key is needed to integrate VMware Identity Manager with AirWatch. **Steps to Create REST API Keys in AirWatch:** With Admin as account type, you can access all the managed content APIs. To do this navigate to, Groups & Settings >All Settings > System > Advanced > API > REST API, and select Add, to generate an API key for the service and account type as **Admin**. Username, Password and API Key for AirWatch instance are validated.

Input Tab:

No.	Field Name	Description
	Input Fields:	
1	Enrollment Username	Specify the name of an Enrollment User which is active and has device/devices Enrolled in AirWatch that are to be deleted.

2.3   AW: Delete Enrollment User [Beta]

AW: Delete Enrollment User plugin step deletes an Enrollment User from AirWatch.

2.3.1   Configurations

No.	Field Name	Description
Configuration:		
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
2	Base URL	Specify the AirWatch instance Server URL (e.g. https://cn1106.awmdm.com) or IP address of the AirWatch instance. This field is mandatory.
4	Username	Specify a username to authenticate to the AirWatch instance (e.g. xx.xx@automationedge.com). This field is mandatory.
	Password:	
5	Accept Values from fields	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
6	Password	Provide the password of the username to authenticate. Password is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). This field is mandatory. If checkbox above is enabled Password field appears as Text box and accepts static values or variables. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps. Username, Password and API Key for AirWatch instance are validated.
	API Key:	
5	Accept Values from fields	Leave checkbox unchecked to accept API Key value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for API Key field to appear as Text box.

| 6 | API Key | API Key is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). This field is mandatory.

If checkbox above is enabled API Key field appears as Text box and accepts static values or variables. Else if checkbox above is disabled API Key field appears as a drop down to select fields from previous steps.

API Key is available in system settings when REST API access is enabled in AirWatch. API Key is needed to integrate VMware Identity Manager with AirWatch.
Steps to Create REST API Keys in AirWatch:
With Admin as account type, you can access all the managed content APIs. To do this navigate to,
Groups & Settings >All Settings > System > Advanced > API > REST API, and select Add, to generate an API key for the service and account type as **Admin**.

Username, Password and API Key for AirWatch instance are validated. |

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Enrollment Username	Specify an Enrollment User to be deleted in AirWatch.

2.4 AW: Device Wipe by ID [Beta]

2.4.1 Description

AW: Device Wipe plugin step Device Wipes a device in AirWatch identified by a device

identifier.

Notes:-
Device Wipe essentially means - Wiping the Device. A Device Wipe reboots the device and removes all data (includes all personal user information), email, profiles and MDM capabilities and the phone returns to a factory default state. It is same as that of doing a Factory Reset to your phone from Settings > Personal > Factory Reset.

2.4.2 Configurations

Configuration:		
No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
2	Base URL	Specify the AirWatch instance Server URL (e.g. https://cn1106.awmdm.com) or IP address of the AirWatch instance. This field is mandatory.
4	Username	Specify a username to authenticate to the AirWatch instance (e.g. xx.xx@automationedge.com). This field is mandatory.
	Password:	
5	Accept Values from fields	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
6	Password	Provide the password of the username to authenticate. Password is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). This field is mandatory. If checkbox above is enabled Password field appears as Text box and accepts static values or variables. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps. Username, Password and API Key for AirWatch instance are validated.
	API Key:	
5	Accept Values from fields	Leave checkbox unchecked to accept API Key value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for API Key field to appear as Text box.
6	API Key	API Key is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). This field is mandatory. If checkbox above is enabled API Key field appears as Text box and accepts static values or variables. Else if checkbox above is disabled API Key field appears as a drop down to select fields from previous steps. API Key is available in system settings when REST API access is enabled in AirWatch. API Key is needed to integrate VMware Identity Manager with AirWatch. **Steps to Create REST API Keys in AirWatch:**

		With Admin as account type, you can access all the managed content APIs. To do this navigate to, Groups & Settings >All Settings > System > Advanced > API > REST API, and select Add, to generate an API key for the service and account type as **Admin**. Username, Password and API Key for AirWatch instance are validated.

Input Tab:		
No.	**Field Name**	**Description**
	Input Fields:	
1	Search By Criteria	Specify the device identifier from the following: UUID, ImeiNumber, Serial Number
2	Id/value	Provide a value for the identifier chosen above. (Id or value for UUID, ImeiNumber or Serial Number).

2.5   AW: Device Wipe by Username [Beta]

2.5.1   Description

AW: Device Wipe by Username plugin step Device Wipes a device or devices in AirWatch

belonging to an Enrollment Username.

Notes:-
Device Wipe essentially means - Wiping the Device. A Device Wipe reboots the device and removes all data (includes all personal user information), email, profiles and MDM capabilities and the phone returns to a factory default state. It is same as that of doing a Factory Reset to your phone from Settings > Personal > Factory Reset.

If the same Enrollment User is enrolled with different devices at the time of Device Wipe all devices will be wiped.

2.5.2   Configurations

Configuration:		
No.	**Field Name**	**Description**
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	

2	Base URL	Specify the AirWatch instance Server URL (e.g. https://cn1106.awmdm.com) or IP address of the AirWatch instance. This field is mandatory.
4	Username	Specify a username to authenticate to the AirWatch instance (e.g. xx.xx@automationedge.com). This field is mandatory.
	Password:	
5	Accept Values from fields	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
6	Password	Provide the password of the username to authenticate. Password is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). This field is mandatory. If checkbox above is enabled Password field appears as Text box and accepts static values or variables. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps. Username, Password and API Key for AirWatch instance are validated.
	API Key:	
5	Accept Values from fields	Leave checkbox unchecked to accept API Key value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for API Key field to appear as Text box.
6	API Key	API Key is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). This field is mandatory. If checkbox above is enabled API Key field appears as Text box and accepts static values or variables. Else if checkbox above is disabled API Key field appears as a drop down to select fields from previous steps. API Key is available in system settings when REST API access is enabled in AirWatch. API Key is needed to integrate VMware Identity Manager with AirWatch. **Steps to Create REST API Keys in AirWatch:** With Admin as account type, you can access all the managed content APIs. To do this navigate to, Groups & Settings >All Settings > System > Advanced > API > REST API, and select Add, to generate an API key for the service and account type as **Admin**.

		Username, Password and API Key for AirWatch instance are validated.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Enrollment Username	Specify the name of an active Enrollment User whose device/devices are to be wiped in AirWatch.

2.6   AW: Enterprise Wipe Device by ID [Beta]

2.6.1   Description

AW: Enterprise Wipe Device plugin step sends an Enterprise Wipe command to the device identified by device ID and it Wipes all the enterprise application of the device and un-enrolls it.

Notes:-
Enterprise Wipe: An enterprise wipe unenrolls the device from MDM service and strips off all enterprise content, including email accounts, VPN settings, Wi-Fi profiles, secure content, and enterprise applications. In this case, Device does not reboot once the Enterprise Wipe is completed. In short, it deletes or removes selective data owned by the company without deleting everything or deleting user data.

2.6.2   Configurations

Configuration:		
No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
2	Base URL	Specify the AirWatch instance Server URL (e.g. https://cn1106.awmdm.com) or IP address of the AirWatch instance. This field is mandatory.
4	Username	Specify a username to authenticate to the AirWatch instance (e.g. xx.xx@automationedge.com). This field is mandatory.
	Password:	

5	Accept Values from fields	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
6	Password	Provide the password of the username to authenticate. Password is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). This field is mandatory. If checkbox above is enabled Password field appears as Text box and accepts static values or variables. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps. Username, Password and API Key for AirWatch instance are validated.
	API Key:	
5	Accept Values from fields	Leave checkbox unchecked to accept API Key value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for API Key field to appear as Text box.
6	API Key	API Key is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). This field is mandatory. If checkbox above is enabled API Key field appears as Text box and accepts static values or variables. Else if checkbox above is disabled API Key field appears as a drop down to select fields from previous steps. API Key is available in system settings when REST API access is enabled in AirWatch. API Key is needed to integrate VMware Identity Manager with AirWatch. **Steps to Create REST API Keys in AirWatch:** With Admin as account type, you can access all the managed content APIs. To do this navigate to, Groups & Settings >All Settings > System > Advanced > API > REST API, and select Add, to generate an API key for the service and account type as **Admin**. Username, Password and API Key for AirWatch instance are validated.

Input Tab:		
No.	Field Name	Description
	Input Fields:	

1	Search By Criteria	Specify the device identifier from the following: UUID, ImeiNumber, Serial Number
2	Id/value	Provide Id for UUID or value for ImeiNumber or Serial Number.

2.7 AW: Enterprise Wipe Devices by Username [Beta]

2.7.1 Description

AW: Enterprise Wipe Devices by Username plugin step sends an Enterprise Wipe command to the devices enrolled with the username and Wipes all the enterprise application and un-enrolls the devices.

Notes:-

Enterprise Wipe: An enterprise wipe unenrolls the device from MDM service and strips off all enterprise content, including email accounts, VPN settings, Wi-Fi profiles, secure content, and enterprise applications. In this case, Device does not reboot once the Enterprise Wipe is completed. In short, it deletes or removes selective data owned by the company without deleting everything or deleting user data.

2.7.2 Configurations

Configuration:		
No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
2	Base URL	Specify the AirWatch instance Server URL (e.g. https://cn1106.awmdm.com) or IP address of the AirWatch instance. This field is mandatory.
4	Username	Specify a username to authenticate to the AirWatch instance (e.g. xx.xx@automationedge.com). This field is mandatory.
	Password:	
5	Accept Values from fields	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
6	Password	Provide the password of the username to authenticate. Password is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). This field is mandatory.

If checkbox above is enabled Password field appears as Text box and accepts static values or variables. Else if checkbox |

		above is disabled Password field appears as a drop down to select fields from previous steps. Username, Password and API Key for AirWatch instance are validated.
	API Key:	
5	Accept Values from fields	Leave checkbox unchecked to accept API Key value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for API Key field to appear as Text box.
6	API Key	API Key is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). This field is mandatory. If checkbox above is enabled API Key field appears as Text box and accepts static values or variables. Else if checkbox above is disabled API Key field appears as a drop down to select fields from previous steps. API Key is available in system settings when REST API access is enabled in AirWatch. API Key is needed to integrate VMware Identity Manager with AirWatch. **Steps to Create REST API Keys in AirWatch:** With Admin as account type, you can access all the managed content APIs. To do this navigate to, Groups & Settings >All Settings > System > Advanced > API > REST API, and select Add, to generate an API key for the service and account type as **Admin**. Username, Password and API Key for AirWatch instance are validated.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Enrollment Username	Specify the name of an active Enrollment User which active and its respective device/devices are Enrolled in AirWatch. Specify the name of an active Enrollment User whose device/devices are to be Enterprise Wiped in AirWatch.

2.8 AW: Register Device for Enrollment User [Beta]

2.8.1 Description

AW: Register Device for Enrollment User plugin step registers a device for a specified Enrollment User in AirWatch.

Future Enhancement
- If required, In 'Advance Input' tab can be modified to accommodate the additional input parameters.

References
https://docs.vmware.com/en/VMware-AirWatch/9.1/REST%20API%209_1.pdf

Known Issues
- We can create child Organization Group but cannot register the device under it.

2.8.2 Configurations

Configuration:

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
2	Base URL	Specify the AirWatch instance Server URL (e.g. https://cn1106.awmdm.com) or IP address of the AirWatch instance. This field is mandatory.
4	Username	Specify a username to authenticate to the AirWatch instance (e.g. xx.xx@automationedge.com). This field is mandatory.
	Password:	
5	Accept Values from fields	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
6	Password	Provide the password of the username to authenticate. Password is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). This field is mandatory. If checkbox above is enabled Password field appears as Text box and accepts static values or variables. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps. Username, Password and API Key for AirWatch instance are validated.
	API Key:	

5	Accept Values from fields	Leave checkbox unchecked to accept API Key value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for API Key field to appear as Text box.
6	API Key	API Key is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). This field is mandatory.
		If checkbox above is enabled API Key field appears as Text box and accepts static values or variables. Else if checkbox above is disabled API Key field appears as a drop down to select fields from previous steps.
		API Key is available in system settings when REST API access is enabled in AirWatch. API Key is needed to integrate VMware Identity Manager with AirWatch. **Steps to Create REST API Keys in AirWatch:** With Admin as account type, you can access all the managed content APIs. To do this navigate to, Groups & Settings >All Settings > System > Advanced > API > REST API, and select Add, to generate an API key for the service and account type as **Admin**.
		Username, Password and API Key for AirWatch instance are validated.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Enrollment Username	Specify the name of the enrollment user for which the device is to be registered.
2	Friendly Name	Specify a desired unique friendly name for the device.

Advanced Tab:		
No.	Field Name	Description
1	Platform	Specify the Numeric identification of the device platform. Refer Tables for the list of Platform IDs from references to get a particular ID.
2	Organization Group	Specify the Unique identification of the organization group where the device will be registered.

		Organization Group is visible on the top of the screen once you login to an AirWatch instance as shown below. Workspace ONE UEM M627638420
3	Model	Specify the numeric identification of the device model. Refer Tables for the list of Model IDs from references to get a particular ID.
4	Ownership	Specify the ownership type of the device. The allowed values are "c" (Corporate Dedicated), "s" (Corporate Shared) and "e" (Employee Owned)
5	OS	Specify the numeric identification of the device Operating System. Refer Tables for the list of OS IDs from references to get a particular ID.
6	UDID	Specify the UDID of the device
7	Serial Number	Specify the Serial Number of the device
8	IMEI	Specify the IMEI number of the device
9	SIM	Specify the SIM Number of the desired device
10	Asset Number	Specify the Asset number of the device

3   Amazon EC2

Amazon EC2 plugin steps perform Amazon EC2 Virtual Machine operations.

Steps to Create Access Key ID and Secret Access Key:

Access Key and Secret Key are required for all Amazon EC2 Plugin steps.
Log on to your Amazon AWS Console (https://console.aws.amazon.com) and follow the
procedure to create Access Key and Secret Key.

1. Click on the **AWS logged in username** in the top right side.
2. Click on **'My Security Credentials'**.
3. Click on **'Access keys (access key ID and secret access key)'**.
4. Click on **'Create New Access Key'**.
5. Your keys are now created. Either click on **'Show Access Key'** to see the generated keys or Click on **'Download Key File'** which contains the keys.

Prerequisites:

- Amazon AWS cloud instance with access details.

- Login details [Access key and Secret key] to authenticate to Amazon AWS cloud. These can be found under AWS Management Console→User Icon→ Security Credentials navigation. Refer "Steps to Create Access Key ID and Secret Access Key" in the Plugin header for details.

Reference:

- https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/device_naming.html#available-ec2-device-names
- Generate Access Key and Secret Key:
  https://docs.aws.amazon.com/powershell/latest/userguide/pstools-appendix-sign-up.html

3.1   Amazon EC2: Allocate Elastic IP Address [Community]

Amazon EC2: Allocate Elastic IP Address step allocates, that is, creates an elastic IP address.

3.1.1   Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
2	Region	Specify the region where the instance is hosted or choose a region from the Region Explorer window. The field type is String. This field is mandatory.
3	Button: Get	Click Get button to open the Region Explorer window. Choose a Region.

		Access Key:	Access key to authenticate Amazon AWS cloud.
4	Accept Values from fields		Leave checkbox unchecked to accept Access Key value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Access Key field to appear as Text box.
5	Access Key		Specify the Access Key to authenticate Amazon AWS cloud EC2 instance. If the above checkbox is enabled, Access Key field appears as Text box and accepts static values or variables. And if the above checkbox is disabled, Access Key field appears as a drop down to select fields from previous steps. The field type is String. This field is mandatory.
		Secret Key:	Secret key to authenticate Amazon AWS cloud.
6	Accept Values from fields		Leave checkbox unchecked to accept Secret Key value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Secret Key field to appear as Text box.
7	Secret Key		Specify the Secret Key to authenticate Amazon AWS Cloud EC2 instance. If above checkbox is enabled, Secret Key field appears as Text box and accepts static values or variables. And if the above checkbox is disabled Secret Key field appears as a drop down to select fields from previous steps. The field type is String. This field is mandatory.
8	Button: Test Connection		Click Test Connection button to verify whether the connection is available or not. Region, Access key and Secret Key are mandatory to authenticate Amazon AWS cloud. For the purpose of verification, fields coming from previous steps are not allowed since field values can only be accessed when workflow is in running state. Static values and environment variables are allowed.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Tags	Provide the key and value in tabular format if you want to give a tag to elastic IP.
1.a	Key	Select if you want to give a tag, then provide the tag key name in this field.
1.b	Value	Select value for the respective Tag Key Name.

Output Tab:		

No.	Field Name	Description
	Output Field:	
1	Output	Holds the response of allocated elastic IP address. Default Value: Output

3.2   Amazon EC2: Associate Elastic IP Address [Community]

Amazon EC2: Associate Elastic IP Address associates the elastic IP address to the EC2 instance.

3.2.1   Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
2	Region	Specify the region where the instance is hosted or choose a region from the Region Explorer window. The field type is String. This field is mandatory.
3	Button: Get	Click Get button to open the Region Explorer window. Choose a Region.
	Access Key:	Access key to authenticate Amazon AWS cloud.
4	Accept Values from fields	Leave checkbox unchecked to accept Access Key value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Access Key field to appear as Text box.
5	Access Key	Specify the Access Key to authenticate Amazon AWS cloud EC2 instance. If the above checkbox is enabled, Access Key field appears as Text box and accepts static values or variables. And if the above checkbox is disabled, Access Key field appears as a drop down to select fields from previous steps. The field type is String. This field is mandatory.
	Secret Key:	Secret key to authenticate Amazon AWS cloud.
6	Accept Values from fields	Leave checkbox unchecked to accept Secret Key value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Secret Key field to appear as Text box.
7	Secret Key	Specify the Secret Key to authenticate Amazon AWS Cloud EC2 instance. If above checkbox is enabled, Secret Key field appears as Text box and accepts static values or variables. And if the above checkbox is

		disabled Secret Key field appears as a drop down to select fields from previous steps. The field type is String. This field is mandatory.
8	Button: Test Connection	Click Test Connection button to verify whether the connection is available or not. Region, Access key and Secret Key are mandatory to authenticate Amazon AWS cloud. For the purpose of verification, fields coming from previous steps are not allowed since field values can only be accessed when workflow is in running state. Static values and environment variables are allowed.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Instance ID	Provide the identification of the instance for binding elastic IP. The field type is String. This field is mandatory.
2	Public IP or Allocation ID	Provide the Public IP or Allocation ID of the elastic IP to bind to the instance. The field type is String. This field is mandatory.

Output Tab:		
No.	Field Name	Description
	Output Field:	
1	Association ID	Holds the ID representing the address's association with an instance in a VPC. Default Value: AssociationID

3.3 Amazon EC2: Launch Instance From Template [Community]

3.3.1 Description

Amazon EC2: Launch Instance From Template step launches an instance from a template.

3.3.2 Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	

2	Region	Specify the region where the instance is hosted or choose a region from the Region Explorer window. The field type is String. This field is mandatory.
3	Button: Get	Click Get button to open the Region Explorer window. Choose a Region.
	Access Key:	Access key to authenticate Amazon AWS cloud.
4	Accept Values from fields	Leave checkbox unchecked to accept Access Key value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Access Key field to appear as Text box.
5	Access Key	Specify the Access Key to authenticate Amazon AWS cloud EC2 instance. If the above checkbox is enabled, Access Key field appears as Text box and accepts static values or variables. And if the above checkbox is disabled, Access Key field appears as a drop down to select fields from previous steps. The field type is String. This field is mandatory.
	Secret Key:	Secret key to authenticate Amazon AWS cloud.
6	Accept Values from fields	Leave checkbox unchecked to accept Secret Key value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Secret Key field to appear as Text box.
7	Secret Key	Specify the Secret Key to authenticate Amazon AWS Cloud EC2 instance. If above checkbox is enabled, Secret Key field appears as Text box and accepts static values or variables. And if the above checkbox is disabled Secret Key field appears as a drop down to select fields from previous steps. The field type is String. This field is mandatory.
8	Button: Test Connection	Click Test Connection button to verify whether the connection is available or not. Region, Access key and Secret Key are mandatory to authenticate Amazon AWS cloud. For the purpose of verification, fields coming from previous steps are not allowed since field values can only be accessed when workflow is in running state. Static values and environment variables are allowed.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Template Name	Specify the name of the launch template for which you want to launch an instance. The field type is String. This field is mandatory.

2	Maximum Instance Count	Specify the maximum number of instances to launch. The field type is String. This field is mandatory.
3	Minimum Instance Count	Specify the minimum number of instances to launch. The field type is String. This field is mandatory.
4	Template Version	Select the version of the template. Available values: '$Default','$Latest', 'Any Positive Numeric Value'.
5	Tags	Provide the key and value in tabular format if you want to give a tag to the template.
5.a	Key	Select if you want to give a tag, then provide the tag key name in this field.
5.b	Value	Select value for the respective Tag Key Name.

Output Tab:		
No.	Field Name	Description
	Output Field:	
1	Instance ID	Holds the ID of the instance that is launched. Default Value: InstanceID

4   AS400

AS400 plugin has been designed to perform tasks on AS400 PCOMM emulator.

Prerequisites:

- IBM Personal Communications iSeries Access for Windows.
  - ✓ Preferred Workstation Program Version 5.7 for Windows 7 or Windows server 2008.
  - ✓ Preferred Workstation Program Version 12 or 13 (PCOMM) for Windows 10 or 2016 server.
- .Net Framework version 4.6 or above is required on Agent and Process Studio machines.

Note:
- If there are AS400 Plugin steps in a workflow the workflow must start with a AS400 Start step and end with the AS400 Stop step.
- Also, the Emulator window should be open before running the workflow.

4.1   AS400 Get Text [Community]

4.1.1   Description

AS400 Get Text plugin step is used to retrieve text from AS400 using PCOMM Emulator based on Cartesian co-ordinates provided.

4.1.2 Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.

Get Values Tab:		
No.	Field Name	Description
	Tabular Input Fields:	
1	X-POS	This is the x co-ordinate point on PCOMM emulator from which we want to extract the text.
2	Y-POS	This is the y co-ordinate point on PCOMM emulator from which we want to extract the text.
3	Length	The length of text to be retrieved from given above co-ordinates on PCOMM emulator.
4	Output values	Specify an output field name to store the retrieved output/text.
5	Timeout	Specify a Timeout value on which to stop execution. The data type is Number.

Output Tab:		
No.	Field Name	Description
	Output Fields:	
1	Exit Code	It shows the output as 0 for Success and 1 for Failure.
2	Result	It shows "Data Read Successfully" for Exit code 0 and "Error while Reading data" for Exit code 1.
3	Error	We get respective error message to get a clear idea about error if Exit code is 1.

4.2 AS400 Set Text [Community]

4.2.1 Description
AS400 Set Text plugin step is used to insert text into AS400 using PCOMM Emulator based on Cartesian co-ordinates provided.

4.2.2 Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.

AS400 Set value Tab:		
No.	Field Name	Description
	Input Fields:	
1	X-POS	This is the x co-ordinate point on PCOMM emulator from which we want to insert text.
2	Y-POS	This is the y co-ordinate point on PCOMM emulator from which we want to insert text.
3	Data	Provide the text which we want to insert.
4	Secret	Is Secret field. Values: true or false. Default: false. It is a Combobox to select the value.
5	Timeout	Specify a Timeout value on which to stop execution. The data type is Number.

Output Tab:		
No.	Field Name	Description
	Output Fields:	
1	Exit Code	It shows the success status as 0 for Success and 1 for Failure.
2	Result	It shows "Data Written Successfully" for Exit code 0 And "Error while writing data" for Exit code 1.
3	Error	We get respective error message to get clear idea about error if Exit code is 1.

4.3 AS400 Start [Community]

4.3.1 Description

AS400 Start plugin step initializes Communication between AS400 Plugin steps and PCOMM emulator.

4.3.2 Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
2	Driver Port	Communication port between Plugins and PCOMM. This can be any port from 0 to 65535.
3	WS file path	Specify a workstation file path required to start AS400 PCOMM Emulator in customization mode (Optional).
4	Action on Driver Failure	When driver fails, select a behaviour from the list, • Restarts driver or • Throw exception.

		The default is Throw Exception.

4.4   AS400 Stop [Community]

4.4.1   Description
AS400 Stop plugin step is used to drop communication between AS400 Plugin steps and PCOMM emulator.

4.4.2   Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.

5   Asana

Prerequisites

a.   Create app on Asana and get Client ID and Client Secret.

b.   Generate Refresh Token for your app.

c.   Check the **Asana** document to generate refresh token. For Token generation details, see https://developers.asana.com/docs/oauth.

5.1   Add User To Team [Community]

5.1.1   Description
The step is used to add a user to team on Asana.

Reference:

API – Add User To Team: https://developers.asana.com/reference/adduserforteam

5.1.2   Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
2	Client ID	Specify the Asana app's Client ID that can be found on the Asana's developer console (under my-apps). The data type is String. The field is mandatory.
3	Client Secret	Specify the Asana app's Client Secret that can be found on the Asana's developer console (under my-apps). The data type is String. The field is mandatory.

4	Refresh Token	Specify a Refresh Token to obtain a new Access Token. The data type is Secure String. The field is mandatory.
5	Test Connection	Click to verify whether the connection is established or not. **Note:** Test Connection will only work with static (hardcoded) values and environment variables. It will not work for the previous step fields.

	Input tab	
No.	Field Name	Description
	Input fields	**Note:** Get button will only work with static (hardcoded) values and environment variables. It will not work for the previous step fields.
1	Workspace ID	Specify the Workspace ID needs to be selected to Add User To Team. The data type is String. The field is mandatory.
2	Get	On click of this button, if the connection is successfully established it populates the list of Workspace ID's on the Asana's account.
3	Team ID	Specify the Team ID under which user have to be added. The data type is String. The field is mandatory.
4	Get	On click of this button, if the connection is successfully established it populates the list of Team ID's from workspace Workspace ID.
5	User ID	Specify the User ID to add in Team.
6	Get	On click of this button, if the connection is successfully established it populates the list of User ID's.

	Output tab	
No.	Field Name	Description
	Output field	
1	Added User ID	Output field to hold the result of the successful plugin execution. **Default value:** "AddedUserID".

5.2 Create Story [Community]

5.2.1 Description

The step creates story inside a task in a project of Asana.

Reference:

API – Create Story: https://developers.asana.com/reference/createstoryfortask

5.2.2 Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
2	Client ID	Specify the Asana app's Client ID that can be found on the Asana's developer console (under my-apps). The data type is String. The field is mandatory.
3	Client Secret	Specify the Asana app's Client Secret that can be found on the Asana's developer console (under my-apps). The data type is String. The field is mandatory.
4	Refresh Token	Specify a Refresh Token to obtain a new Access Token. The data type is Secure String. The field is mandatory.
5	Test Connection	Click to verify whether the connection is established or not. **Note:** Test Connection will only work with static (hardcoded) values and environment variables. It will not work for the previous step fields.

	Input tab	
No.	Field Name	Description
	Input fields	**Note:** Get button will only work with static (hardcoded) values and environment variables. It will not work for the previous step fields.
1	Workspace ID	Specify the Workspace ID that needs to be selected to create a specific story. The data type is String. The field is mandatory.
2	Get	On click of this button, if the connection is successfully established it populates the list of Workspace ID's on the Asana's account.

3	Project ID	Specify the Project ID in which story will be created. The data type is String. The field is mandatory.
4	Get	On click of this button, if the connection is successfully established it populates the list of Project ID's in workspace Workspace ID.
5	Task ID	Specify the Task ID in which story will be created. The data type is String. The field is mandatory.
6	Get	On click of this button, if the connection is successfully established it populates the list of Task ID's in project Project ID
7	Text	Specify the plain text of the comment to add. Cannot be used with HTML Text. The data type is String. The field is mandatory.
	Additional Fields	
1	HTML Text	Specify HTML formatted text for a comment. This will not include the name of the creator.
2	Is Pinned	Select whether the story should be pinned on the resource. Should be one of the Yes, No
3	Sticker Name	Specify the name of the sticker in this story. Should be one of the *green_checkmark, people_dancing, dancing_unicorn, heart, party_popper, people_waving_flags, splashing_narwhal, trophy, yeti_riding_unicorn, celebrating_people, determined_climbers, phoenix_spreading_love*

	Output tab	
No.	Field Name	Description
	Output field	
1	Created Story ID	Output field to hold the result of the successful plugin execution. **Default value:** "CreatedStoryID".

5.3   Create Task [Community]

5.3.1   Description
The step creates task in a project of Asana.

Reference:

API – Create Task: https://developers.asana.com/reference/createtask

5.3.2   Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
2	Client ID	Specify the Asana app's Client ID that can be found on the Asana's developer console (under my-apps). The data type is String. The field is mandatory.
3	Client Secret	Specify the Asana app's Client Secret that can be found on the Asana's developer console (under my-apps). The data type is String. The field is mandatory.
4	Refresh Token	Specify a Refresh Token to obtain a new Access Token. The data type is Secure String. The field is mandatory.
5	Test Connection	Click to verify whether the connection is established or not. **Note:** Test Connection will only work with static (hardcoded) values and environment variables. It will not work for the previous step fields.

	Input tab	
No.	Field Name	Description
	Input fields	**Note:** Get button will only work with static (hardcoded) values and environment variables. It will not work for the previous step fields.
1	Workspace ID	Specify the Workspace ID that needs to be selected to create a specific Task. The data type is String. The field is mandatory.
2	Get	On click of this button, if the connection is successfully established it populates the list of Workspace ID's on the Asana's account.
3	Project ID	Specify the Project ID in which task will be created. The data type is String. The field is mandatory.
4	Get	On click of this button, if the connection is successfully established it populates the list of Project ID's in workspace Workspace ID
5	Task ID	Specify the name of the Task which will be created under project Project ID.

		The data type is String. The field is mandatory.
	Additional Fields	
1	Resource Subtype	Should be one of the default_task, milestone, section, approval.
2	Approval Status	Should be one of the pending, approved, rejected, changes_requested.
3	Assignee Status	Should be one of the today, upcoming, later, new, inbox.
4	Completed	Should be one of the Yes, No.
5	Due At	The UTC date and time on which this task is due. This takes an ISO 8601 date string in UTC and should not be used together with due_on.
6	Due On	The localized date on which this task is due. This takes a date with YYYY-MM-DD format and should not be used together with due_at.
7	HTML Notes	The notes of the text with formatting as HTML.
8	Liked	Should be one of the Yes, No.
9	Notes	Free-form textual information associated with the task (i.e. its description).
10	Start At	Date and time on which work begins for the task. This takes an ISO 8601 date string in UTC and should not be used together with start_on.
11	Start On	The day on which work begins for the task. This takes a date with YYYY-MM-DD format and should not be used together with start_at.
12	Assignee	GID of a user.
13	Assignee Section	The assignee section is a subdivision of a project that groups tasks together in the assignee's "My Tasks" list.
14	Follower	These can either be the string "me", an email, or the GID of a user.
15	Parent	GID of a task.
16	Tag	GID of a Tag.

	Output tab	
No.	Field Name	Description

	Output field	
1	Created Task Id	Output field to hold the result of the successful plugin execution. **Default value:** "CreatedTaskID"

5.4 Create Team [Community]

5.4.1 Description
The step is used to create team on Asana.

Reference:

API – Create Team: https://developers.asana.com/reference/createteam

5.4.2 Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
2	Client ID	Specify the Asana app's Client ID that can be found on the Asana's developer console (under my-apps). The data type is String. The field is mandatory.
3	Client Secret	Specify the Asana app's Client Secret that can be found on the Asana's developer console (under my-apps). The data type is String. The field is mandatory.
4	Refresh Token	Specify a Refresh Token to obtain a new Access Token. The data type is Secure String. The field is mandatory.
5	Test Connection	Click to verify whether the connection is established or not. **Note:** Test Connection will only work with static (hardcoded) values and environment variables. It will not work for the previous step fields.

	Input tab	
No.	Field Name	Description
	Input fields	**Note:**

		Get button will only work with static (hardcoded) values and environment variables. It will not work for the previous step fields.
1	Organization ID	Specify the Organization ID that needs to be selected to create a specific team. The data type is String. The field is mandatory.
2	Get	On click of this button, if the connection is successfully established it populates the list of Organization ID's on the Asana's account.
3	Team Name	Specify the Team Name to be created. The data type is String. The field is mandatory.
	Additional Fields	
1	Description	The description of the team.
2	HTML Description	The description of the team with formatting as HTML.
3	Visibility	The visibility of the team to users in the same organization. Should be one of the Yes, No
4	Edit Team Name Or Description Access Level	Controls who can edit team name and description. Should be one of the all_team_members, only_team_admins
5	Edit Team Visibility Or Trash Team Access Level	Controls who can edit team visibility and trash teams. Should be one of the all_team_members, only_team_admins
6	Member Invite Management Access Level	Controls who can accept or deny member invites for a given team. Should be one of the all_team_members, only_team_admins
7	Guest Invite Management Access Level	Controls who can accept or deny guest invites for a given team. Should be one of the all_team_members, only_team_admins

8	Join Request Management Access Level	Controls who can accept or deny join team requests for a Membership by Request team. Should be one of the all_team_members, only_team_admins
9	Team Member Removal Access Level	Controls who can remove team members. Should be one of the all_team_members, only_team_admins

	Output tab	
No.	Field Name	Description
	Output field	
1	Created Team ID	Output field to hold the result of the successful plugin execution. **Default value:** "CreatedTeamID".

5.5 List Users [Community]

5.5.1 Description
The step gives users list in Asana.

Reference:

API – List Users: https://developers.asana.com/reference/getusers

5.5.2 Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
2	Client ID	Specify the Asana app's Client ID that can be found on the Asana's developer console (under my-apps). The data type is String. The field is mandatory.
3	Client Secret	Specify the Asana app's Client Secret that can be found on the Asana's developer console (under my-apps). The data type is String. The field is mandatory.
4	Refresh Token	Specify a Refresh Token to obtain a new Access Token. The data type is Secure String. The field is mandatory.
5	Test Connection	Click to verify whether the connection is established or not. **Note:**

		Test Connection will only work with static (hardcoded) values and environment variables. It will not work for the previous step fields.

	Input tab	
No.	Field Name	Description
	Additional fields	
1	Workspace ID	Specify the workspace or organization ID to filter users on.
2	Team	Specify the team ID to filter users on.
3	Assignee Status	Specify the number of objects to return. The value must be between 1 and 100.

	Output tab	
No.	Field Name	Description
	Output field	
1	Output	Output field to hold the result of the successful plugin execution. **Default value:** "output".

5.6　Remove User From Team [Community]

5.6.1　Description
The step is used to remove user from team on Asana.

Reference

API – Remove User From Team: https://developers.asana.com/reference/removeuserforteam

5.6.2　Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
2	Client ID	Specify the Asana app's Client ID that can be found on the Asana's developer console (under my-apps).

		The data type is String. The field is mandatory.
3	Client Secret	Specify the Asana app's Client Secret that can be found on the Asana's developer console (under my-apps). The data type is String. The field is mandatory.
4	Refresh Token	Specify a Refresh Token to obtain a new Access Token. The data type is Secure String. The field is mandatory.
5	Test Connection	Click to verify whether the connection is established or not. **Note:** Test Connection will only work with static (hardcoded) values and environment variables. It will not work for the previous step fields.

	Input tab	
No.	Field Name	Description
	Input fields	**Note:** Get button will only work with static (hardcoded) values and environment variables. It will not work for the previous step fields.
1	Workspace ID	Specify the Workspace ID that needs to be selected for removing specific user from team. The data type is String. The field is mandatory.
2	Get	On click of this button, if the connection is successfully established it populates the list of Workspace ID's on the Asana's account.
3	Team ID	Specify the Team ID from which user has to be removed. The data type is String. The field is mandatory.
4	Get	On click of this button, if the connection is successfully established it populates the list of Team ID's from workspace Workspace ID.

5	User ID	Specify the User ID to remove from Team. The data type is String. The field is mandatory.
6	Get	On click of this button, if the connection is successfully established it populates the list of User ID's.

5.7 Upload File [Community]

5.7.1 Description
The step is used to upload file on Asana.

Reference

API – Upload File: https://developers.asana.com/reference/createattachmentforobject

5.7.2 Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
2	Client ID	Specify the Asana app's Client ID that can be found on the Asana's developer console (under my-apps). The data type is String. The field is mandatory.
3	Client Secret	Specify the Asana app's Client Secret that can be found on the Asana's developer console (under my-apps). The data type is String. The field is mandatory.
4	Refresh Token	Specify a Refresh Token to obtain a new Access Token. The data type is Secure String. The field is mandatory.
5	Test Connection	Click to verify whether the connection is established or not. **Note:** Test Connection will only work with static (hardcoded) values and environment variables. It will not work for the previous step fields.

	Input tab	
No.	Field Name	Description

	Input fields	**Note:**
		Get button will only work with static (hardcoded) values and environment variables. It will not work for the previous step fields.
1	Parent	Required identifier of the parent task, project, or project_brief, as a string. The data type is String. The field is mandatory.
2	Get	On click of this button, if the connection is successfully established it populates the list of Project ID's and Task ID's on the Asana's account.
3	File Path	Path for the file you want to upload. Required for asana attachments. The data type is String. The field is mandatory.
4	Browse	Select File path from file explorer.
	Additional fields	
5	Resource Subtype	The type of the attachment. Must be one of the asana, external.
6	URL	The URL of the external resource being attached. Required for attachments of type external.
7	Name	The name of the external resource being attached. Required for attachments of type external.
8	Connect To App	Only relevant for external attachments with a parent task. A boolean indicating whether the current app should be connected with the attachment for the purposes of showing an app components widget. Requires the app to have been added to a project the parent task is in.

	Output tab	
No.	Field Name	Description
	Output field	
1	Uploaded File ID	Output field to hold the result of the successful plugin execution. **Default value:** "UploadedFileID".

6 Authenticator

6.1 Authenticator: TOTP Generator [Community]

6.1.1 Description

This step is used to generate Time-based One-Time Passwords (TOTP), essential for multi-factor authentication (MFA) or secure access processes. This works similarly to Authenticator apps. It is used within workflows for secure, time-sensitive authentication flows.

Important:

Ensure Time Synchronization: TOTP is time sensitive. Make sure the host system is synced with an accurate **NTP server** to prevent time drift issues.

Prerequisites:

- **Secret Key (Base32 encoded):** Get this when setting up 2FA with a service.

- **QR Code:** Save the QR code image to use in the plugin, which will auto-populate the details in the plugin.

6.1.2 Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name must be unique in a single workflow.
2	Issuer	Dropdown to select or input the TOTP secret issuer (e.g., Google, Microsoft). Supports variable.
3	Email	Email associated with the TOTP secret, used for identification.
4	Secret Key	Secret key used for TOTP generation. Supports three input modes: • Manual Input (static/variable)

		• QR Code Scanning (via "Browse QR") : It will Auto-populate all the details and fill in their respective fields. • Variable Support A checkbox "Accept value as variable/static" controls dynamic/static input. **Note:** Ensure the **Secret Key** is correctly **base32-encoded**. Invalid inputs will cause generation failures.
	Output tab	
No.	Field Name	Description
	Output field	
1	Output Field	Output field containing the generated 6- or 8-digit TOTP code. The field is mandatory.

7 Autotask PSA

Prerequisites:

- Autotask PSA API User with Access details and Integration code.

- Determine the URL using following get call

  https://webservices3.autotask.net/atservicesrest/v1.0/zoneInformation?user=Username(Key)

  and then provide access to the URLs through your firewall and network (whitelisting).

  For example:

  {"zoneName":"Pre Release","url":"https://webservices2.autotask.net/ATServicesRest/","webUrl":"https://ww2.autotask.net/","ci":31428}

Reference:

https://www.autotask.net/help/Content/4_Admin/1CompanySettings_Users/ResourcesUsersHR/Resources/API_User_Add_Edit.htm?cshid=1543

7.1 Delete Entity Record [Community]

7.1.1 Description

Autotask PSA: Delete Entity Record step is used to delete entity record.

References:

https://www.autotask.net/help/developerhelp/Content/APIs/REST/API_Calls/REST_Delete_Operation.htm

7.1.2 Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection	
2	Username (Key)	Specify the user name of an API user associated with your implementation. For more details refer to API user. The data type is String. This field is mandatory.
3	Password (Secret)	Specify the password for the API user. The data type is String. This field is mandatory.
4	API Integration Code	Specify the API tracking identifier key. The data type is String. This field is mandatory.
5	Test Connection	Verifies the connection is established or not.

Input Tab:		
No.	Field Name	Description
1	Entity Name	Specify the entity name you desired to send the request to. For example, *Tickets*. To execute child entity, provide the entity name as **"ParentEntityName/{ID}/childEntityName".** In this name, the ID is parent entity ID. The data type is String. This field is mandatory.
2	Record ID	Specify the record ID of the entity record to delete. For example, *ticketId*. The data type is String. This field is mandatory.

7.2 Download Attachments [Community]

7.2.1 Description

Autotask PSA: Download Attachments step is used to download the attachments for an entity record.

Reference:

https://www.autotask.net/help/developerhelp/Content/APIs/REST/API_Calls/REST_Attachments.htm

7.2.2   Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection	
2	Username (Key)	Specify the user name of an API user associated with your implementation. For more details refer to API user. The data type is String. This field is mandatory.
3	Password (Secret)	Specify the password for the API user. The data type is String. This field is mandatory.
4	API Integration Code	Specify the API tracking identifier key. The data type is String. This field is mandatory.
5	Test Connection	Verifies the connection is established or not.

Input Tab:		
No.	Field Name	Description
1	Entity Name	Specify the entity name you desired to send the request to. For example, *Tickets*. The data type is String. This field is mandatory. **NOTE:** To provide the Entity name refer to API documentation for that particular entity. For example, for the Tickets entity, see https://www.autotask.net/help/developerhelp/Content/APIs/REST/Entities/TicketsEntity.htm
2	Parent ID	Provide the parent ID of the entity record whose attachments are to be downloaded. For example, *ticketId* The data type is String. This field is mandatory.
3	Output Folder Path	Specify the folder to store the downloaded file. The data type is String. This field is mandatory.
	Additional Input tab	
1	Delete Output Folder Content Before Downloading	Specify **Yes** to delete output folder contents before downloading else Specify **No**. Allowed values: Yes, No. Default value: No The data type is String. This field is mandatory.
2	Add DateTimeStamp For Duplicate File	Specify **Yes** to add DateTimeStamp for duplicate files else Specify **No**. Allowed values: Yes, No. Default value: No The data type is String. This field is mandatory.

3	Add Files to the Result	Specify **Yes** to add the downloaded files to the result and display the download link on AE else Specify **No**. Allowed values: Yes, No. Default value: No The data type is String. This field is mandatory.

Output Tab:		
No.	Field Name	Description
1	Total Files	It is a field to define the output variable name. The default output variable name is "TotalFiles". On successful execution, it holds the total number of all files.
2	Downloaded Files	It is a field to define the output variable name. The default output variable name is "DownloadedFiles". On successful execution, it holds the total number of downloaded files.
3	Overwritten Files	It is a field to define the output variable name. The default output variable name is "OverwrittenFiles". On successful execution, it holds the total number of overwritten files.

7.3   Get Entity Record [Community]

7.3.1   Description

Autotask PSA: Get Entity Record step is used to get entity records.

References:

- https://www.autotask.net/help/developerhelp/Content/APIs/REST/API_Calls/REST_Basic_Query_Calls.htm
- https://www.autotask.net/help/developerhelp/Content/APIs/REST/API_Calls/REST_Advanced_Query_Features.htm

7.3.2   Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection	
2	Username (Key)	Specify the user name of an API user associated with your implementation. For more details refer to API user. The data type is String. This field is mandatory.
3	Password (Secret)	Specify the password for the API user. The data type is String. This field is mandatory.

| 4 | API Integration Code | Specify the <u>API tracking identifier</u> key.
The data type is String. This field is mandatory. |
| 5 | Test Connection | Verifies the connection is established or not. |

Input Tab:		
No.	Field Name	Description
1	Entity Name	Specify the entity name you desired to send the request to. For example, *Tickets*. The data type is String. This field is mandatory.

2	Search (Filter Query)	Specify the filter query to get the entity records.
		
		The syntax for the filter query record is as follows:
		
		`{`
		`    "filter": [`
		`        {`
		`            "op": "SelectedOperator",`
		`            "field": "NameOfField",`
		`            "value": "DesiredValue"`
		`        }`
		`    ]`
		`}`
		
		Note: Don't add the *IncludeFields* property in the filter query JSON.
		
		For more information, see the following documentation:
		
		• <u>Making basic query calls to the REST API</u>
		• <u>Advanced query features of the REST API</u>
		
		The data type is String. This field is mandatory.

Output Tab:		
No.	Field Name	Description
1	Table Fields	Specify the fields to update the entity in the table format.
	Field Name	Click in the output table, and fields associated with the entity name will be populated.
	Output Field Name	Define the output field name in the field. It holds the value of the respective field name.

7.4   Insert Entity Record [Community]

7.4.1   Description

Autotask PSA: Insert Entity Record step is used to insert (create) entity record.

References:

https://www.autotask.net/help/developerhelp/Content/APIs/REST/API_Calls/REST_Creating_Resources_POST.htm

7.4.2   Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection	
2	Username (Key)	Specify the user name of an API user associated with your implementation. For more details refer to API user. The data type is String. This field is mandatory.
3	Password (Secret)	Specify the password for the API user. The data type is String. This field is mandatory.
4	API Integration Code	Specify the API tracking identifier key. The data type is String. This field is mandatory.
5	Test Connection	Verifies the connection is established or not.

Input Tab:		
No.	Field Name	Description
1	Entity Name	Specify the entity name you desired to send the request to. For example, *Tickets.* To execute child entity, provide the entity name as **"ParentEntityName/{ID}/childEntityName".** In this name, the ID is parent entity ID. The data type is String. This field is mandatory.
2	Accept Fields as JSON	1] If the Checkbox is selected, the 'JSON' field will be used to insert the record. 2] If the checkbox is not selected 'Table Fields' will be used to build the JSON to insert the record.
3	JSON	Specify the JSON request body.
4	Table fields	Specify the fields to create the entity in the table format. **Note:** Input should be provided either in the Variable Field Name or Static Field Name.
	Variable Field Name	Displays the value from the previous field or run-time parameters.

	Button: Static Field Name	Click in the Static Field Name Column, the fields associated with the entity name will populate.
	Field Value	Value of the respective field associated with the field name. **Note:** To provide the property name and value refer API documentation for that particular entity. For example, for the Tickets entity refer to https://www.autotask.net/help/developerhelp/Content/APIs/REST/Entities/TicketsEntity.htm

Output Tab:		
No.	Field Name	Description
1	Item ID	Define the output variable name in the field. The default output variable name is "ItemID". On successful execution, it holds the Item ID.

7.5   Update Entity Record [Community]

7.5.1   Description

Autotask PSA: Update Entity Record step is used to update entity record.

References:

https://www.autotask.net/help/developerhelp/Content/APIs/REST/API_Calls/REST_Updating_Data_PATCH.htm

7.5.2   Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection	
2	Username (Key)	Specify the user name of an API user associated with your implementation. For more details refer to API user. The data type is String. This field is mandatory.
3	Password (Secret)	Specify the password for the API user. The data type is String. This field is mandatory.
4	API Integration Code	Specify the API tracking identifier key. The data type is String. This field is mandatory.
5	Test Connection	Verifies the connection is established or not.

Input Tab:		
No.	Field Name	Description
1	Entity Name	Specify the entity name you desired to send the request to. For example, *Tickets*. To execute child entity, provide the entity name as **"ParentEntityName/{ID}/childEntityName".** In this name, the ID is parent entity ID. The data type is String. This field is mandatory.
2	Record ID	Specify the record ID of the entity record to update. For example, *ticketId*. **Note:** The step considers ID From Record ID not from Table or JSON to Update the record.
3	Accept Fields As JSON	Select the checkbox to send the Direct JSON body to update the entity.
	JSON	Specify the JSON request body.
4	Table Fields	Specify the fields to create the entity in the table format. **Note:** Input should be provided either in the Variable Field Name or Static Field Name.
	Variable Field Name	Displays the value from the previous field or run-time parameters.
	Static Field Name	Click in the Static Field Name Column, the fields associated with the entity name will populate.
	Field Value	Value of the respective field associated with the field name. **Note:** To provide the property name and value refer API documentation for that particular entity. For example, for the Tickets entity refer to https://www.autotask.net/help/developerhelp/Content/APIs/REST/Entities/TicketsEntity.htm

Output Tab:		
No.	Field Name	Description
1	Item ID	It is a field to define the output variable name. The default output variable name is "ItemID". On successful execution, it holds the Item ID

7.6 Upload Attachment [Community]

7.6.1 Description

Autotask PSA: Upload Attachment step is used to upload an attachment to an existing entity record.

Note:

The **data** value obtained through the Base 64 conversion can only be considered as data converted from a file.

Reference:

https://www.autotask.net/help/developerhelp/Content/APIs/REST/API_Calls/REST_Attachments.htm

7.6.2 Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection	
2	Username (Key)	Specify the user name of an API user associated with your implementation. For more details refer to API user. The data type is String. This field is mandatory.
3	Password (Secret)	Specify the password for the API user. The data type is String. This field is mandatory.
4	API Integration Code	Specify the API tracking identifier key. The data type is String. This field is mandatory.
5	Test Connection	Verifies the connection is established or not.

Input Tab:		
No.	Field Name	Description
1	Entity Name	Specify the entity name you desired to send the request to. For example, *Tickets*. The data type is String. This field is mandatory.
2	Parent ID	Provide a valid parent ID to which an attachment is to be uploaded. The data type is String. This field is mandatory.
3	Input File Path	Provide the path of the file which you want to upload. The data type is String. This field is mandatory.
4	Accept Fields As JSON	1. If the checkbox is selected, the 'JSON' field will be used to insert the record. 2. If the checkbox is not selected 'Table Fields' will be used to build the JSON to insert the record.

	JSON	Provide the JSON request body.
5	Table Fields	Provide the fields to upload the attachment in the table format.
	Variable Field Name	This field accepts the value from the previous field or run-time parameters. This is an Optional field, but input should be provided either in Variable Field Name or in Static Field Name.
	Static Field Name	On click in the Static Field Name Column, the fields associated with the entity name will populate. This is an Optional field, but input should be provided either in Variable Field Name or in Static Field Name.
	Field Value	Value of the respective field associated with the field name. **NOTE:** To provide the property name and value refer to API documentation for that particular entity. For example, for the Tickets entity, see https://www.autotask.net/help/developerhelp/Content/APIs/REST/Entities/TicketAttachmentsEntity.htm

Output Tab:		
No.	Field Name	Description
1	Item ID	It is a field to define the output variable name. The default output variable name is "ItemID". On successful execution, it holds the Item ID.

8 Azure Compute

Azure Compute plugin has been designed to perform tasks in the specified organization and project in Azure.

Prerequisite:

- User must have Microsoft Azure Account with Subscription with an administrative access.
  - The credentials can also be created using Azure CLI with the command **az ad sp create-for-rbac**, for more information check the link from https://docs.microsoft.com/en-us/cli/azure/ad/sp?view=azure-cli-latest

- User must know the Tenant ID, Client ID, and Client Secret.
- The user with Microsoft Azure subscription must have Global Administration permission.

8.1 Azure: Create Disk [Community]

8.1.1   Description

Azure: Create Disk step creates a disk on Azure.

Note:

To populate the resource group or region, existing disks, snapshots, or disk access using get button, a valid subscription ID should be provided to the user.

8.1.2   References

https://docs.microsoft.com/en-us/rest/api/compute/disks/create-or-update
https://docs.microsoft.com/en-us/cli/azure/ad/sp?view=azure-cli-latest

8.1.3   Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection	
2	Tenant ID	Specify the Tenant ID of the Microsoft Account. The data type is String. This field is mandatory.
3	Client ID	Specify the Client ID of the application created in the Microsoft account. The data type is String. This field is mandatory.
4	Client Secret	Specify the client's secret generated in Microsoft account.
5	Test Connection	Verifies the connection is established or not. Note: The Test Connection button will not work for the previous step variables. The button will only work with static values and environment variables.

Input Tab:		
No.	Field Name	Description
1	Subscription ID	Specify the subscription ID that uniquely identifies the Microsoft Azure Subscription. The data type is String. This field is mandatory.
2	Resource Group	Specify the name of the resource group. The data type is String. This field is mandatory.
3	Get	Click to populate the list of available resource groups.
4	Region	Specify the resource location to create the disk. The data type is String. This field is mandatory. Note: Specify the same region as visible on the Azure portal.
5	Disk Name	Specify the name of the disk.

		The data type is String. This field is mandatory.
6	Disk Size(in GiB)	Specify the size of the disk.
7	Disk SKU	Specify the disks SKU name.
		Allowed values are: *Standard_LRS, Premium_LRS, StandardSSD_LRS, UltraSSD_LRS, Premium_ZRS, or StandardSSD_ZRS*
8	Source Type	Select the possible sources of a disk's creation.
		Allowed values are: *Snapshot, None, StorageBlob*
9	Snapshot	Select the option to specify Source Snapshot field.
10	Get	Click to populate the Snapshot list available on Azure.
11	Get	Click to populate the existing disks available on Azure.
12	None	In this field No source type is used, and the default settings are implemented.
13	Storage Blob	Specify the Source Blob and Operating System Type fields.
14	Source Blob	Specify the URI of a blob to be imported into a disk. Example: https://mystorageaccount.blob.core.windows.net/osimages/osimage.vhd
		The data type is String. This field is mandatory.
15	Operating System Type	Select the operating system type.
		Example: *Windows, Linux*
	Windows	If you select Windows, the VM Generation field will be visible.
	Linux	If you select Windows, the VM Generation field will be visible.
16	None	Select this option to create a data disk.
17	VM Generation	Specify the hypervisor generation of the Virtual Machine. Allowed Values: *Gen 1* and *Gen 2* Default Value: *Gen 1*
18	Connectivity Method	Verify the possible policy for accessing the disk through network. Allowed values are: *AllowAll*, *AllowPrivate*, *DenyAll*
	AllowAll	The disk can be exported or uploaded to from any network.
	AllowPrivate	It enumerates the Disk Access field. The disk can be exported or uploaded to from any network.
19	Disk Access	Specify the disk access name to use resource using the private endpoint on disk.
20	Get	Click to populate the access disks available on the Azure.

Output Tab:

No.	Field Name	Description
	Output Fields:	
1	Response JSON	This field holds the response JSON after creating the disk, which contains all the information related to the disk.

No.	Field Name	Description
Common Buttons:		
	Buttons:	
1	OK	On click of this button the field values are checked. If any required field values are missing, then it displays a validation error message. If all the required field values are provided then it will save the field values.
2	Cancel	On click of this button, it will cancel the window and does not save any values.

8.2 Azure: Create VM [Community]

8.2.1 Description
Azure: Create VM step creates virtual machine on Azure.

Note:

- To populate the resource group or region, subscription ID, virtual machine size, publisher existing disks, snapshots, or disk access using get button, a valid subscription ID should be provided to the user.
- To populate the virtual machine size using get button a valid subscription id and region should be provided.
- To populate the publisher using Get button a valid Subscription ID and Region should be provided.
- To populate the available offer using Get button a valid Subscription ID, Region, and Publisher should be provided.
- To populate the available SKU using Get button a valid Subscription ID, Region, Publisher, and Offer should be provided.

8.2.2 References
- https://docs.microsoft.com/en-us/rest/api/compute/disks/create-or-update
- https://docs.microsoft.com/en-us/cli/azure/ad/sp?view=azure-cli-latest
- https://docs.microsoft.com/en-us/azure/virtual-machines/linux/create-ssh-keys-detailed

8.2.3 Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection	
2	Tenant ID	Specify the Tenant ID of the Microsoft Account. The data type is String. This field is mandatory.
3	Client ID	Specify the Client ID of the application created in the Microsoft account. The data type is String. This field is mandatory.
4	Client Secret	Specify the client's secret generated in Microsoft account.
5	Test Connection	Verifies the connection is established or not. Note: The Test Connection button will not work for the previous step variables. The button will only work with static values and environment variables.

Input Tab:		
No.	Field Name	Description
1	Subscription ID	Specify the subscription ID that uniquely identifies the Microsoft Azure Subscription. The data type is String. This field is mandatory.
2	Resource Group	Specify the name of the resource group. The data type is String. This field is mandatory.
3	Get	Click to populate the list of available resource groups. Note: To populate the resource group or region, valid subscription ID should be provided.
4	Virtual Machine Name	Specify the name of the virtual machine. The data type is String. This field is mandatory. Note: Specify the same region as visible on the Azure portal.
5	Region	Specify the resource location to create the virtual machine. Note: Specify the same region as visible on the Azure portal. The data type is String. This field is mandatory.
6	Get	Click to populate the list of regions available on Azure.
7	Computer Name	Specify the host OS name of the virtual machine. This name cannot be updated after the VM is created. The data type is String. This field is mandatory.

8	Username	Specify the name of the administrator account for the virtual machine. Note: This property cannot be updated after the VM is created. The data type is String. This field is mandatory.
9	Enable SSH Auth	Specify *Yes* or *No* to enable the SSH Public Key Path and SSH Key fields. Allowed Values: *Yes*, *No* Default Value: *No* The data type is String. This field is mandatory.
10	Password	Specify the password of the administrator account for the virtual machine. The data type is String. This field is mandatory.
11	SSH Public Key Path	Specify the full path on the created VM where SSH public key is stored. Due to the drawback the path should be specified in the format: **/home/{Username}/.ssh/authorized_keys** The data type is String. This field is mandatory.
12	SSH Key	Specify SSH public key certificate used to authenticate with the VM through SSH. The key needs to be at least 2048-bit and in SSH-RSA format. Note: To get a ssh key use the bash command **cat ~/.ssh/id_rsa.pub** on Azure cloud bash. For more information, see the [reference](#) link. The data type is Secure String. This field is mandatory.
13	Publisher	Specify the Image reference publisher name. For example: *MicrosoftWindowsServer* The data type is Secure String. This field is mandatory.
	Get	Click to populate the list of publisher. Note: To populate the publisher, valid subscription id and region should be provided.
16	Offer	Specify the offer of the platform image or marketplace image used to create the virtual machine. For example: *UbuntuServer*, *WindowsServer* The data type is Secure String. This field is mandatory.
	Get	Click to populate the list of offers. Note: To populate the available offer, valid subscription id and region, publisher should be provided.

17	SKU	Specify the image SKU. For example: *18.04-LTS, 2019-Datacenter*
		The data type is Secure String. This field is mandatory.
	Get	Click to populate the list of SKUs.
		Note: To populate the available SKU, valid subscription id and region, publisher, and offer should be provided.
18	Version	Specify the version of the platform image or marketplace image used to create the virtual machine. Expected values: latest or Major.Minor.Build where Major, Minor, and Build are decimal numbers. Example: *latest, 18363.592.2001092016*
		The data type is Secure String. This field is mandatory.
19	Host Caching	Specify the caching requirements. Allowed values: *ReadWrite*, *ReadOnly*, or *None*. Use *None* for Standard storage, and use *ReadOnly* for Premium storage.
20	Disk Name	Specify the name of the disk to be created.
21	Disk Type	Specify the storage account type to be created for the Virtual Machine. Allowed values: *Premium_LRS*, *Premium_ZRS*, *StandardSSD_LRS*, *StandardSSD_ZRS*, *Standard_LRS*, or *UltraSSD_LRS*.
21	Network Interface	Specify the resource name for the network interfaces associated with the virtual machine. The data type is Secure String. This field is mandatory.
22	Get	Click to populate all network interfaces available in the specified resource group.

Output Tab:		
No.	Field Name	Description
	Output Fields:	
1	Response JSON	This field holds the response JSON after creating the virtual machine, which contains all the information related to the virtual machine.

Common Buttons:		
No.	Field Name	Description
	Buttons:	

1	OK	On click of this button the field values are checked. If any required field values are missing, then it displays a validation error message.
		If all the required field values are provided then it will save the field values.
2	Cancel	On click of this button, it will cancel the window and does not save any values.

8.3 Azure: Delete VM [Community]

8.3.1 Description
Azure: Delete VM step deletes the virtual machine on Azure.

Note:

- To populate the resource group using get button a valid subscription id should be provided.
- To populate the available virtual machines using get button a valid resource group and subscription ID should be provided.

8.3.2 References

- https://docs.microsoft.com/en-us/rest/api/compute/virtual-machines/restart
- https://docs.microsoft.com/en-us/cli/azure/ad/sp?view=azure-cli-latest

8.3.3 Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection	
2	Tenant ID	Specify the Tenant ID of the Microsoft Account. The data type is String. This field is mandatory.
3	Client ID	Specify the Client ID of the application created in the Microsoft account. The data type is String. This field is mandatory.
4	Client Secret	Specify the client's secret generated in Microsoft account.
5	Test Connection	Verifies the connection is established or not. Note: The Test Connection button will not work for the previous step variables. The button will only work with static values and environment variables.

Input Tab:

No.	Field Name	Description
1	Subscription ID	Specify the subscription ID that uniquely identifies the Microsoft Azure Subscription. The data type is String. This field is mandatory.
2	Resource Group	Specify the name of the resource group. The data type is String. This field is mandatory.
3	Get	Click to populate the list of available resource groups. Note: To populate the resource group a valid subscription ID should be provided.
4	Virtual Machine Name	Specify the name of the virtual machine. The data type is String. This field is mandatory. Note: Specify the same region as visible on the Azure portal.
5	Get	Click to view a list of all the available user's email. Note: To populate the virtual machine name a valid resource group and subscription ID should be provided.

Common Buttons:		
No.	Field Name	Description
	Buttons:	
1	OK	On click of this button the field values are checked. If any required field values are missing, then it displays a validation error message. If all the required field values are provided then it will save the field values.
2	Cancel	On click of this button, it will cancel the window and does not save any values.

9 Azure DevOps

AzureDevOps plugin has been designed to perform tasks in a specified organization and project in Azure DevOps.

Compatibility:
- Azure DevOps Web App

Prerequisites:
- Azure DevOps Web App and access details.

9.1 Azure DevOps: Create Work Item [Community]

9.1.1 Description

Azure DevOps: Create Work Item step creates an Azure DevOps work Item.

9.1.2 Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
2	Organization	Specify an Organization Name in Azure DevOps. The data type is String. This field is mandatory.
3	Project	Specify a Project Name in the Azure DevOps Organization specified above. The data type is String. This field is mandatory.
	Personal Access Token:	Specify the Personal Access Token With Appropriate permission. The data type is Secure String. This field is mandatory.
5	Accept Value as variable/static	Leave checkbox unchecked to accept Personal Access Token value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Personal Access Token field to appear as Text box.
6	Password	Specify the Personal Access Token of the user to authenticate to Remedy Server. Personal Access Token is encrypted and not stored in the .psw workflow file. This field is mandatory. Personal Access Token is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). If checkbox above is enabled Personal Access Token field appears as Text box. Else if checkbox above is disabled Personal Access Token field appears as a drop down to select fields from previous steps.
7	Test Connection	Verifies the connection is established or not. Note: The Test Connection button will not work for the previous step variables. The button will only work with static values and environment variables.

Input Tab:		
No.	Field Name	Description
1	Work Item	On click get button, if a connection is successfully established it populates a list of Work Item Types on the Azure DevOps for a provided project.

		The data type is String. This field is mandatory.
2	Get	On click get button, if a connection is successfully established it populates a list of Work Item Type names on the Azure DevOps for a provided project. Note: The Get button will not work for the previous step variables. The button only works with static values and environment variables Known Issue: On click Get button we get additional Work Items Type which is Not present on AzureDevOps UI.
3	Accept fields as JSON	On the selection of checkbox, we can use the JSON field as an input to build JSON, when It is not checked we can use table input to build the JSON.
4	JSON	In this field provide JSON in a valid format to Create work Item. For the sample JSON. The data type is String. This field is optional. **Sample JSON :-** { "op" : "Add" , "path":"/fields/Title" , "value" : "Test" }
	Tabular Input Fields:	
1	Variable Field Name	This field is optional accepts the value as field or variable. The data type is String. This field is optional.
2	Static Field Name	On the click of the cell in the input table, fields associated with the Work Item will populate. The data type is String. This field is optional. Note: • If static field name and variable field name is provided in the table, so static field name will be considered. • At least the Title input field must be provided. Either using JSON or Table Fields.
3	Field Value	Valid values for the field associated with the field name.

Output Tab:		
No.	Field Name	Description
	Output Fields:	
1	Work Item Id	Output field to hold the work Item id of that particular record for the step execution.

Common Buttons:		
No.	Field Name	Description
	Buttons:	

1	OK	On Click of this button the field values are checked. If any required field values are missing then it displays a validation error message.
		If all the required field values are provided then it will save the field values.
2	Cancel	On click of this button, it will cancel the window and does not save any values

9.2 Azure DevOps: Get Work Items [Community]

9.2.1 Description
Azure DevOps: Create Work Item step Gets an Azure DevOps work Items for provided query.

9.2.2 Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
2	Organization	Specify an Organization Name in Azure DevOps. The data type is String. This field is mandatory.
3	Project	Specify a Project Name in the Azure DevOps Organization specified above. The data type is String. This field is mandatory.
	Personal Access Token:	Specify the Personal Access Token With Appropriate permission. The data type is String. This field is mandatory.
5	Accept Value as variable/static	Leave checkbox unchecked to accept Personal Access Token value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Personal Access Token field to appear as Text box.
6	Password	Specify the Personal Access Token of the user to authenticate to Remedy Server. Personal Access Token is encrypted and not stored in the .psw workflow file.
		Personal Access Token is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). This field is mandatory. If checkbox above is enabled Personal Access Token field appears as Text box. Else if checkbox above is disabled Personal Access Token field appears as a drop down to select fields from previous steps.
	Test Connection	Click to Verify whether connection is established or not. Note: The Test Connection button will not work for the previous step variables. The button will only work with static values and environment variables.

Input Tab:		
No.	Field Name	Description
1	Criteria Query	Provide Wiql query to fetch the WorkItems. The data type is String. This field is mandatory.

Output Tab:		
No.	Field Name	Description
	Output Fields:	
1	Json Output	On the selection of checkbox, we will get three output Fields Id , Url , Json else we need to related fields from Output Table Fields. This field is mandatory.
2	Id	Provide Output Field Name for Id. The data type is String. This field is mandatory.
3	Url	Provide Output Field Name for Url. The data type is String. This field is mandatory.
4	Json	Provide Output Field Name for Json. The data type is String. This field is mandatory.
	Output Table Fields:	
1	Field Name	On the click of the cell in the Output table, fields associated with the Work Item will populate. The data type is String. This field is mandatory.
2	Output Field	Valid values for the Output field associated with the field name. The data type is String. This field is mandatory. **Note:-** • Output Fields Table will not work for the previous step variables. It will only work with static values and environment variables. • At least one Output field must be provided output Table Fields

Common Buttons:		
No.	Field Name	Description
	Buttons:	
1	OK	On Click of this button the field values are checked. If any required field values are missing then it displays a validation error message. If all the required field values are provided then it will save the field values.

2	Cancel	On click of this button, it will cancel the window and does not save any values

9.3 Azure DevOps: Update Work Item [Community]

9.3.1 Description

Azure DevOps: Update Work Item step updates Azure DevOps work Item Fields for provided id.

9.3.2 Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
2	Organization	Specify an Organization Name in Azure DevOps. The data type is String. This field is mandatory.
3	Project	Specify a Project Name in the Azure DevOps Organization specified above. The data type is String. This field is mandatory.
	Personal Access Token:	Personal Access Token With Appropriate permission. The data type is Secure String. This field is mandatory.
5	Accept Value as variable/static	Leave checkbox unchecked to accept Personal Access Token value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Personal Access Token field to appear as Text box.
6	Password	Specify the Personal Access Token of the user to authenticate to Remedy Server. Personal Access Token is encrypted and not stored in the .psw workflow file. Personal Access Token is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). This field is mandatory. If checkbox above is enabled Personal Access Token field appears as Text box. Else if checkbox above is disabled Personal Access Token field appears as a drop down to select fields from previous steps.
	Test Connection	Verifies the connection is established or not.

		Note: The Test Connection button will not work for the previous step variables. The button will only work with static values and environment variables.

Input Tab:		
No.	Field Name	Description
1	Work Item	On click get button, if a connection is successfully established it populates a list of Work Item Type on the Azure DevOps for the provided project. The data type is String. This field is mandatory.
2	Get	On click get button, if a connection is successfully established it populates a list of Work Item Type names on the Azure DevOps for the provided project. Note: The Get button will not work for the previous step variables. The button will only work with static values and environment variables Known Issue: When click get Work Item we get Addition WorkItem Type which are Not present on UI
3	Accept fields as JSON	On the selection of checkbox, we can use the JSON field as an input to build JSON, when It is not checked we can use table input to build the JSON.
4	JSON	In this field provide JSON in valid format to Create work Item. The data type is String. This field is optional. **Sample JSON :-** { "op" : "replace" , "path":"/fields/Priority" , "value" : "1" }
	Tabular Input Fields:	
1	Variable Field Name	This field is optional accepts the value as field or variable. The data type is String. This field is optional.
2	Static Field Name	On the click of the cell in the input table, fields associated with the Work Item will populate. The data type is String. This field is optional. **Note:-** • If static field name and variable field name is provided in the table, so static field name will be considered. • At least the Title input field must be provided. Either using JSON or Table Fields.
3	Field Value	Valid values for the field associated with the field name.

Output Tab:		
No.	Field Name	Description
	Output Fields:	
1	Work Item Id	Output field to hold the work Item id of that particular record for the step execution.

Common Buttons:		
No.	Field Name	Description
	Buttons:	
1	OK	On Click of this button the field values are checked. If any required field values are missing then it displays a validation error message. If all the required field values are provided then it will save the field values.
2	Cancel	On click of this button, it will cancel the window and does not save any values

10 Cisco

Cisco plugin steps to perform operations on Cisco Switch interfaces.

Prerequisites
- Administrator Access to cisco switch.

Cisco Switch Compatibility:

Cisco IOS Software C3550 Software (C3550-IPSERVICESK9-M), Version 12.2(55) SE4,

10.1 Cisco: Get Interface from IP Address [Community]

Cisco Switch Compatibility:

Cisco IOS Software, C3550 Software (C3550-IPSERVICESK9-M), Version 12.2(55)SE4,

Prerequisites
- Administrator Access to cisco switch.
- Remote Machine IP.

10.1.1 Description

Cisco: Get Interface from IP Address plugin step gets the interface Id from IP Address of the remote machine.

10.1.2 Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
1	Host	Specify IP address of the Cisco Switch. This field is mandatory.
2	Port	Port of the Cisco Switch.
3	Username	Specify a username to connect to Cisco Switch having requisite permissions. This field is mandatory.
	Password:	
4	Accept Value as variable/static	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
5	Password	Specify the password of the user to authenticate to Remedy Server. Password is encrypted and not stored in the .psw workflow file. Password is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). This field is mandatory. If checkbox above is enabled Password field appears as Text box. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps.

Input Tab:		
No.	Field Name	Description
1	Input Fields:	
2	Remote Machine IP	Provide the IP Address of the Remote Machine.

Output Tab:		
No.	Field Name	Description
	Output Fields:	
1	Interface ID	Specify an output field to hold Interface ID

Common Buttons:		
No.	Field Name	Description
	Buttons:	
1	OK	On click of this button. It will check the field values. If any required field values are missing then it will display validation error message. If all the required field values are provided then it will save the field values.
2	Cancel	On click of this button, it will cancel the window and do not save any values

10.2   Cisco: Get Interface Status [Community]

Compatibility with:

Cisco IOS Software C3550 Software (C3550-IPSERVICESK9-M), Version 12.2(55) SE4

Prerequisite

- Administrator Access to cisco switch.

10.2.1   Description

Cisco: Get Interface Status plugin step gets the status of an Interface on Cisco Switch.

10.2.2   Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
1	Host	Specify IP address of the Cisco Switch. This field is mandatory.
2	Port	Port of the Cisco Switch.
3	Username	Specify a username to connect to Cisco Switch having requisite permissions. This field is mandatory.
	Password:	
4	Accept Value as variable/static	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list.

		Else enable checkbox for Password field to appear as Text box.
5	Password	Specify the password of the user to authenticate to Remedy Server. This field is mandatory. Password is encrypted and not stored in the .psw workflow file.

Password is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). If checkbox above is enabled Password field appears as Text box. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps. |

Input Tab:

No.	Field Name	Description
	Input Fields:	
1	Interface ID	Provide the Interface ID/Port.

Output Tab:

No.	Field Name	Description
	Output Fields:	
1	Status	Specify an output field to hold the status of the Interface.

Common Buttons:

No.	Field Name	Description
	Buttons:	
1	OK	On click of this button. It will check the field values. If any required field values are missing then it will display validation error message.

If all the required field values are provided then it will save the field values. |
| 2 | Cancel | On click of this button, it will cancel the window and do not save any values |

10.3   Cisco: No Shutdown Interface [Community]

Compatibility with: Cisco IOS Software, C3550 Software (C3550-IPSERVICESK9-M), Version 12.2(55)SE4

Prerequisite

- Administrator Access to cisco switch.

10.3.1   Description

Cisco: No Shutdown Interface plugin step enables the interface on Cisco Switch.

10.3.2   Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
1	Host	Specify IP address of the Cisco Switch. This field is mandatory.
2	Port	Port of the Cisco Switch.
3	Username	Specify a username to connect to Cisco Switch having requisite permissions. This field is mandatory.
	Password:	
4	Accept Value as variable/static	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
5	Password	Specify the password of the user to authenticate to Remedy Server. Password is encrypted and not stored in the .psw workflow file.

Password is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). This field is mandatory.
If checkbox above is enabled Password field appears as Text box. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps. |

Input Tab:		
No.	Field Name	Description
1	Input Fields:	
2	Interface ID	Provide the Interface ID/Port that is to be enabled.

Common Buttons:		
No.	Field Name	Description
	Buttons:	

1	OK	On click of this button. It will check the field values. If any required field values are missing then it will display validation error message.
		If all the required field values are provided then it will save the field values.
2	Cancel	On click of this button, it will cancel the window and do not save any values

10.4   Cisco: Shutdown Interface [Community]

Compatibility: Cisco IOS Software, C3550 Software (C3550-IPSERVICESK9-M), Version 12.2(55)SE4,

Prerequisite

- Administrator Access to cisco switch.

10.4.1   Description
Cisco: Shutdown Interface disables an interface on Cisco Switch.

10.4.2   Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
1	Host	Specify IP address of the Cisco Switch. This field is mandatory.
2	Port	Port of the Cisco Switch.
3	Username	Specify a username to connect to Cisco Switch having requisite permissions. This field is mandatory.
	Password:	
4	Accept Value as variable/static	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
5	Password	Specify the password of the user to authenticate to Remedy Server. This field is mandatory. Password is encrypted and not stored in the .psw workflow file.
		Password is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). If checkbox above is enabled Password field appears as Text box. Else if checkbox

		above is disabled Password field appears as a drop down to select fields from previous steps.

Input Tab:		
No.	Field Name	Description
1	Input Fields:	
2	Interface ID	Provide the Interface ID/Port that is to be shut down.

Common Buttons:		
No.	Field Name	Description
	Buttons:	
1	OK	On click of this button. It will check the field values. If any required field values are missing then it will display validation error message. If all the required field values are provided then it will save the field values.
2	Cancel	On click of this button, it will cancel the window and do not save any values

11   ComAround

ComAround plugin steps to get knowledge or delete knowledge articles.

Prerequisites

- ComAround instance with access details.
- Primary or Secondary Subscription Key which is generated from the instance.

11.1   ComAround: Delete Knowledge Article By ID [Community]

11.1.1   Description

ComAround: Delete Knowledge Article By ID step deletes the knowledge article by ID.

11.1.2   Configurations

Configuration:		
No.	Field Name	Description
1	Step Name	Specify the name of the step. This name has to be unique in a single workflow.
	Connection:	

2	Username	Specify the valid username of the user used for creating the instance. The field data type is String. This field is mandatory.
3	Accept value is variable/static	Leave checkbox unchecked to accept the valid password of the user used for creating the instance from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
4	Password	Password is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). The Data Type is String. This field is mandatory. If checkbox above is enabled Password field appears as Text box and accepts static values or variables. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps.
5	Accept value is variable/static	Leave checkbox unchecked to accept Primary or Secondary Subscription key value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Primary or Secondary Subscription Key field to appear as Text box.
6	Primary or Secondary Subscription Key	Use either the primary or secondary subscription key to authenticate the user. The field data type is String. This is a mandatory field.
7	Test Connection	Verifies whether the connection is established or not. Note: For the purpose of verification, fields coming from previous steps are not allowed since field values can only be accessed when workflow is in running state. The Test Connection button will only work with static (hardcoded) values and environment variables.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Content ID	Specify the unique ID allocated to the Knowledge Article. The field data type is String. This field is mandatory. Note: • The ID can be found in the URL:

		For example, https://zero.comaround.com/en-us/content/**1479819**/?ctxt=mostpopular#/ • If Content ID does not exist, there is nothing to delete, hence the workflow will run successfully.

Common Buttons:		
No.	Field Name	Description
	Buttons:	
1	OK	On Click of this button the field values are checked. If any required field values are missing, then it displays a validation error message. If all the required field values are provided then it will save the field values.
2	Cancel	On click of this button, it will cancel the window and does not save any values.

11.2 ComAround: Get Knowledge Article By ID [Community]

11.2.1 Description
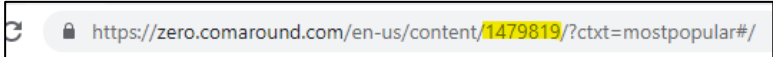
ComAround: Get Knowledge Article By ID step searches and gets the knowledge article by its ID.

11.2.2 Configurations

Configuration:		
No.	Field Name	Description
1	Step Name	Specify the name of the step. This name has to be unique in a single workflow.
	Connection:	
2	Username	Specify the valid username of the user used for creating the instance. The field data type is String. This field is mandatory.
3	Accept value is variable/static	Leave checkbox unchecked to accept the valid password of the user used for creating the instance from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.

4	Password	Password is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). The Data Type is String. This field is mandatory.
		If checkbox above is enabled Password field appears as Text box and accepts static values or variables. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps.
5	Accept value is variable/static	Leave checkbox unchecked to accept Primary or Secondary Subscription key value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Primary or Secondary Subscription Key field to appear as Text box.
6	Primary or Secondary Subscription Key	Use either the primary or secondary subscription key to authenticate the user. The field data type is String. This field is mandatory.
7	Test Connection	Verifies whether the connection is established or not. Note: For the purpose of verification, fields coming from previous steps are not allowed since field values can only be accessed when workflow is in running state. The Test Connection button will only work with static (hardcoded) values and environment variables.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Content ID	Specify the unique ID allocated to the Knowledge Article. The field data type is String. This field is mandatory. Note: The ID can be found in the URL: For example, https://zero.comaround.com/en-us/content/**1479819**/?ctxt=mostpopular#/ If Content ID does not exist, there is nothing to delete, hence the workflow will run successfully.

Output Tab:		
No.	Field Name	Description

	Output Fields:	
1	JSON Output	The knowledge article that matches the content ID is returned.

Common Buttons:		
No.	Field Name	Description
	Buttons:	
1	OK	On Click of this button the field values are checked. If any required field values are missing, then it displays a validation error message.
		If all the required field values are provided then it will save the field values.
2	Cancel	On click of this button, it will cancel the window and does not save any values.

11.3   ComAround: Get Knowledge Articles [Community]

11.3.1   Description

ComAround: Get Knowledge Articles step searches and gets articles by phrase. All knowledge articles that match the phrase will be returned in the output. It is an input/first step.

11.3.2   Configurations

Configuration:		
No.	Field Name	Description
1	Step Name	Specify the name of the step. This name has to be unique in a single workflow.
	Connection:	
2	Username	Specify the valid username of the user used for creating the instance.
		The field data type is String. This field is mandatory.
3	Password	Specify the valid password of the user used for creating the instance.
		The field data type is String. This field is mandatory.
4	Primary or Secondary Subscription Key	Use either the primary or secondary subscription key to authenticate the user.
		The field data type is String. This field is mandatory.
7	Test Connection	Verifies whether the connection is established or not.

		Note: For the purpose of verification, fields coming from previous steps are not allowed since field values can only be accessed when workflow is in running state. The Test Connection button will only work with static (hardcoded) values and environment variables.

Input Tab:

No.	Field Name	Description
	Input Fields:	
1	Search Phrase	Specify the phrase that needs to be searched in the article. For example, Delete the Team.
2	Fetch Records Batch Size	Specify a batch size to fetch records. Input step will give the output depending on the criteria query on the specified form. By this provision it will fetch the records in the provided batches. Default value is: 10

The field data type is String. This field is mandatory. |

Output Tab:

No.	Field Name	Description
	Output Fields:	
1	Content ID	Returns the unique identifier assigned to each knowledge article.
2	JSON Output	Knowledge article that matches the phrase is returned.

Common Buttons:

No.	Field Name	Description
	Buttons:	
1	OK	On Click of this button the field values are checked. If any required field values are missing, then it displays a validation error message.

If all the required field values are provided then it will save the field values. |
| 2 | Cancel | On click of this button, it will cancel the window and does not save any values. |

12   DevRev

Prerequisites

DevRev Personal Access Token

12.1 DevRev: Create Issue Or Ticket [Community]

12.1.1 Description

DevRev: Create Issue Or Ticket step creates an issue or ticket in DevRev.

References:

API documentation: https://devrev.ai/docs/apis/methods#/operations/works-create

12.1.2 Configurations

Configuration:

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
2	Accept value is variable/static	Leave checkbox unchecked to accept the valid password of the user used for creating the instance from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
3	Personal Access Token	Personal access token is OAuth token, which is used to authenticate your identity. Personal Access Token is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). The Data Type is String. This field is mandatory. If checkbox above is enabled Personal Access Token field appears as Text box and accepts static values or variables. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps.
4	Test Connection	Verifies whether the connection is established or not.

Input Tab:

No.	Field Name	Description
	Input Fields:	
1	Type	Specify the type of work you want to create. Allowed values: *issue* or *ticket* The data type is String This field is mandatory.

2	Accept fields as JSON	1] If the checkbox is selected, the 'JSON' field will be used to create the issue or ticket. 2] If the checkbox is not selected 'Table Fields' will be used to build the JSON to create the issue or ticket.
3	JSON	Provide valid JSON to create the issue or ticket. **Sample JSON:** `{"applies_to_part": "don:core:dvrv-us-1:devo/p3AxNuiS:feature/4", "body": "Username - abc", "owned_by": ["don:identity:dvrv-us-1:devo/p3AxNuiS:devu/1"], "rev_org": "don:identity:dvrv-us-1:devo/p3AxNuiS:revo/hwvHybux", "severity": "medium", "stage": {"name": "queued"}, "title": "Reset Password for AD", "type": "ticket"}`
	Table Fields	These fields are available if you did not select the Accept fields as JSON checkbox.
4	Variable Field Name	The field accepts the value from the previous field or run-time parameters.
5	Static Field Name	Click to populate the fields associated with the type.
6	Field Values	Provide the value of the respective field associated with the field name. The data type is String This field is mandatory.

Output Tab:		
No.	Field Name	Description
	Output Fields:	
1	Issue Or Ticket ID	The output field holds the result of the successful plugin execution. Default value: *IssueOrTicketID*

12.2   DevRev: Get Issue Or Ticket By ID [Community]

12.2.1   Description

DevRev: Get Issue Or Ticket By ID step fetches an issue or ticket by ID from DevRev.

References:

API documentation: https://devrev.ai/docs/apis/methods#/operations/works-list

12.2.2   Configurations

Configuration:		
No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
2	Accept value is variable/static	Leave checkbox unchecked to accept the valid password of the user used for creating the instance from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
3	Personal Access Token	Personal access token is OAuth token, which is used to authenticate your identity. Personal Access Token is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). The Data Type is String. This field is mandatory. If checkbox above is enabled Personal Access Token field appears as Text box and accepts static values or variables. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps.
4	Test Connection	Verifies whether the connection is established or not.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Issue Or Ticket ID	Specify the ID of the issue or ticket, which you want to fetch. The field data type is String. This is a mandatory field.

Output Tab:		
No.	Field Name	Description
	Output Fields:	
1	JSON Output	The output field holds the result of the successful plugin execution. Default value: *JSONOutput*

12.3   DevRev: Search Issues Or Tickets [Community]

12.3.1 Description

DevRev: Search Issues Or Tickets step searches issues or tickets in DevRev, based on the provided search criteria.

References:

API documentation: https://devrev.ai/docs/apis/methods#/operations/works-list

12.3.2 Configurations

Configuration:		
No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
2	Accept value is variable/static	Leave checkbox unchecked to accept the valid password of the user used for creating the instance from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
3	Personal Access Token	Personal access token is OAuth token, which is used to authenticate your identity. Personal Access Token is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). The Data Type is String. This field is mandatory. If checkbox above is enabled Personal Access Token field appears as Text box and accepts static values or variables. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps.
4	Test Connection	Verifies whether the connection is established or not.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Criteria Query	Fetch the issues or tickets matching the criteria query. The data type is String This field is mandatory. **Sample Criteria Query:**

		1. type=ticket&stage.name=work_in_progress&created_by =DEVU-1
		2. If you want to query the same field for multiple values, give values as comma separated as given in the below example query: stage.name=awaiting_customer_response,work_in_progress

Output Tab:		
No.	Field Name	Description
	Output Fields:	
1	JSON Output	The output field holds the result of the successful plugin execution. Default value: *JSONOutput*

13   Dynatrace

Dynatrace plugin is used to get one or all events from a Dynatrace instance.

Compatibility: Dynatrace Cloud Instance (version 1.163 (Trial))

Prerequisites:
- Dynatrace instance with access details.
- Generate API Token

Reference:
https://www.dynatrace.com/support/help/extend-dynatrace/dynatrace-api/environment-api/events/

Steps to Generate API Token
1. Navigate to Settings menu on a Dynatrace instance UI.
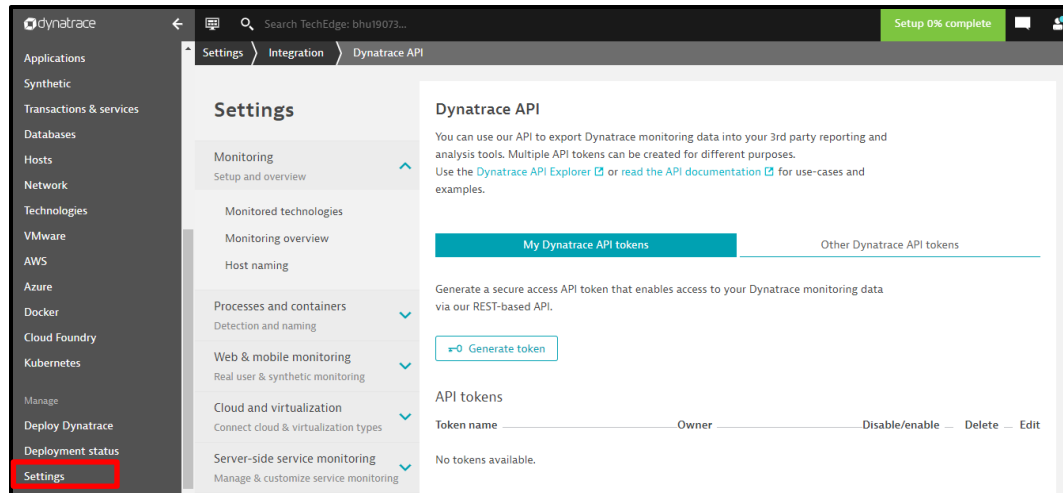
2. On Settings menu under Integration locate and click Dynatrace API.
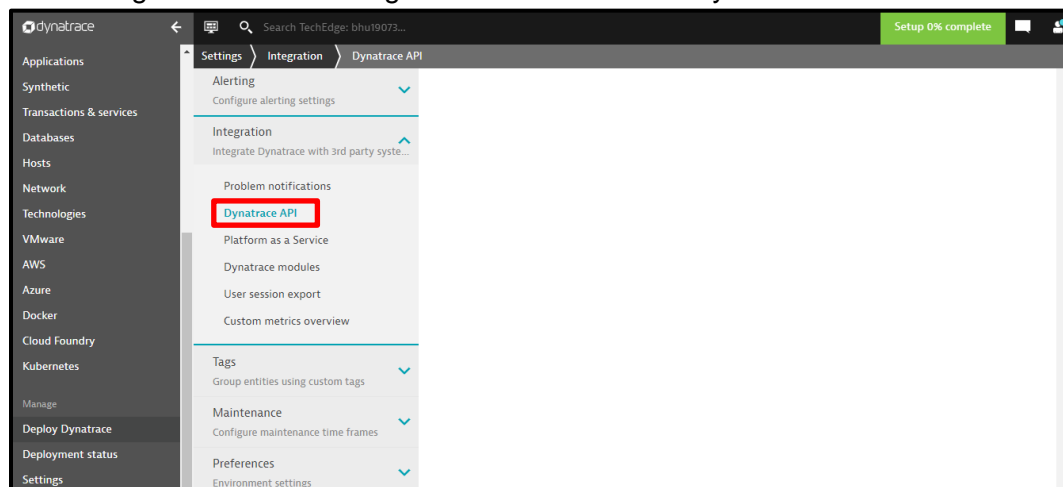
3. On the Dynatrace API page click Generate token.
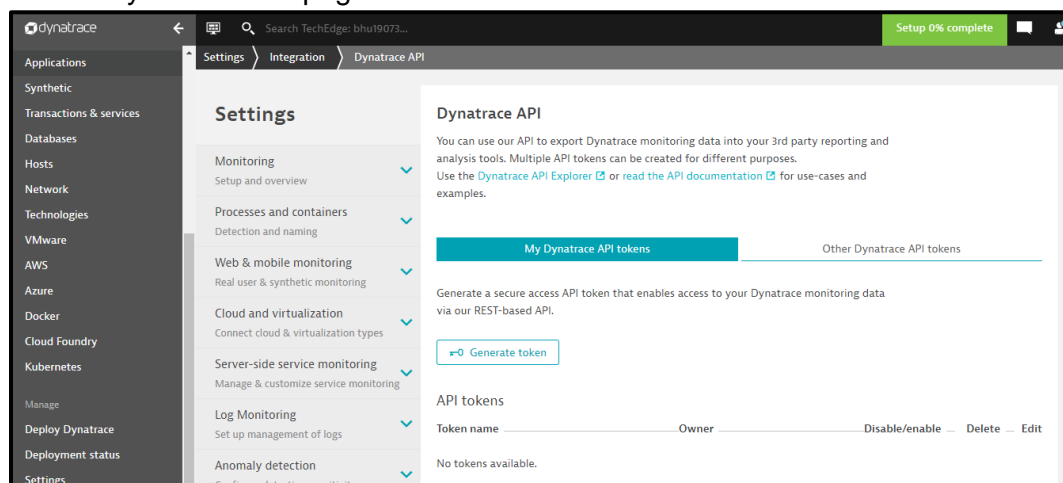
4. Provide a token name.

5. Use the toggle buttons to select the switches to define the Access scope of your Dynatrace Access token.
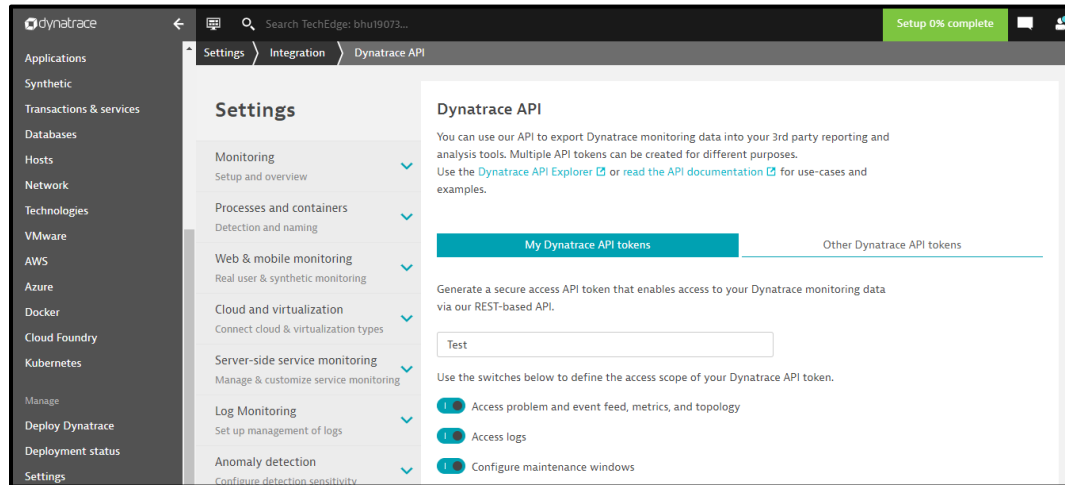
6. Click the arrow beneath Edit to see the generated token box. Click Copy button.
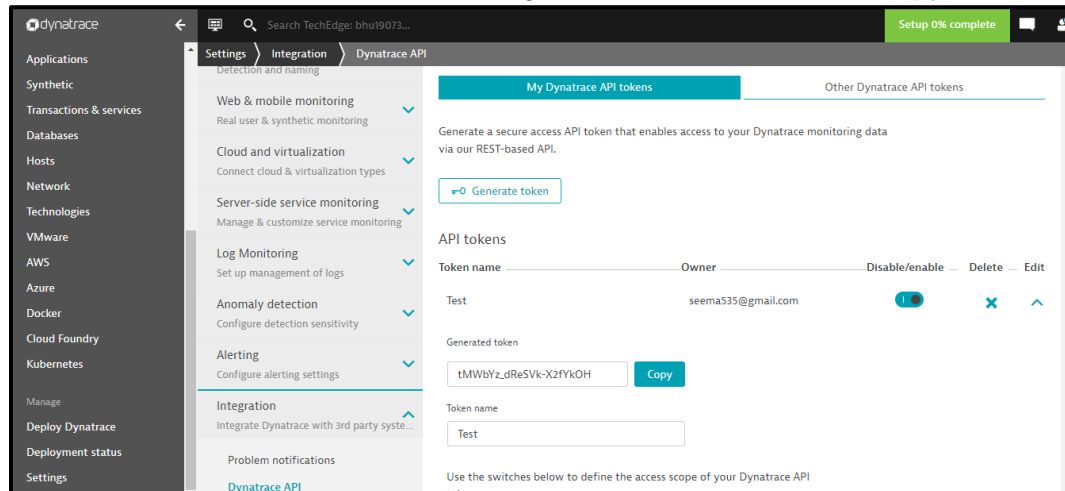
7. This completes the process of generating Dynatrace API token.

13.1   Dynatrace: Get all Events [Community]

13.1.1   Description

Dynatrace: Get all Events plugin step Gets all Events in Dynatrace.

13.1.2   Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
1	URL	Specify your instance URL (e.g. https://xxx12345.live.dynatrace.com/). This field is mandatory.
2	API Token	API token for Dynatrace instance. API Key is available in Settings→Integration→Dynatrace API→Generate token button

Input Tab:		
No.	Field Name	Description
	Input Fields:	One or all of the below filters could be applicable.
1	From	Specify the From Date timestamp, in UTC milliseconds to fetch Dynatrace events. This is an integer.
2	To	Specify the To Date timestamp, in UTC milliseconds to fetch Dynatrace events. This is an integer.
3	Relative Time	Specify a Relative time, back from the current time. Records are fetched for this time period. This is a String.
4	Event Type	Specify an Event Type in Dynatrace whose details are to be fetched. The plugin filters the resulting set of events by this event type. This is a String.
5	Entity Id	Specify an Event Id in Dynatrace whose details are to be fetched. Filters the resulting set of events to the events, related to the specified Dynatrace entity Id. This is a String.

Output Tab:		
No.	Field Name	Description
	Output Fields:	
1	Event Id	Specify an output field to hold the Event Id.
2	Start Time	Specify an output field to hold the Start Time for the Event Id.
3	End Time	Specify an output field to hold the End Time for the Event Id.
4	Entity Id	Specify an output field to hold the Entity Id.

5	Entity Name	Specify an output field to hold the Entity Name.
6	Impact Level	Specify an output field to hold the Impact Level.
7	Event Type	Specify an output field to hold the Event Type.
8	Event Status	Specify an output field to hold the Event Status.
9	Tags	Specify an output field to hold the Tags.
10	Id	Specify an output field to hold the Id.
11	Source	Specify an output field to hold the Source.

Common Buttons:		
No.	Field Name	Description
	Buttons:	
1	OK	On click of this button. It will check the field values. If any required field values are missing then it will display validation error message. If all the required field values are provided then it will save the field values.
2	Cancel	On click of this button, it will cancel the window and do not save any values

13.2   Dynatrace: Get Event [Community]

13.2.1   Description

Dynatrace: Get Events plugin step gets the details of an event in Dynatrace.

13.2.2   Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
1	URL	Specify your Dynatrace instance URL (e.g. https://xxx12345.live.dynatrace.com/). This field is mandatory.
	API Token	API token for Dynatrace instance. API Key is available in Settings→Integration→Dynatrace API→Generate token button.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Event Id	Specify an Event Id in Dynatrace whose details are to be fetched.

Output Tab:		
No.	Field Name	Description
	Output Fields:	
1	Event Id	Specify an output field to hold the Event Id.
2	Start Time	Specify an output field to hold the Start Time for the Event Id.
3	End Time	Specify an output field to hold the End Time for the Event Id.
4	Entity Id	Specify an output field to hold the Entity Id.
5	Entity Name	Specify an output field to hold the Entity Name.
6	Impact Level	Specify an output field to hold the Impact Level.
7	Event Type	Specify an output field to hold the Event Type.
8	Event Status	Specify an output field to hold the Event Status.
9	Tags	Specify an output field to hold the Tags.
10	Id	Specify an output field to hold the Id.
11	Source	Specify an output field to hold the Source.

Common Buttons:		
No.	Field Name	Description
	Buttons:	
1	OK	On click of this button. It will check the field values. If any required field values are missing then it will display validation error message. If all the required field values are provided then it will save the field values.
2	Cancel	On click of this button, it will cancel the window and do not save any values

14   Facebook Workplace

Facebook Workplace Plugin has been designed to perform actions in a Facebook Workplace instance.

Compatibility: Facebook Workplace Cloud instance

Prerequisites:
- Facebook Workplace instance with access details.
- API Key

References:
- Refer to this URL to generate an API key (access token): https://developers.facebook.com/docs/workplace/reference/account-management-api#api-access-token
- API documentation: https://developers.facebook.com/docs/workplace/reference/account-management-api#apiendpoints

14.1   Facebook Workplace: Create Account [Community]

14.1.1   Description

Facebook Workplace: Create Account plugin step creates an account in Facebook Workplace.

14.1.2   Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
2	URL	Specify the URL Facebook Workplace instance (e.g. https://my.workplace.com/). The data type is String. This field is mandatory.
	API Key:	
3	Accept Values from fields	Leave checkbox unchecked to accept Secret Key value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Secret Key field to appear as Text box.
4	API Key	Specify an API Key available under Manage Groups→Integration in Facebook Workplace instance. API Key is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). This field is mandatory.

		If checkbox above is enabled API Key field appears as Text box and accepts static values or variables. Else if checkbox above is disabled API Key field appears as a drop down to select fields from previous steps. The data type is String. This field is mandatory.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	New Username	Specify a New Username to be created. The data type is String. This field is mandatory.
2	Display Name	Specify a Display Name for the New Username to be created. The data type is String. This field is mandatory.
3	Email	Specify an email for the New Username to be created. The data type is String. This field is mandatory.

Output Tab:		
No.	Field Name	Description
	Output Fields:	
1	ID	Specify an output field to hold the ID of the New Username created.

Common Buttons:		
No.	Field Name	Description
	Buttons:	
1	OK	On click of this button. It will check the field values. If any required field values are missing then it will display validation error message. If all the required field values are provided then it will save the field values.
2	Cancel	On click of this button, it will cancel the window and do not save any values

14.2   Facebook Workplace: Deactivate User [Community]

14.2.1   Description

Facebook Workplace: Deactivate User plugin step deactivates a user account in Facebook Workplace.

14.2.2   Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
1	URL	Specify the URL Facebook Workplace instance (e.g. https://my.workplace.com/). The data type is String. This field is mandatory.
	API Key:	
2	Accept Values from fields	Leave checkbox unchecked to accept Secret Key value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Secret Key field to appear as Text box.
3	API Key	Specify an API Key available under Manage Groups→Integration in Facebook Workplace instance. API Key is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). This field is mandatory. If checkbox above is enabled API Key field appears as Text box and accepts static values or variables. Else if checkbox above is disabled API Key field appears as a drop down to select fields from previous steps. The data type is String. This field is mandatory.

Input Tab:		
No.	Field Name	Description
	Input Field:	
1	Username	Specify a Facebook Workplace instance, Username account to be deactivated i.e. Workplace-assigned user ID (Get the user ID from URL when we browse through that particular user from Facebook Workplace UI). The data type is String. This field is mandatory.

14.3   Facebook Workplace: Delete Account [Community]

14.3.1   Description

Facebook Workplace: Delete Account plugin step deletes an account in Facebook Workplace.

14.3.2   Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
1	URL	Specify the URL Facebook Workplace instance (e.g. https://my.workplace.com/). The data type is String. This field is mandatory.
	API Key:	
2	Accept Values from fields	Leave checkbox unchecked to accept Secret Key value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Secret Key field to appear as Text box.
3	API Key	Specify an API Key available under Manage Groups→Integration in Facebook Workplace instance. API Key is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). This field is mandatory. If checkbox above is enabled API Key field appears as Text box and accepts static values or variables. Else if checkbox above is disabled API Key field appears as a drop down to select fields from previous steps. The data type is String. This field is mandatory.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Username	Specify a Facebook Workplace instance, Username to be deleted. The data type is String. This field is mandatory.

Common Buttons:		
No.	Field Name	Description

	Buttons:	
1	OK	On click of this button. It will check the field values. If any required field values are missing then it will display validation error message. If all the required field values are provided then it will save the field values.
2	Cancel	On click of this button, it will cancel the window and do not save any values

15   File Transfer 2.0

Known issue:

Once the plugin obtains the correct proxy username and password, subsequent authentication attempts with incorrect credentials are still accepted.

Common Action Buttons:

Field Name	Description
OK	Click to check the field values. If any required field values are missing, then validation error message is displayed. If all the required field values are provided, then it will save the field values.
Cancel	Click to cancel the window without saving any values.

15.1   File Transfer 2.0: Delete files via FTP [Community]

15.1.1   Description
The process entry deletes the files in the remote host using FTP (Files Transfer Protocol), FTPS (File Transfer Protocol Secure), SFTP (Secure File Transfer Protocol).

15.1.2   Configurations

Field Name	Description
Step Name	Name of the step. This name must be unique in a single workflow.
General tab:	

Field Name	Description
Server Settings:	
Protocol	Select protocol from list. Available options are: • *FTP* • *FTPS* • *SFTP*
SFTP server name / IP address	Specify the name of the SFTP server or the IP address.
Server Port	Specify the TCP port number to use. **Default port for respective protocols:** • FTP: *21* • FTPS implicit encryption: *990* • FTPS explicit encryption: *21* • SFTP: *22*
Username	Specify the username of your server account to log in.
Password	Specify or select the *password* of your server account to log in. If the checkbox Accept Value as variable/static is selected, then the password field appears as a text box and accepts static or variable values. Or If the checkbox Accept Value as variable/static is not selected, then the password field appears as a dropdown in which you can select a field from the previous steps.
Use old algorithm for SSH Communication	Select the checkbox to enforce the internal library to use older or weaker algorithms for SSH communication. **Important:** Selecting checkbox is required when the *client or source machine* with updated SSH environment is trying to communicate with a *target machine* which has older SSH environment. If *not* selected, then user will get "**Algorithm negotiation**

Field Name	Description
	failed" error. **Recommendation:** We recommend using modern and secure algorithms wherever possible. Using old algorithms for SSH communication can be a security risk.
Use private Key	Specify *Yes*, to use private key file otherwise specify *No*. **Allowed values:** *Yes* or *No* **Default value:** *No*
Private key filename	Specify the key file location. OR Click **Browse** to select the key file to upload. **Notes:** • The field is enabled If **Use privte key file** is *Yes* • Supported key file type is: *.pem* and *.ppk*
Key passPhrase	Specify the passphrase of the key file if needed. **Note:** The field is enabled If **Use public key file** is *Yes*
Proxy Type	Specify the proxy types. **Allowed values**: *HTTP or SOCKS5*
Proxy Host	Specify proxy server host name.
Proxy port	Specify proxy server port number.
Proxy Username	Specify username of proxy server to sign on to server.
Proxy Password	Specify password of proxy server to sign on to server.
Test Connection	Click to check whether the connection is successfully established or *not*.
Files Tab:	
Remote:	

Field Name	Description
Remote Directory	Specify the remote directory path of folder on the SFTP server from which we delete the file(s). **Note:** The **Check Folder** will not work if the **Remote Directory** value is set using the value from a field in the previous step.
Check Folder	Click **Check Folder** to connect to the remote server and validate whether the folder exist or not.
Wildcard (regular expression)	Specify the regular expression to delete specific file(s) from remote directory. **Note:** If no expression is defined, then all files will be deleted from remote directory.
Success condition:	
Success on	Sets the condition which defines the success of the step. Select condition from list, available options are: • *All works fine* • *At least x files* • *No. of errors less than*
Limit files	Sets the numbers of files associated with a condition of success to delete files. *No*te**:** the field is enabled if **Success on** is *At least x files* or *No. of errors less than*
Additional Settings:	
Advanced	
Time Out	Specify the timeout in milliseconds for server connection.
Use active FTP connection	Specify *Yes* or *No.* If you specify *Yes,* you are connecting to the FTP server using active mode.

Field Name	Description
	Note: Set your firewall to accept connections to the port that your FTP client will open. The default is Passive mode. **Allowed values:** *Yes* or *No* **Default value:** *No*

15.2 File Transfer 2.0: Get Files Via FTP [Community]

15.2.1 Description

Use the step to get files using FTP (Files Transfer Protocol).

15.2.2 Configurations

Field Name	Description
Step name	Name of the step. This name must be unique in a single workflow. The field is mandatory.
General tab:	
Server Settings	
FTP server name / IP address	Specify the name of the FTP server or IP address. The field is mandatory.
Server Port	Specify the TCP port number to use. **Available option:** *21* The field is mandatory.
Username	Specify the *username* of your server account. The field is mandatory.
Password	Specify the *password* of your server account. If the checkbox Accept Value as variable/static is selected, then the password field appears as a text box and accepts static or variable values. Or If the checkbox Accept Value as variable/static is not selected,

Field Name	Description
	then the password field appears as a dropdown in which you can select a field from the previous steps. The field is mandatory.
Proxy Type	Specify the proxy types. **Allowed values:** *HTTP or SOCKS5*
Proxy Host	Specify proxy server host name.
Proxy port	Specify proxy server port number.
Proxy Username	Specify username of proxy server to sign on to server.
Proxy Password	Specify password of proxy server to sign on to server. If the checkbox Accept Value as variable/static is selected, then the password field appears as a text box and accepts static or variable values. OR If the checkbox Accept Value as variable/static is not selected, then the password field appears as a dropdown in which you can select a field from the previous steps.
Test Connection	Click to check whether the connection is successfully established or not.
Files Tab:	
Remote:	
Remote Directory	Specify the remote directory path of folder on the FTP server from which we get the files. Click **Check Folder** to validate whether the folder exists or not. **Note:** The **Check Folder** will not work if the **Remote Directory** value is set using the value from a field in the previous step.
Check Folder	Click **Check Folder** to connect to the remote server and validate whether the folder exist or not.

Field Name	Description
Wildcard (regular expression)	Specify the regular expression to delete specific file(s) from remote directory. **Note:** If no expression is defined, then all files will be deleted from remote directory.
Remove files after retrieval?	Specify *Yes*, to delete the remote file(s) after the file(s) is transferred. **Allowed values:** *Yes* or *No* **Default value:** *No*
Move files after retrieval?	Specify *Yes* to move the files after retrieval otherwise specify *No.* **Allowed values:** *Yes* or *No* **Default value:** *No*
Move to folder	Specify the folder name to move file(s).
Check Folder	Click **Check Folder** to connect to the remote server and validate whether the folder exist or not.
Create folder	Specify *Yes* to create the folder that will contain file(s) otherwise specify *No.* **Allowed values:** *Yes* or *No* **Default value:** *No*
Local:	
Target Directory	Specify the target folder directory of local machine, which represents the destination directory where the downloaded file(s) will be stored.
Create Target Folder	Specify *Yes* to create destination folder if it does not exist. **Allowed values:** *Yes* or *No* **Default value:** *No*
Browse	Click **Browse** to select target folder directory of local machine to download the file(s).

Field Name	Description
Include date in filename	Specify *Yes* to add the system date to the filename otherwise specify *No.* **Allowed values:** *Yes* or *No* **Default value:** *No*
Include time in filename	Specify *Yes* to add the system time to the filename otherwise specify *No.* **Allowed values:** *Yes* or *No* **Default value:** *No*
Specify Date time format	Select **Specify Date time format** to set your own date or time format.
Date time format	Select date time format from list.
Add date before extension	Specify *Yes* to add date to the filename before the extension otherwise specify *No.* **Allowed values:** *Yes* or *No* **Default value:** *No*
Don't overwrite files	Specify *Yes* to perform action like Skip, rename or fail if a file with an identical name is already available in target directory. **Note**: If you select the checkbox only then **If file exist** is available to select actions.
If file exists	Select an action from available list for a file with an identical name that already exists in the target directory.
Add filenames to result	Specify *Yes* to add name of file in the result stream. **Allowed values:** *Yes* or *No* **Default value:** *No*
Advanced Tab:	
Success condition:	

Field Name	Description
Success on	Sets the condition which defines the success of the step.
Limit files	Sets the numbers of files associated with a condition of success to delete files.
Additional Settings tab:	
Advanced	
Binary Mode	Specify *Yes* or *No*. On *Yes*, the files will be transferred in binary mode otherwise specify *No*. **Allowed values**: *Yes* or *No* **Default value**: *No*
Timeout	Specify the timeout in milliseconds for FTP server connection.
Use active FTP connection	Specify *Yes* or *No*. If you specify *Yes*, you are connecting to the FTP server using active mode. **Note:** Set your firewall to accept connections to the port that your FTP client will open. The default is Passive mode. **Allowed values**: *Yes* or *No* **Default value**: *No*
Control Encoding	Select control character encoding that is valid for your server.

15.3   File Transfer 2.0: Get Files Via FTPS [Community]

15.3.1   Description
Use step to get files using FTPS (Files Transfer Protocol Secure).

15.3.2   Configurations

Field Name	Description
Step name	Name of the step. This name must be unique in a single

Field Name	Description
	workflow.
General Tab:	
Server:	
FTPS server name / IP address.	Specify the name of the FTPS server or the IP address to connect.
Server Port	Specify the TCP port number to use. **Default value**: • Implicit Encryption: *990* • Explicit Encryption: *21* The field is mandatory.
Username	Specify the *username* of your FTPS server account log in.
Password	Specify the *password* of your FTPS server account log in. If the checkbox Accept Value as variable/static is selected, then the password field appears as a text box and accepts static or variable values. OR If the checkbox Accept Value as variable/static is not selected, then the password field appears as a dropdown in which you can select a field from the previous steps.
Proxy Type	Specify the proxy types. **Allowed values**: *HTTP or SOCKS5*
Proxy Host	Specify proxy server host name.
Proxy Port	Specify proxy server port number.
Proxy Username	Specify proxy server account username to access server.
Proxy Password	Specify proxy server account password to access server. If the checkbox Accept Value as variable/static is selected, then the password field appears as a text box and accepts

Field Name	Description
	static or variable values. OR If the checkbox Accept Value as variable/static is not selected, then the password field appears as a dropdown in which you can select a field from the previous steps.
Connection Type	Select the connection type for encryption. Available options are: • TLS/SSL Implicit encryption • TLS/SSL Explicit encryption
Test Connection	Click to check whether the connection is successfully established or not.
Files Tab:	
Remote: The following are the parameters needed for Get Files using FTPS.	
Remote Directory	Specify the remote directory path of folder on the FTPS server from which we get the files.
Test Folder	Click **Test Folder** to validate whether the folder exist or not.
Wildcard (regular expression)	Specify a regular expression to get multiple files from specified remote directory. **Note:** If no expression is defined, then all files will be uploaded from remote directory.
Remove files after retrieval?	Specify *Yes* to delete the remote file(s) after the file is transferred. **Allowed values:** *Yes* or *No* **Default value:** *No*
Move files after retrieval?	Specify *Yes* to move the remote file(s) after the file is retrieve. **Allowed values:** *Yes* or *No* **Default value:** *No*
Move to folder	Specify the folder name to move file(s).

Field Name	Description
Check Folder	Click **Check folder** to validate whether the folder exists or not.
Create Folder	Specify *Yes* to create the folder that will contain files. **Allowed values:** *Yes* or *No* **Default value:** *No*
Local:	
Target Directory	Specify the target folder directory on the local machine, which represents the destination directory where the downloaded file(s) will be stored.
Create Target Folder	Specify *Yes* to create destination folder if it does not exist. **Allowed values:** *Yes* or *No* **Default value:** *No*
Browse	Click **Browse** to select target folder directory of local machine to download the file(s).
Include date in filename	Specify *Yes* to add the system date to the filename otherwise specify *No.* **Allowed values:** *Yes* or *No* **Default value:** *No*
Include time in filename	Specify *Yes* to add the system time to the filename otherwise specify *No.* **Allowed values:** *Yes* or *No* **Default value:** *No*
Specify Date time format	Select **Specify Date time format** to set your own date or time format.
Date time format	Select date time format from list.
Add date before extension	Specify *Yes* to add date to the filename before the extension otherwise specify *No.* **Allowed values:** *Yes* or *No* **Default value:** *No*

Field Name	Description
Don't overwrite files	Specify *Yes* to perform action like skip, rename or fail if a file with an identical name is already available in target directory. **Allowed values:** *Yes* or *No* **Default value:** *No*
If file exists	Select and action to take, if file with an identical name already exists in the target directory.
Add filenames to result	Specify *Yes* to add name of file to the result stream. **Allowed values:** *Yes* or *No* **Default value:** *No*
Advanced Tab:	
Success condition:	
Success on	Sets the condition which defines the success of the step.
Limit files	Sets the numbers of files associated with a condition of success to delete files.
Additional Settings Tab:	
Advanced:	
Binary Mode?	Specify *Yes* or *No* On *Yes*, the files will be transferred in binary mode otherwise specify *No*. **Allowed values**: *Yes* or *No* **Default value**: *No*
Timeout	Specify the timeout in milliseconds for FTP server connection.
Use active FTP connection	Specify *Yes* or *No*. If you specify *Yes*, you are connecting to the FTP server using active mode. **Note**: Set your firewall to accept connections to the port that your FTP client will open. The default is Passive mode.

Field Name	Description
	Allowed values: *Yes* or *No* **Default value**: *No*

15.4   File Transfer 2.0: Get Files With SecureFTP [Community]

15.4.1   Description
Use the step to get files using SFTP (Secure Files Transfer Protocol)

15.4.2   Configurations

Field Name	Description
Step Name	Name of the step. This name must be unique in a single workflow.
General Tab:	
Server:	
SFTP server name / IP address	Specify the name of the SFTP server or the IP address.
Server Port	Specify the TCP port number to use. **Default value**: 22
Username	Specify the *username* of your SFTP server account.
Password	Specify the *password* of your SFTP server account.
Use private keyfile	Specify *Yes* to use private key file. **Allowed values:** *Yes* or *No* **Default value:** *No*
Private key filename	Specify the private key file location. Or Click **Browse** to select the key file you want to upload. **Note:** • Supported file type is .pem and .ppk • The field is available if **Use private key file** is *Yes.*

Field Name	Description
Key passPhrase	Specify the passphrase of the key file if needed. ***N*ote:** The field is available if **Use private key file** is *Yes.*
Proxy type	Select the proxy type. Available values are: • *HTTP* • *SOCKS5*
Proxy Host	Specify proxy server host name.
Proxy Port	Specify proxy server port number.
Proxy username	Specify username of proxy server to sign on to server.
Proxy password	Specify password of proxy server to sign on to server. If the checkbox Accept Value as variable/static is selected, then the password field appears as a text box and accepts static or variable values. OR If the checkbox Accept Value as variable/static is not selected, then the password field appears as a dropdown in which you can select a field from the previous steps.
Test Connection	Click to check whether the connection is successfully established or not.
Compression	Select to compress the file(s). Available options are: • *None* • *zlib*
Files: The following are the parameters needed for Get Files using secure FTP	
Source Files:	
Remote directory	Specify the remote directory path of folder on the FTP server from which we get the files. Click **Test Folder** to validate whether the folder exist or not. **Note:** The **Test Folder** will not work if the **Remote Directory** value is set from a field in the previous step.

Field Name	Description
Wildcard (regular expression)	Specify a regular expression to get specific files from specified remote directory.
Group: Last Modified On (UTC DateTime)	Specify a date-time to select the file(s) that is last modified from mentioned date time. **Allowed date-time format:** *yyyy-MM-dd hh:mm:ss*
From	Specify *From* to select the last modified from mentioned date-time.
To	Specify *To*, to select the last modified to mentioned date-time.
Remove files after retrieval?	Specify *Yes* to delete the remote file(s) after the file is transferred. **Allowed values:** *Yes* or *No* **Default value:** *No*
Target Files:	
Target Directory	Specify the target folder directory of server which represents the destination directory where the downloaded file will be stored. Or Click **Browse** to select target folder directory of local machine to download the file(s).
Create target folder	Specify *Yes* to create destination folder if it does not exist. **Allowed values:** *Yes* or *No* **Default value:** *No*
Add filenames to result	Specify *Yes* to add name of file in the result stream. **Allowed values:** *Yes* or *No* **Default value:** *No*
Additional Settings Tab:	
Advanced:	
Binary Mode?	Specify *Yes* or *No*

Field Name	Description
	On *Yes*, the files will be transferred in binary mode otherwise specify *No*. **Allowed values**: *Yes* or *No* **Default value**: *No*
Timeout	Specify the timeout in milliseconds for FTP server connection.
Use active FTP connection	Specify *Yes* or *No*. If you specify *Yes*, you are connecting to the FTP server using active mode. *Note*: Set your firewall to accept connections to the port that your FTP client will open. The default is Passive mode. **Allowed values**: *Yes* or *No* **Default value**: *No*

15.5 File Transfer 2.0: Put Files Via FTP [Community]

15.5.1 Description
Use the step to put files using FTP (Files Transfer Protocol).

15.5.2 Configurations

Field Name	Description
Step name	Name of the step. This name must be unique in a single workflow.
General tab:	
Server settings:	
FTP server name / IP address	Specify the name of the SFTP server or the IP address.
Server Port	Specify the TCP port number to use. **Default value**: *21*
Username	Specify the *username* of your FTP server account.

Field Name	Description
Password	Specify the *password* of your server account.
Proxy type	Select the proxy type. Available values are: • *HTTP* • *SOCKS5*
Proxy host	Specify proxy server host name.
Proxy port	Specify proxy server port number.
Proxy username	Specify username of your proxy server account.
Proxy password	Specify password of your proxy server account
Test Connection	Click to check whether the connection is successfully established or not.
Files:	
Source (local) files:	
Local Directory	Specify the directory on the local machine to put file(s). Or Click **Browse** to select the local directory path on your local machine for the file to be uploaded.
Wildcard (regular expression)	Specify a regular expression to select specific file(s). *Note:* If nothing is passed all files from Local Directory will get uploaded.
Remove files after transferal?	Specify *Yes* to remove file(s) after the file is transferred otherwise specify *No.* **Allowed values:** *Yes* or *No* **Default value:** *No*
Dont overwrite files	Specify *Yes* to perform action like Skip, rename or fail if a file with an identical name is already available in target directory. **Allowed values:** *Yes* or *No* **Default value:** *No*

Field Name	Description
Target (remote)File	
Remote directory	Specify the remote directory path of folder on the FTP server from which we get the files.
Create Folder	Specify *Yes*, to create destination folder if not exist and should be created. **Allowed values:** *Yes* or *No* **Default value:** *No*
Test Folder	Click **Test Folder** to connect to the remote server and validate whether the folder exist or not.
Additional Settings Tab:	
Advanced Settings:	
Binary Mode	Select the checkbox, to transferred file(s) in binary mode.
Timeout	Specify the timeout in milliseconds for FTP server connection.
Use active FTP connection	Select the checkbox to use an active FTP connection.
Control encoding	Select type of encoding from available list to encode character.

15.6 File Transfer 2.0: Put Files With SecureFTP [Community]

15.6.1 Description
Use the step to put files using SFTP (Secure Files Transfer Protocol).

15.6.2 Configurations

Field Name	Description
Step Name	Name of the step. This name must be unique in a single workflow.
General Tab:	
Server:	

SFTP server name / IP address	Specify the name of the SFTP server or the IP address.
Server Port	Specify the TCP port number to use. **Default value:** *22*
Username	Specify the *username* of your SFTP server account.
Password	Specify the *password* of your SFTP server account.
Use private keyfile	Specify *Yes* to use private key file. **Allowed values:** *Yes* or *No* **Default value:** *No*
Private key filename	Specify the private key file location. Or Click **Browse** to select the key file you want to upload. **Note:** - Supported file type is .pem and .ppk - The field is available if **Use private key file** is *Yes.*
Key passPhrase	Specify the passphrase of the key file if needed. **Note:** The field is available if **Use private key file** is *Yes.*
Proxy type	Specify the proxy type. **Allowed values**: *HTTP* *SOCKS5*
Proxy Host	Specify proxy server host name.
Proxy port	Specify proxy server port number.
Proxy username	Specify username of proxy server to sign on to server.
Proxy password	Specify password of proxy server to sign on to server.
Test Connection	Click to check whether the connection is successfully established or not.
Compression	Select to compress the file(s). Available options are:

	• *None* • *zlib*
Files tab:	
Source (local) files: The following are the parameters needed to put files using secure FTP.	
Local Directory	Specify the directory of the local machine to put file(s). Or Click **Folder** to select the local directory path of your local machine for the file to be uploaded.
Wildcard (regular expression)	Specify a regular expression to get specific files from specified remote directory. **Note:** If no expression is defined, then all files will be uploaded from local directory.
Success when *No* file	Check this option if the process entry has to success when there are no file(s) to process otherwise the process will fail.
After SFTP Put	Select an action from the list to perform after the file is transferred: • *Do Nothing* • *Delete file* • *Move file to*
Destination folder	Specify destination folder path to move the source file(s). Or Click **Browse** to browse the destination folder to move the source file(s). **Note**: If you select **After SFTP Put** as *Move file to*, only then the field will be available**.**
Folder	Click **Folder** to browse the file to be uploaded.
Create destination folder	Specify *Yes* to create destination folder if not exists otherwise specify *No.* **Allowed values:** *Yes* or *No* **Default value:** *No*

	Note: If you select **After SFTP Put** as *Move file to*, only then the field will be available**.**
Add filename to result	Specify *Yes* to add file name to the result stream. **Allowed values:** *Yes* or *No* **Default value:** *No*
Target (remote) folder:	
Remote directory	Specify the remote directory on the SFTP server to which we put the files. Click **Test Folder** to connect to remote server and validate whether the folder exist or not.
Create Folder	Specify *Yes* to create destination folder if does not exist and should be created. **Allowed values:** *Yes* or *No* **Default value:** *No*
Additional Settings Tab:	
Advanced:	
Binary Mode?	Specify *Yes* or *No* On *Yes*, the files will be transferred in binary mode otherwise specify *No*. **Allowed values**: *Yes* or *No* **Default value**: *No*
Timeout	Specify the timeout in milliseconds for FTP server connection.
Use active FTP connection	Specify *Yes* or *No*. If you specify *Yes*, you are connecting to the FTP server using active mode. **Note**: Set your firewall to accept connections to the port that your FTP client will open. The default is Passive mode. **Allowed values**: *Yes* or *No*

	Default value: *No*

15.7 File Transfer 2.0: Upload Files To FTPS [Community]

15.7.1 Description

Use the step to upload files using FTPS (Files Transfer Protocol Secure).

15.7.2 Configurations

Field Name	Description
Step name	Name of the step. This name must be unique in a single workflow.
General Tab:	
Server settings:	
FTPS server name / IP address	Specify the name of the SFTP server or the IP address.
Server Port	Specify the TCP port number to use. **Default value**: • **Explicit Encryption:** *21* • **Implicit Encryption:** *990*
Username	Specify the *username* of your FTPS server account.
Password	Specify the *password* of your FTPS server account.
Proxy host	Specify proxy server host name.
Proxy port	Specify proxy server port number.
Proxy Username	Specify username of proxy server to log in to server.
Proxy password	Specify password of proxy server to log in to server.
Connection Type	Select the connection type for encryption. Available options are: • *TLS/SSL Implicit encryption* • *TLS/SSL Explicit encryption*

Field Name	Description
Test Connection	Click to check whether the connection is successfully established or not.
Files tab: The following are the parameters needed for Upload Files using FTPS.	
Source (local) files:	
Local Directory	Specify the directory of the local machine to put file(s). Or Click **Browse** to select the local directory path of your local machine for the file to be uploaded.
Wildcard (regular expression)	Specify the regular expression to delete specific files from Remote Directory. Specify a regular expression to get specific files from specified remote directory. **Note:** If *No* expression is defined, then all files will be uploaded.
Remove files after transferal?	Specify *Yes* to remove file(s) after the file is transferred otherwise specify *No.* **Allowed values:** *Yes* or *No* **Default value:** *No*
Dont overwrite files	Specify *Yes* to perform action like Skip, rename or fail if a file with an identical name is already available in target directory. **Allowed values:** *Yes* or *No* **Default value:** *No*
Target (remote) file:	
Remote directory	Specify the remote directory path of folder on the FTP server from which we get the files.
Create Folder	Specify *Yes*, to create destination folder if not exist and should be created. **Allowed values:** *Yes* or *No*

Field Name	Description
	Default value: *No*
Test Folder	Click **Test Folder** to connect to the remote server and validate whether the folder exist or not.
Additional Settings Tab:	
Advanced settings:	
Binary Mode?	Specify *Yes* to transferred in binary mode. **Allowed values**: *Yes* or *No* **Default value**: *No*
Time Out	Specify the timeout in milliseconds for FTPS server connection.
Use active FTP connection	Specify *Yes* or *No*. If you specify *Yes*, you are connecting to the FTP server using active mode. **Note**: Set your firewall to accept connections to the port that your FTP client will open. The default is Passive mode. **Allowed values**: *Yes* or *No* **Default value**: *No*

16   Google Drive

Google Drive Plugin has been designed to perform tasks on Google Drive.

Prerequisites:

- Google developer console account should be created: https://console.developers.google.com/.
- APIs for Google Drive should be enabled.
- Client ID and Client Secret should be generated from the Credentials tab. In exchange for the Client ID and Client Secret, a Refresh token can be generated.

Note:
- Refresh Token expires if idle for 6 months.
- Please refer the following guide for Google Supported MIME Type.

References:

Google Drive documentation: https://developers.google.com/drive/api/v3

Refer to Appendix: Google Refresh Token Generation for enabling APIs, creating Client ID and Client Secret and generating Refresh Token.

Table: Fetch File or Folder ID

1	On Google Drive Right Click a file or folder and click Get Link on the popup menu. You may also copy the link.
i.	**If folder link value is –** https://drive.google.com/drive/folders/1qGCkdoweiydqJc65qHMK-S5i7sN3eGi9?usp=sharing Then, folder ID is - `1qGCkdoweiydqJc65qHMK-S5i7sN3eGi9`
ii.	**If file link value is –** https://drive.google.com/file/d/0B7IdPsPouySIV21UYVJvdlJuNk1xamNlZ1RBQU01V3FGbFR3/view?usp=sharing Then, file ID is the value between d/ and ? – `0B7IdPsPouySIV21UYVJvdlJuNk1xamNlZ1RBQU01V3FGbFR3`
2	Open file or folder
i.	In case of folder copy the URL from the address bar - https://drive.google.com/drive/u/0/folders/1qGCkdoweiydqJc65qHMK-S5i7sN3eGi9 everything after folders/ is the folder ID `1qGCkdoweiydqJc65qHMK-S5i7sN3eGi9`
ii.	In case of files (editable by google drive) copy the URL from the address bar - https://docs.google.com/spreadsheets/d/1A5SoOX896KyQu1NdbqYeKanRz0-KKq16r6S8SOu503Y/edit#gid=0 everything between d/ and /edit the file ID - `1A5SoOX896KyQu1NdbqYeKanRz0-KKq16r6S8SOu503Y`

16.1 Google Drive: Unshare File or Folder [Community]

Google Drive: Unshare File or Folder step un shares a file or folder on Google Drive.

16.1.1 Configurations

No.	Field Name	Description
1	Step name	Name of the step as it appears in the workflow workspace. This name has to be unique in a single workflow.
	Connection:	Refer Prerequisites and References above to get the connection attributes.
2	Client ID	Specify Client ID of the Google application. The data type is String. This field is mandatory.
	Client Secret:	

3	Accept Values from fields	Leave checkbox unchecked to accept Client Secret value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Secret Key field to appear as Text box.
4	Client Secret	Specify Client Secret of the Google application. Client Secret is entered using a widget. If checkbox above is enabled Client Secret field appears as Text box and accepts static values or variables. Else if checkbox above is disabled Client Secret field appears as a drop down containing values from previous steps - to select from. The data type is String. This field is mandatory.
	Refresh Token:	
5	Accept Values from fields	Leave checkbox unchecked to accept Secret Key value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Secret Key field to appear as Text box.
6	Refresh Token	Specify a Refresh Token to obtain a new Access Token. **Note:** Refresh Token expires if idle for 6 months. Refresh Token is entered using a widget. If checkbox above is enabled Refresh Token field appears as Text box and accepts static values or variables. Else if checkbox above is disabled Refresh Token field appears as a drop down containing values from previous steps - to select from. The data type is String. This field is mandatory.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	File or Folder ID	Specify ID of the file or folder to un share. The data type is String. This field is mandatory. Refer **Table: Fetch File or Folder ID** above to fetch the ID.
2	Email Address Or Domain	Specify the Email Address or Domain of the file or folder to un share. The data type is String. This field is mandatory.

17   Intune

Microsoft Intune is a Microsoft cloud-based management solution that provides for mobile device and application management (MDM and MAM) and operating system management. Intune plugin has been designed to perform Intune tasks.

Prerequisites:

- Intune instance with access details.
- Create Credentials for Intune:

    Steps to generate Credentials (Tenant ID and Client ID and Client Secret)**:**
    - ✓ Credentials for Intune include Tenant ID, Client ID and Client Secret.
    - ✓ Login to Azure AD with Global Administrator account type. Global Administrator account type can access all the managed content (Devices and Applications) APIs by creating an application.
    - ✓ Use the portal (portal.azure.com) to create an Azure AD Application and Service Principal (Global Administrator) that can access resources. Note the Tenant ID and Client ID of the Application.
    - ✓ Create a new Application Secret/Client Secret.

- **The following permissions are required:**

Permission type	Permission (from least to most privileged)
Application	DeviceManagementManagedDevices.PrivilegedOperations.All, DeviceManagementManagedDevices.ReadWrite.All

Please refer Appendix: Intune- Generate Client Credentials to generate Credentials and assign the permissions mentioned in the table above.

References:

- Azure Portal: https://portal.azure.com/
- Manage Devices with Microsoft Endpoint: http://endpoint.microsoft.com/
- Intune Device Enrollment: https://docs.microsoft.com/en-us/mem/intune/enrollment/
- API Reference: https://docs.microsoft.com/en-us/graph/api/resources/intune-graph-overview?view=graph-rest-1.0
- https://docs.microsoft.com/en-us/mem/intune/
- https://docs.microsoft.com/en-us/azure/active-directory/develop/quickstart-configure-app-access-web-apis

Notes:

- The Plugin has been tested on Android and Windows devices
- Remote lock operation is not supported by 'Windows' devices, so Remote Lock By Device ID/Username plugins are not applicable for Windows devices.
- Device ID Type: 'Phone number' and 'IMEI' is only supported for cellular devices.

17.1　　Intune: Delete Devices By Username [Community]

17.1.1 Description

Intune: Remote Lock Device By ID plugin step locks a device in Intune remotely by Device ID.

17.1.2 Configurations

Configuration:		
No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
2	Tenant ID	Specify Tenant ID. The field data type is String. This is mandatory. Note**:** To create Tenant ID refer plugin prerequisites.
3	Client ID	Specify Client ID. The field data type is String. This is mandatory. Note**:** To create Client ID refer plugin prerequisites.
	Client Secret:	Note**:** To create Client Secret refer plugin prerequisites.
4	Accept Values from fields	Leave checkbox unchecked to accept Client Secret value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Client Secret field to appear as Text box.
5	Client Secret	Provide the Client Secret. Client Secret is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). The field data type is String This field is mandatory. If checkbox above is enabled Client Secret field appears as Text box and accepts static values or variables. Else if checkbox above is disabled Client Secret field appears as a drop down to select fields from previous steps.
6	Test Connection	Verifies whether the connection is established or not. Note: For the purpose of verification fields coming from previous steps are not allowed since field values can only be accessed when workflow is in running state. Static values and environment variables are allowed.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Username	Specify a username with device/devices to be deleted. The field data type is String. This is mandatory.

Output Tab:		
No.	Field Name	Description
	Output Field:	
1	Result	Specify an output field to hold the result of step execution. The default value is Result. The field data type is String. This is mandatory.

17.2   Intune: Remote Lock Device By Username [Community]

17.2.1   Description

Intune: Remote Lock Device By ID plugin step locks a device or devices in Intune belonging to a username remotely.

17.2.2   Configurations

Configuration:		
No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
2	Tenant ID	Specify Tenant ID. The field data type is String. This is mandatory. Note**:** To create Tenant ID refer plugin prerequisites.
3	Client ID	Specify Client ID. The field data type is String. This is mandatory. Note**:** To create Client ID refer plugin prerequisites.
	Client Secret:	Note**:** To create Client Secret refer plugin prerequisites.
4	Accept Values from fields	Leave checkbox unchecked to accept Client Secret value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Client Secret field to appear as Text box.
5	Client Secret	Provide the Client Secret. Client Secret is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). The field data type is String This field is mandatory. If checkbox above is enabled Client Secret field appears as Text box and accepts static values or variables. Else if checkbox above is disabled Client Secret field appears as a drop down to select fields from previous steps.
6	Test Connection	Verifies whether the connection is established or not.

		Note: For the purpose of verification fields coming from previous steps are not allowed since field values can only be accessed when workflow is in running state. Static values and environment variables are allowed.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Username	Specify a username with device/devices to be remote locked.

Output Tab:		
No.	Field Name	Description
	Output Field:	
1	Result	Specify an output field to hold the result of step execution. The default value is Result. The field data type is String. This is mandatory.

17.3 Intune: Reset Passcode By ID [Community]

17.3.1 Description

Intune: Reset Passcode By ID plugin step resets a device passcode.

17.3.2 Configurations

Configuration:		
No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
2	Tenant ID	Specify Tenant ID. The field data type is String. This is mandatory. Note**:** To create Tenant ID refer plugin prerequisites.
3	Client ID	Specify Client ID. The field data type is String. This is mandatory. Note**:** To create Client ID refer plugin prerequisites.
	Client Secret:	Note**:** To create Client Secret refer plugin prerequisites.
4	Accept Values from fields	Leave checkbox unchecked to accept Client Secret value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Client Secret field to appear as Text box.

5	Client Secret	Provide the Client Secret. Client Secret is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). The field data type is String This field is mandatory. If checkbox above is enabled Client Secret field appears as Text box and accepts static values or variables. Else if checkbox above is disabled Client Secret field appears as a drop down to select fields from previous steps.
6	Test Connection	Verifies whether the connection is established or not. Note: For the purpose of verification fields coming from previous steps are not allowed since field values can only be accessed when workflow is in running state. Static values and environment variables are allowed.

Input Tab:

No.	Field Name	Description
	Input Fields:	
1	Device ID Type	Specify the type of Device ID to be remotely locked. Allowed values: 'Intune Device ID', 'Azure AD Device ID', 'IMEI', 'Serial number', 'Phone number'.
2	Device ID	Specify the Device ID which is a unique identifier for the device.

Output Tab:

No.	Field Name	Description
	Output Field:	
1	Temporary Password	Specify an output field to hold the temporary passcode generated for the device, as a result of step execution. The default value is Temporary Passcode. The field data type is String. This is mandatory.

17.4   Intune: Retire Device By Username [Community]

17.4.1   Description

Intune: Retire Device By Username plugin step retires a device or devices in Intune belonging to a username.

17.4.2   Configurations

Configuration:

No.	Field Name	Description

1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
2	Tenant ID	Specify Tenant ID. The field data type is String. This is mandatory. Note**:** To create Tenant ID refer plugin prerequisites.
3	Client ID	Specify Client ID. The field data type is String. This is mandatory. Note**:** To create Client ID refer plugin prerequisites.
	Client Secret:	Note**:** To create Client Secret refer plugin prerequisites.
4	Accept Values from fields	Leave checkbox unchecked to accept Client Secret value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Client Secret field to appear as Text box.
5	Client Secret	Provide the Client Secret. Client Secret is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). The field data type is String This field is mandatory. If checkbox above is enabled Client Secret field appears as Text box and accepts static values or variables. Else if checkbox above is disabled Client Secret field appears as a drop down to select fields from previous steps.
6	Test Connection	Verifies whether the connection is established or not. Note: For the purpose of verification fields coming from previous steps are not allowed since field values can only be accessed when workflow is in running state. Static values and environment variables are allowed.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Username	Specify a username with device/devices to be retired.

Output Tab:		
No.	Field Name	Description
	Output Field:	
1	Result	Specify an output field to hold the result of step execution. The default value is Result. The field data type is String. This is mandatory.

17.5 Intune: Wipe Device By Username [Community]

17.5.1 Description

Intune: Device Wipe by Username plugin step wipes a device or devices in Intune belonging to a username.

Notes:-

Device Wipe essentially means - Wiping the Device. A Device Wipe reboots the device and removes all data (includes all personal user information), email, profiles, MDM and MAM capabilities and the phone returns to a factory default state. It is same as that of doing a Factory Reset to your phone from Settings > Personal > Factory Reset.

17.5.2 Configurations

Configuration:		
No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
2	Tenant ID	Specify Tenant ID. The field data type is String. This is mandatory. Note**:** To create Tenant ID refer plugin prerequisites.
3	Client ID	Specify Client ID. The field data type is String. This is mandatory. Note**:** To create Client ID refer plugin prerequisites.
	Client Secret:	Note**:** To create Client Secret refer plugin prerequisites.
4	Accept Values from fields	Leave checkbox unchecked to accept Client Secret value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Client Secret field to appear as Text box.
5	Client Secret	Provide the Client Secret. Client Secret is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). The field data type is String This field is mandatory. If checkbox above is enabled Client Secret field appears as Text box and accepts static values or variables. Else if checkbox above is disabled Client Secret field appears as a drop down to select fields from previous steps.
6	Test Connection	Verifies whether the connection is established or not. Note: For the purpose of verification fields coming from previous steps are not allowed since field values can only be accessed when workflow is in running state. Static values and environment variables are allowed.

Beta Plugin Reference

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Username	Specify a username with device/devices to be wiped.

Output Tab:		
No.	Field Name	Description
	Output Field:	
1	Result	Specify an output field to hold the result of step execution. The default value is Result. The field data type is String. This is mandatory.

18   Microsoft Exchange

Prerequisites:

- PowerShell version 5 and above on the processing machine.

- For Exchange Server, the user must have Organization Management permissions, whereas for Exchange Online, the user must have Organization management and Global Administrator permissions.

- Valid permissions to perform the operation.

References:

- Permissions required:
  https://docs.microsoft.com/en-us/powershell/exchange/find-exchange-cmdlet-permissions?view=exchange-ps

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✎ **Note:**   Double quotes (") and back quote (`) are not allowed in input fields.

18.1   Add Member To Email Distribution Group [Community]

18.1.1   Description

Microsoft Exchange: Add Member to Email Distribution Group plugin step adds a member to a distribution group or mail-enabled security group, in an on premise Exchange as well as on cloud based services.

References:

- Add-DistributionGroupMember document:
  https://docs.microsoft.com/en-us/powershell/module/exchange/add-distributiongroupmember?view=exchange-ps

18.1.2 Configurations

Configuration:		
No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow. The data type is String. This field is mandatory.
	Connection:	
2	Connection URI	Specify connection URI of Exchange On-Premise or Exchange Online services. The data type is String. This field is mandatory.
4	Username	Specify a user email of Exchange Server(On-Premise) or Exchange Online. The data type is String. This field is mandatory.
	Password:	
5	Accept Values from fields	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
6	Password	Specify the user password of Exchange Server(On-Premise) or Exchange Online. The data type is String. This field is mandatory. If checkbox above is enabled Password field appears as Text box and accepts static values or environment variables. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps.
7	Button: Test Connection	Verifies whether the connection is available or not. For the purpose of verification fields coming from previous steps are not allowed. Static values and environment variables are allowed.

Input Tab:		
No.	Field Name	Description
	Input Fields:	Double quotes (") and back quote (`) are not allowed in input fields.
1	Identity	Specify an Identity parameter that uniquely identifies the member. Values accepted are: • Name • Alias • Distinguished name (DN)

		• Canonical DN • Email address • GUID The data type is String. This field is mandatory.
2	Distribution Group Name	Specify a Distribution Group Name that unique identifies the Distribution Group to which the member should be added. The data type is String. This field is mandatory

18.2   Create Distribution Group [Community]

18.2.1   Description

Microsoft Exchange: Create Distribution Group plugin step creates a distribution group or mail-enabled security group in on premise Exchange as well as cloud based services.

References:

- Create Distribution Group document: https://docs.microsoft.com/en-us/powershell/module/exchange/new-distributiongroup?view=exchange-ps

18.2.2   Configurations

No.	Field Name	Description
Configuration:		
1	Step Name	Name of the step. This name has to be unique in a single workflow. The data type is String. This field is mandatory.
	Connection:	
2	Connection URI	Specify connection URI of Exchange On-Premise or Exchange Online services. The data type is String. This field is mandatory.
4	Username	Specify a user email of Exchange Server(On-Premise) or Exchange Online. The data type is String. This field is mandatory.
	Password:	
5	Accept Values from fields	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
6	Password	Specify the user password of Exchange Server(On-Premise) or Exchange Online. The data type is String. This field is mandatory. If checkbox above is enabled Password field appears as Text box and accepts static values or environment variables. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps.
7	Button: Test Connection	Verifies whether the connection is available or not. For the purpose of verification fields coming from previous steps are not allowed. Static values and environment variables are allowed.

No.	Field Name	Description
Input Tab:		

	Input Fields:	
1	Distribution Group Name	Specify the Name of the Distribution Group or Mail Enabled Security Group to be created. The data type is String. This field is mandatory

General Tab:		
No.	Field Name	Description
	Input Fields:	
1	Display Name	Specify the display name for the distribution group/mail-enabled security group to be created. The data type is String.
2	Alias	Specify an exchange alias (also known as Mail Nickname) for the recipient(group). The data type is String.
3	Notes	Specify additional information about the group. The data type is String.
4	Organizational Unit	Specify the location in Active Directory where the group is to be created. The data type is String.
5	Group Type	Specify the type of group to create. **Allowed Values:** Distribution and Security Default is Distribution. The data type is String.
6	Ignore Naming Policy	Specify whether to prevent this group from being affected by the organization's group naming policy. **Allowed Value:** Yes or No. Default: Yes. The data type is String.
	General (On-Premise Exchange):	
7	Domain Controller	Specify the domain controller(FQDN) that's used by the cmdlet to read data from or write data to Active Directory. For example, dc01.contoso.com The data type is String.
8	SAM Account Name	The SAM Account Name parameter specifies an object identifier that's compatible with older versions of Microsoft Windows client and server operating systems. The data type is String.
	Email Option:	

9	Primary Email Address	Specify the primary return email address that's used for the recipient (group). This email address type has one default reply address. The data type is String.

Ownership and Membership Tab:		
No.	Field Name	Description
	Ownership:	
1	Owners	Specify an owner for the group. A group must have at least one owner, if not specified then the user who created the group is the owner of the group The data type is String. This field is mandatory.
	Membership:	
2	Copy Owner to Member	Specify whether group owners specified by the Owners parameter should also be members of the group. Allowed Values: Yes or No. Default: No. The data type is String.
3	Members	Specifies the recipients (mail-enabled objects), that are members of the group. You can use any value that uniquely identifies the recipient. The data type is String.
	Membership Approval:	
4	Owner's Join Approval	Specify whether owner approval is required to join the group. Allowed Values: Open, Closed and ApprovalRequired Default: Open. The data type is String.
5	Member Depart Restriction	Specify the restrictions that you put on requests to leave the group. Allowed Values: Open or Closed. Default: Open. The data type is String.

Message Tab:		
No.	Field Name	Description
	Delivery Management:	
1	Allow Messages From	Specify whether to accept messages only from authenticated (internal) senders or (external) sender. Allowed Values: OrganizationMembers or Anyone. Default: OrganizationMembers. The data type is String.
	Message Approval:	

2	Moderated By	Specify one or more moderators for this group. A moderator approves messages sent to the group before the messages are delivered. The data type is String.
3	Moderation Enabled	Specify whether moderation is enabled for this recipient. Allowed Values: Yes or No. Default: No. The data type is String.
4	Send Moderation Notification	Specify when moderation notification messages are sent. Allowed Values: Always, Internal and Never. Default: Always. The data type is String.
5	Bypass Nested Moderation Enabled	Specify how to handle message approval when a moderated group contains other moderated groups as members. Allowed Values: Yes or No. Default: No. The data type is String.

18.3   Delete Distribution Group [Community]

18.3.1   Description

Microsoft Exchange: Delete Distribution Group plugin step deletes a distribution group or mail-enabled security group in an on premise Exchange as well as on cloud based services.

References:

- Delete Distribution Group document: https://docs.microsoft.com/en-us/powershell/module/exchange/remove-distributiongroup?view=exchange-ps

18.3.2   Configurations

Configuration:		
No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow. The data type is String. This field is mandatory.
	Connection:	
2	Connection URI	Specify connection URI of Exchange On-Premise or Exchange Online services. The data type is String. This field is mandatory.
4	Username	Specify a user email of Exchange Server(On-Premise) or Exchange Online. The data type is String. This field is mandatory.
	Password:	

5	Accept Values from fields	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
6	Password	Specify the user password of Exchange Server(On-Premise) or Exchange Online. The data type is String. This field is mandatory. If checkbox above is enabled Password field appears as Text box and accepts static values or environment variables. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps.
7	Button: Test Connection	Verifies whether the connection is available or not. For the purpose of verification fields coming from previous steps are not allowed. Static values and environment variables are allowed.

Input Tab:		
No.	Field Name	Description
	Input Fields:	Note: Double quotes(") and back quote(`) are not allowed as input.
1	Distribution Group Name	Specify the Name of the Distribution Group or Mail Enabled Security Group to be created. The data type is String. This field is mandatory
2	Domain Controller	Specify the domain controller(FQDN) that's used by the cmdlet to read data from or write data to Active Directory. For example, dc01.contoso.com. The data type is String. Note: The Domain Controller parameter is only for On-Premise Exchange.

18.4   Disable Mailbox [Community]

18.4.1   Description

Microsoft Exchange: Disable plugin step disables the mailbox for an existing user in on premise Exchange as well as cloud based services.

References:

- Disable Mailbox document:
  https://docs.microsoft.com/en-us/powershell/module/exchange/disable-mailbox?view=exchange-ps

18.4.2　Configurations

No.	Field Name	Description
Configuration:		
1	Step Name	Name of the step. This name has to be unique in a single workflow. The data type is String. This field is mandatory.
	Connection:	
2	Connection URI	Specify connection URI of Exchange On-Premise or Exchange Online services. The data type is String. This field is mandatory.
4	Username	Specify a user email of Exchange Server(On-Premise) or Exchange Online. The data type is String. This field is mandatory.
	Password:	
5	Accept Values from fields	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
6	Password	Specify the user password of Exchange Server(On-Premise) or Exchange Online. The data type is String. This field is mandatory. If checkbox above is enabled Password field appears as Text box and accepts static values or environment variables. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps.
7	Button: Test Connection	Verifies whether the connection is available or not. For the purpose of verification fields coming from previous steps are not allowed. Static values and environment variables are allowed.

No.	Field Name	Description
Input Tab:		
	Input Fields:	
1	Identity	Identity parameter specifies the unique value of the existing user. The data type is String. This field is mandatory

No.	Field Name	Description
Additional Inputs Tab:		
	General (On-Premise Exchange):	

1	Domain Controller	Specify the domain controller that's used by this cmdlet to read data from or write data to Active Directory, identified by fully qualified domain name (FQDN). The data type is String.
2	Permanently Disable	Specify whether to permanently disable the mailbox. This parameter is only used for Exchange Online. The data type is String.
3	MailBox Type	This parameter sets MailBox Type Allowed Values: Archive, PublicFolder, RemoteArchive The data type is String.

✎ **Notes:**	• The Exchange Server(On-Premise) should be Hybrid enabled. • The parameters in group General (On-premise Exchange) will not work for Exchange Online. • The Permanently Disable parameter is only used for Exchange Online. • The Permanently Disable parameter can only be used on user mailboxes that aren't licensed and aren't on hold.

18.5 Disable Remote Mailbox (On-Premise) [Community]

18.5.1 Description

Microsoft Exchange: Disable Remote Mailbox plugin step remove mailboxes from the cloud-based service but keeps the associated user objects in the on-premises Active Directory

Permissions:

• Disable-RemoteMailbox document:
https://docs.microsoft.com/en-us/powershell/module/exchange/disable-remotemailbox?view=exchange-ps

✎ **Notes:**	This plugin step only works with On-Premise Exchange.

18.5.2 Configurations

Configuration:		
No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow. The data type is String. This field is mandatory.
	Connection:	

2	Connection URI	Specify connection URI of Exchange On-Premise or Exchange Online services. The data type is String. This field is mandatory.
4	Username	Specify a user email of Exchange Server(On-Premise) or Exchange Online. The data type is String. This field is mandatory.
	Password:	
5	Accept Values from fields	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
6	Password	Specify the user password of Exchange Server(On-Premise) or Exchange Online. The data type is String. This field is mandatory. If checkbox above is enabled Password field appears as Text box and accepts static values or environment variables. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps.
7	Button: Test Connection	Verifies whether the connection is available or not. For the purpose of verification fields coming from previous steps are not allowed. Static values and environment variables are allowed.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Identity	Identity parameter specifies the unique value of the existing user. The data type is String. This field is mandatory

Additional Inputs Tab:		
No.	Field Name	Description
	General (On-Premise Exchange):	
1	Identity	The data type is String. This field is mandatory
	Domain Controller	Specify the domain controller that's used by this cmdlet to read data from or write data to Active Directory, identified by fully qualified domain name (FQDN). The data type is String.
	Archive Mailbox	Specify whether to disconnect the cloud-based archive mailbox from the associated cloud-based mailbox. The data type is String.

18.6 Enable Mailbox [Community]

18.6.1 Description

Microsoft Exchange: Enable Mailbox plugin step enables the mailbox for an existing user in an on premise Exchange as well as cloud based services.

Permissions:

- Enable-Mailbox document:
  https://docs.microsoft.com/en-us/powershell/module/exchange/enable-mailbox?view=exchange-ps

18.6.2 Configurations

Configuration:

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow. The data type is String. This field is mandatory.
	Connection:	
2	Connection URI	Specify connection URI of Exchange On-Premise or Exchange Online services. The data type is String. This field is mandatory.
4	Username	Specify a user email of Exchange Server(On-Premise) or Exchange Online. The data type is String. This field is mandatory.
	Password:	
5	Accept Values from fields	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
6	Password	Specify the user password of Exchange Server(On-Premise) or Exchange Online. The data type is String. This field is mandatory. If checkbox above is enabled Password field appears as Text box and accepts static values or environment variables. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps.
7	Button: Test Connection	Verifies whether the connection is available or not. For the purpose of verification fields coming from previous steps are not allowed. Static values and environment variables are allowed.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Identity	Specify an identity parameter that uniquely identifies an existing on-premises user. Values accepted are • Name • Distinguished name (DN) • Canonical DN • GUID The data type is String. This field is mandatory

Additional Inputs Tab:		
No.	Field Name	Description
	General (On-Premise Exchange):	
1	Domain Controller	Specify the domain controller that's used by this cmdlet to read data from or write data to Active Directory, identified by fully qualified domain name (FQDN). The data type is String.
2	Mailbox Type	Set the Mailbox Type. Allowed Values: Discovery, Equipment, Shared, Room, PublicFolder. The data type is String.

✎ **Notes:**	• The Mailbox Type contains various mailboxes but you can enable, only one mailbox. • If you want to enable any resource mailbox or shared or Equipment mailbox, you need to disable the account. • The parameters in group General (On-premise Exchange) will not work for Exchange Online. • The only allowed value **Archive** in **Mailbox Type** parameter works on Exchange Online. • If **Mailbox Type** is not set, then by default User Mailbox is created.

18.7   Enable Remote Mailbox (On-Premise) [Community]

18.7.1   Description

Microsoft Exchange: Enable Remote Mailbox plugin step enables the mailbox for an existing user in an on premise Exchange as well as cloud based services.

Permissions:

- Enable-RemoteMailbox document:
  https://docs.microsoft.com/en-us/powershell/module/exchange/enable-remotemailbox?view=exchange-ps

18.7.2   Configurations

Configuration:		
No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow. The data type is String. This field is mandatory.
	Connection:	
2	Connection URI	Specify connection URI of Exchange On-Premise or Exchange Online services. The data type is String. This field is mandatory.
4	Username	Specify a user email of Exchange Server(On-Premise) or Exchange Online. The data type is String. This field is mandatory.
	Password:	
5	Accept Values from fields	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
6	Password	Specify the user password of Exchange Server(On-Premise) or Exchange Online. The data type is String. This field is mandatory. If checkbox above is enabled Password field appears as Text box and accepts static values or environment variables. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps.
7	Button: Test Connection	Verifies whether the connection is available or not. For the purpose of verification fields coming from previous steps are not allowed. Static values and environment variables are allowed.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Identity	Specify an Identity parameter that uniquely identifies an existing on-premises user. Values accepted are, • Name • Distinguished name (DN) • Canonical DN • GUID

2	Remote Routing Address	The Remote Routing Address parameter specifies the SMTP address of the mailbox in the service that the user is associated.

Additional Inputs Tab:		
No.	Field Name	Description
	General (On-Premise Exchange):	
1	Domain Controller	Specify the domain controller(FQDN) that's used by the cmdlet to read data from or write data to Active Directory. For example, dc01.contoso.com The data type is String.
2	Mailbox Type	Set the Mailbox Type. **Allowed Values:** Discovery, Equipment, Shared, Room, PublicFolder. The data type is String.

18.8 Modify Mailbox Storage Size [Community]

18.8.1 Description

Microsoft Exchange: Modify Mailbox Storage Size plugin step modifies mailbox storage size for an existing user in an on premise Exchange as well as cloud based services.

Permissions:

- Modify Mailbox Storage Size document: https://docs.microsoft.com/en-us/exchange/recipients/user-mailboxes/storage-quotas?view=exchserver-2019

18.8.2 Configurations

Configuration:		
No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow. The data type is String. This field is mandatory.
	Connection:	
2	Connection URI	Specify connection URI of Exchange On-Premise or Exchange Online services. The data type is String. This field is mandatory.
4	Username	Specify a user email of Exchange Server(On-Premise) or Exchange Online. The data type is String. This field is mandatory.
	Password:	

5	Accept Values from fields	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
6	Password	Specify the user password of Exchange Server(On-Premise) or Exchange Online. The data type is String. This field is mandatory. If checkbox above is enabled Password field appears as Text box and accepts static values or environment variables. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps.
7	Button: Test Connection	Verifies whether the connection is available or not. For the purpose of verification fields coming from previous steps are not allowed. Static values and environment variables are allowed.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Identity	Specify an Identity parameter that uniquely identifies value of an existing on-premises user. Values accepted are, - Name - Distinguished name (DN) - Canonical DN - GUID
2	Issue Warning Quota	Specify an Issue Warning Quota size, and if the mailbox size exceeds the value specified, Exchange sends a warning message to the user. The data type is String. This field is mandatory.
3	Prohibit Send Quota	Specify a Prohibit Send Quota, so that if the mailbox size exceeds the specified limit, Exchange prevents the user from sending new messages The data type is String. This field is mandatory.
4	Prohibit Send Receive Quota	Specify a Prohibit Send Receive Quota, so that if the mailbox size exceeds the specified limit, Exchange prevents the mailbox user from sending or receiving new messages. The **Issue Warning Quota** value should be less than or equal to **Prohibit Send Quota** and **Prohibit Send Quota** should be less than **Prohibit Send Receive Quota** value. The data type is String. This field is mandatory.

✏ **Note:**	The **Issue Warning Quota** value should be less than or equal to **Prohibit Send Quota** and **Prohibit Send Quota** should be less than **Prohibit Send Receive Quota** value.	

18.9 Remove Member From Email Distribution Group [Community]

18.9.1 Description

Microsoft Exchange: Add Member to Email Distribution Group plugin step removes a member from a distribution group, in on premise Exchange as well as cloud based services.

References:

- Remove-DistributionGroupMember document:
  https://docs.microsoft.com/en-us/powershell/module/exchange/remove-distributiongroupmember?view=exchange-ps

18.9.2 Configurations

Configuration:

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow. The data type is String. This field is mandatory.
	Connection:	
2	Connection URI	Specify connection URI of Exchange On-Premise or Exchange Online services. The data type is String. This field is mandatory.
4	Username	Specify a user email of Exchange Server(On-Premise) or Exchange Online. The data type is String. This field is mandatory.
	Password:	
5	Accept Values from fields	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
6	Password	Specify the user password of Exchange Server(On-Premise) or Exchange Online. The data type is String. This field is mandatory. If checkbox above is enabled Password field appears as Text box and accepts static values or environment variables. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps.
7	Button: Test Connection	Verifies whether the connection is available or not.

		For the purpose of verification fields coming from previous steps are not allowed. Static values and environment variables are allowed.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Identity	Specify an Identity parameter that uniquely identifies the member. Values accepted are: • Name • Alias • Distinguished name (DN) • Canonical DN • Email address • GUID The data type is String. This field is mandatory.
2	Distribution Group Name	Specify a Distribution Group Name that uniquely identifies the Distribution Group from which the member is to be removed. The data type is String. This field is mandatory

18.10   Set Distribution Group Properties [Community]

18.10.1   Description

Microsoft Exchange: Set Distribution Group Properties plugin step modifies the attributes of existing distribution groups or mail-enabled security groups, in on premise Exchange as well as cloud based services.

References:

- Set-Distribution Group Properties document:
  https://docs.microsoft.com/en-us/powershell/module/exchange/set-distributiongroup?view=exchange-ps

18.10.2   Configurations

Configuration:		
No.	Field Name	Description

1	Step Name	Name of the step. This name has to be unique in a single workflow. The data type is String. This field is mandatory.
	Connection:	
2	Connection URI	Specify connection URI of Exchange On-Premise or Exchange Online services. The data type is String. This field is mandatory.
4	Username	Specify a user email of Exchange Server(On-Premise) or Exchange Online. The data type is String. This field is mandatory.
	Password:	
5	Accept Values from fields	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
6	Password	Specify the user password of Exchange Server(On-Premise) or Exchange Online. The data type is String. This field is mandatory. If checkbox above is enabled Password field appears as Text box and accepts static values or environment variables. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps.
7	Button: Test Connection	Verifies whether the connection is available or not. For the purpose of verification fields coming from previous steps are not allowed. Static values and environment variables are allowed.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Identity	Specify an Identity parameter that uniquely identifies value of an existing group. The data type is String. This field is mandatory.
	Table Fields:	
2	Variable Property Name	This is an optional field. Choose a field in input stream from drop down list or provide a user or system defined variable.
3	Static Property Name	On click of this column field, it opens a dialog with the list of available 'Property Name' values Double click to select Property Names form the pop up window. The data type is String. This field is mandatory. This field is mandatory.
4	Property Value	Specify the value to be set for the corresponding Property Name

18.11   Set Mailbox Properties [Community]

18.11.1   Description

Microsoft Exchange: Set Mailbox Properties plugin step modifies the attributes of an existing mailbox in on premise Exchange as well as cloud based services.

References:

- Set-Mailbox Properties document:
  https://docs.microsoft.com/en-us/powershell/module/exchange/set-mailbox?view=exchange-ps

18.11.2   Configurations

Configuration:

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow. The data type is String. This field is mandatory.
	Connection:	
2	Connection URI	Specify connection URI of Exchange On-Premise or Exchange Online services. The data type is String. This field is mandatory.
4	Username	Specify a user email of Exchange Server(On-Premise) or Exchange Online. The data type is String. This field is mandatory.
	Password:	
5	Accept Values from fields	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
6	Password	Specify the user password of Exchange Server(On-Premise) or Exchange Online. The data type is String. This field is mandatory. If checkbox above is enabled Password field appears as Text box and accepts static values or environment variables. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps.
7	Button: Test Connection	Verifies whether the connection is available or not. For the purpose of verification fields coming from previous steps are not allowed. Static values and environment variables are allowed.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Identity	Specify an Identity parameter that uniquely identifies value of an existing group. The data type is String. This field is mandatory.
	Table Fields:	If both then priority to static
2	Variable Property Name	This is an optional field. Choose a field in input stream from drop down list or provide a user or system defined variable.
3	Static Property Name	On click of this column field, it opens a dialog with the list of available 'Property Name' values Double click to select Property Names form the pop up window. The data type is String. This field is mandatory. This field is mandatory.
4	Property Value	Specify the value to be set for the corresponding Property Name

18.12   Set Remote Mailbox Properties (On-Premise) [Community]

18.12.1   Description

Microsoft Exchange: Set Remote Mailbox Properties plugin step modifies the attributes of a remote user mailbox, in on premise Exchange as well as cloud based services.

References:

b. Set-Remote-Mailbox document:
https://docs.microsoft.com/en-us/powershell/module/exchange/set-remotemailbox?view=exchange-ps

18.12.2   Configurations

Configuration:		
No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow. The data type is String. This field is mandatory.
	Connection:	
2	Connection URI	Specify connection URI of Exchange On-Premise or Exchange Online services. The data type is String. This field is mandatory.
4	Username	Specify a user email of Exchange Server(On-Premise) or Exchange Online.

		The data type is String. This field is mandatory.
	Password:	
5	Accept Values from fields	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
6	Password	Specify the user password of Exchange Server(On-Premise) or Exchange Online. The data type is String. This field is mandatory. If checkbox above is enabled Password field appears as Text box and accepts static values or environment variables. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps.
7	Button: Test Connection	Verifies whether the connection is available or not. For the purpose of verification fields coming from previous steps are not allowed. Static values and environment variables are allowed.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Identity	Specify an Identity parameter that uniquely identifies value of an existing group. The data type is String. This field is mandatory.
	Table Fields:	Provide one of fields from Variable Property Name or Static Property Name below. If both then Static Property Name takes precedence.
2	Variable Property Name	This is an optional field. Choose a field in input stream from drop down list or provide a user or system defined variable.
3	Static Property Name	On click of this column field, it opens a dialog with the list of available 'Property Name' values

Double click to select Property Names form the pop up window. The data type is String. This field is mandatory. This field is mandatory. |
| 4 | Property Value | Specify the value to be set for the corresponding Property Name |

19   Nagios

Nagios Plugin has several steps for Nagios (systems, networks and infrastructure monitoring)

Server operations.

Compatibility: Nagios XI

Prerequisites:

- Nagios instance with access details.
- Enable API Key (Admin > General > User Management, Edit the user and enable API Access).
- Get API Key: A user can find their API Key by clicking their name in the top right of the navigation menu. This will take them to their Account Information page which shows them their API Key in a read-only field. NOTE: The API Key may be longer than the field, simply click in the field and press CTRL + A on your keyboard to select it all.

19.1   Nagios: Create Host [Community]

19.1.1   Description

Nagios: Create Host plugin step creates a host in Nagios.

19.1.2   Configurations

Configuration:

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
2	URL	Server name or IP address of the Nagios instance.
	API Key:	API Key is available in Users' Account Settings on a Nagios instance.
3	Accept Values from fields	Leave checkbox unchecked to accept API key value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for API key field to appear as Text box.
4	API Key	API Key is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps).
		If checkbox above is enabled API Key field appears as Text box and accepts static values or variables. Else if checkbox above is disabled API Key field appears as a drop down to select fields from previous steps. This field is mandatory.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Host Name	Specify a short name to be used to identify the new host. Already existing hostname on Nagios Server cannot be used.
2	Address	Specify IP address of the host.
3	Max Check Attempts	Specify the number of times that Nagios will retry the host check command if it returns any state other than an OK state. 'Max Check Attempts' must be a positive integer.
4	Check Period	Specify Check Period which is, a short name of the time period during which active checks of this host can be made.
5	Contacts	Specify a list of the short names of the contacts that should be notified whenever there are problems (or recoveries) with current host. Note: Please provide at least Contact or Contact Group or both.
6	Button: Get	Click button to Get the lists of short names of contacts.
7	Contact Groups	Specify a list of the short names of contact groups that should be notified whenever there are problems (or recoveries) with current host. Note: Please provide at least Contact or Contact Group or both.
8	Button: Get	Click button to Get the lists of short names of Contact Groups.
9	Notification Interval	Specify the number of "time units" to wait before re-notifying a contact that this service is still down or unreachable. Notification Interval is in minutes.
11	Notification Period	Specify a short name of the time period during which notifications of events for this host can be sent out to contacts.
12	Check Command	Specify a short name of the command to be used to check if the host is up or down (e.g. check-host-alive).
13	ApplyConfig	This field is required to apply the configuration. Allowed values are 0, 1, No, Yes.

Output Tab:		
No.	Field Name	Description
1	Result	Output field to hold the result of the successful plugin execution. Default label value for this field is "Result".

		Result label value is mandatory.

Common Buttons:

No.	Field Name	Description
	Buttons:	
1	OK	On click of this button. It will check the field values. If any required field values are missing then it will display validation error message.
		If all the required field values are provided then it will save the field values.
2	Cancel	On click of this button, it will cancel the window and do not save any values

Note:-

Get buttons do not work if previous step variables are provided in connection details. The button only works with static values and environment variables in connection details.

19.2   Nagios: Create Service [Community]

19.2.1   Description

Nagios: Create Service plugin step creates a service in Nagios.

19.2.2   Configurations

Configuration:

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
2	Base URL	Server name or IP address of the Nagios instance.
	API Key:	Public API key generated after signing up the Nagios account.
3	Accept Values from fields	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
4	API Key	API Key is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps).
		If checkbox above is enabled API Key field appears as Text box and accepts static values or variables. Else if checkbox above is

		disabled API Key field appears as a drop down to select fields from previous steps.

Input Tab:

No.	Field Name	Description
	Input Fields:	
1	Host Name	Specify the short name of the host that the service "runs" on or is associated with.
2	Get	Clicking on this button brings up the Host Names.
3	Service Description	Provide a description for the service.
4	Check Command	Provide the short name of the command that Nagios will run in order to check the status of the service.
5	Max check Attempts	Specify the number of times that Nagios will retry the service check command if it returns any state other than an OK state. 'Max Check Attempts' must be a positive integer.
6	Check Interval	Specify the number of "time units" to wait before scheduling the next "regular" check of the service. Check interval is in minutes.
7	Retry Interval	Specify the number of "time units" to wait before scheduling a re-check of the service. Retry interval is in minutes.
8	Check Period	Specify a Check Period which is, a short name of the time period during which active checks of service can be made.
9	Notification Interval	Specify the number of "time units" to wait before re-notifying a contact that this service is still in a non-OK state. Notification interval is in minutes.
10	Notification Period	Specify the short name of the time period during which notifications of events for this service can be sent out to contacts.
11	Contacts or Contact Groups	Specify a list of the short names of the contacts that should be notified whenever there are problems (or recoveries) with service.
12	Button: Get	Click button to Get lists of short names of contacts.
13	Contact Groups	Specify a list of the short names of contact groups that should be notified whenever there are problems (or recoveries) with current host.
14	Button: Get	Click button to Get lists of short names of Contact Groups.
15	ApplyConfig	This field is required to apply the configuration. Allowed values are 0, 1, No, Yes.

Output Tab:

No.	Field Name	Description

| 1 | Result | Output field to hold the result of the successful plugin execution. Default label value for this field is "Result". Result label value is mandatory. |

Note:-

- Get buttons do not work if previous step fields are provided in connection details. The button only works with static values and environment variables in connection details.

Common Buttons:		
No.	Field Name	Description
	Buttons:	
1	OK	On click of this button. It will check the field values. If any required field values are missing, then it will display validation error message. If all the required field values are provided then it will save the field values.
2	Cancel	On click of this button, it will cancel the window and do not save any values

19.3 Nagios: Delete Host [Community]

19.3.1 Description

Nagios: Delete Host plugin step deletes a host.

19.3.2 Configurations

Configuration:		
No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
2	Base URL	Server name or IP address of the Nagios instance.
	API Key:	Public API key generated after signing up the Nagios account.
3	Accept Values from fields	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.

| 4 | API Key | API Key is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). |
| | | If checkbox above is enabled API Key field appears as Text box and accepts static values or variables. Else if checkbox above is disabled API Key field appears as a drop down to select fields from previous steps. This field is mandatory. |

Input Tab:

No.	Field Name	Description
	Input Fields:	
1	Host Name	Specify the short name used to identify the host to be deleted.
2	Get	Clicking on this button brings up the Host Names.
3	ApplyConfig	This field is required to apply the configuration. Allowed values are 0, 1, No, Yes.

Note:-
Get buttons do not work if previous step fields are provided in connection details. The button only works with static values and environment variables in connection details.

Output Tab:

No.	Field Name	Description
1	Result	Specify an output field to hold the result of the successful plugin execution. Default label value for this field is "Result". Result label value is mandatory.

Common Buttons:

No.	Field Name	Description
	Buttons:	
1	OK	On click of this button. It will check the field values. If any required field values are missing then it will display validation error message.
		If all the required field values are provided then it will save the field values.
2	Cancel	On click of this button, it will cancel the window and do not save any values

19.4 Nagios: Delete Service [Community]

19.4.1 Description

Nagios: Delete Service plugin step deletes a Service.

19.4.2   Configurations

No.	Field Name	Description
Configuration:		
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
2	Base URL	Server name or IP address of the Nagios instance.
	API Key	Public API key generated after signing up the Nagios account.
3	Accept Values from fields	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
4	API Key	API Key is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). If checkbox above is enabled API Key field appears as Text box and accepts static values or variables. Else if checkbox above is disabled API Key field appears as a drop down to select fields from previous steps. This field is mandatory.

No.	Field Name	Description
Input Tab:		
	Input Fields:	
1	Host Name	Specify the short name used to identify the host with the service to be deleted.
2	Get	Clicking on this button brings up the Host Names.
3	Service Description	Specify the description of the service to be deleted.
4	Get	Clicking on this button brings up the list of Services on the host.
5	ApplyConfig	This field is required to apply the configuration. Allowed values are 0, 1, No, Yes.

No.	Field Name	Description
Output Tab:		
1	Result	Output field to hold the result of the successful plugin execution. Default label value for this field is "Result". Result label value is mandatory.

Common Buttons:		
No.	Field Name	Description
	Buttons:	
1	OK	On click of this button. It will check the field values. If any required field values are missing, then it will display validation error message. If all the required field values are provided then it will save the field values.
2	Cancel	On click of this button, it will cancel the window and do not save any values

Note:

Get buttons do not work if previous step fields are provided in connection details. The button only works with static values and environment variables in connection details.

20 Operation Manager i

Prerequisites:

- OMi instance with access details.

20.1 OMi: Add Annotation

20.1.1 Description

OMi: Add Annotation plugin step adds an annotation to an event.

References:

- https://docs.microfocus.com/itom/Operations_Bridge_Manager:2018.11/OMi/ExtGuide/ExtApps/How_to_Access_the_Event

20.1.2 Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
2	Base URL	Provide Base URL which is the name of the gateway server. e.g. https://*<server.example.com>* The data type is string. This field is mandatory.
3	User Name	Specify a User Name. The data type is string. This field is mandatory.
	Password:	
4	Accept Value as variable/static	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list.

		Else enable checkbox for Password field to appear as Text box.
5	Password	Specify the Password. If checkbox above is enabled Password field appears as a Text box and accepts static or variable values. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps. The data type is secure string. This field is mandatory.
6	Button: Test Connection	Test connection with Client ID and Client Secret provided. Verifies whether the connection is established or not. Note: For the purpose of verification fields coming from previous steps are not allowed since field values can only be accessed when workflow is in running state. Static values and environment variables are allowed.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Event ID	Specify the event Id to fetch the event details. The data type is string. This field is mandatory.
2	Text	Specify the annotation to add to the event. The data type is string.
3	Author	Specify any string as an Author. Default is Monitor. **Note**: Default user will display in case the user is not available in the instance. The data type is string.

20.2 OMi: Create Event

20.2.1 Description

OMi: Create Event plugin step creates an event.

Permissions:

- To create events, users must have the Event Submission permission in the OMi User Management settings. For details about how to do this, see OMi Help.

References:

- https://docs.microfocus.com/itom/Operations_Bridge_Manager:2018.11/OMi/ExtGuide/ExtApps/How_to_Create_New_Events

20.2.2 Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
2	Base URL	Provide Base URL which is the name of the gateway server. e.g. https://*<server.example.com>* The data type is string. This field is mandatory.
3	User Name	Specify a User Name. The data type is string. This field is mandatory.
	Password:	
4	Accept Value as variable/static	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
5	Password	Specify the Password. If checkbox above is enabled Password field appears as a Text box and accepts static or variable values. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps. The data type is secure string. This field is mandatory.
6	Button: Test Connection	Test connection with Client ID and Client Secret provided. Verifies whether the connection is established or not. Note: For the purpose of verification fields coming from previous steps are not allowed since field values can only be accessed when workflow is in running state. Static values and environment variables are allowed.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Title	Specify the title of the event to create. The data type is string. This field is mandatory.
2	Description	Specify the description related to event creation purpose. The data type is string.
3	Severity	Specify the severity from allowed values. Value can be one of: major, minor, critical, warning, normal, unknown. The data type is string.
4	Category	Specify the category present in the system or Operations Manager i. **NOTE:** In case specified category is not present in the OMi then Event will be created but the category will not reflect. The data type is string.
5	Key	Key should be unique. **NOTE:** Event would not create in case the Key is duplicate. The data type is string.
6	DNS Name	Specify the DNS name. The data type is string.
7	IP Address	Specify the IP address. The data type is string.

Output Tab:		
No.	Field Name	Description
	Output Fields:	
1	Event ID	Specify an output json field name to hold the newly generated events id. The default value is – Event_ID. The data type is string.

20.3   OMi: Get Event Details

20.3.1   Description

OMi: Get Event Details plugin step gets the event details.

References:
- https://docs.microfocus.com/itom/Operations_Bridge_Manager:2018.11/OMi/ExtGuide/ExtApps/How_to_Access_the_Event#.24filename.7C

20.3.2 Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
2	Base URL	Provide Base URL which is the name of the gateway server. e.g. https://<*server.example.com*> The data type is string. This field is mandatory.
3	User Name	Specify a User Name. The data type is string. This field is mandatory.
	Password:	
4	Accept Value as variable/static	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
5	Password	Specify the Password. If checkbox above is enabled Password field appears as a Text box and accepts static or variable values. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps. The data type is secure string. This field is mandatory.
6	Button: Test Connection	Test connection with Client ID and Client Secret provided. Verifies whether the connection is established or not. Note: For the purpose of verification fields coming from previous steps are not allowed since field values can only be accessed when workflow is in running state. Static values and environment variables are allowed.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Event ID	Specify the event Id to fetch the event details. The data type is string. This field is mandatory.

Output Tab:		
No.	Field Name	Description
	Output Fields:	
1	JSON Output	Specify an output json field name to hold the events details. The default value is - JSON_Output. The data type is string.

20.4   OMi: Get Event List

20.4.1   Description

OMi: Get Event List plugin step fetches an event list.
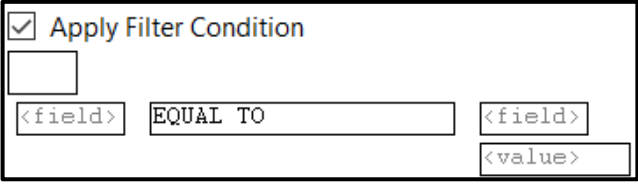
References:
- https://docs.microfocus.com/itom/Operations_Bridge_Manager:2018.11/OMi/ExtGuide/ExtApps/How_to_Access_the_Event#.24filename.7C

- Custom Date type value not supported in condition parameters.
  - Refer tables in Appendix: OMi Condition Parameters for condition parameters
  - https://docs.microfocus.com/OMi/10.62/Content/OMi/ExtGuide/ExtApps/Query_Filter_Criteria_Pr.htm
  - https://docs.microfocus.com/OMi/10.62/Content/OMi/ExtGuide/ExtApps/HTTP_Query_Parameters.htm

20.4.2   Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
2	Base URL	Provide Base URL which is the name of the gateway server. e.g. https://<*server.example.com*> The data type is string. This field is mandatory.
3	User Name	Specify a User Name. The data type is string. This field is mandatory.
	Password:	
4	Accept Value as variable/static	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
5	Password	Specify the Password. If checkbox above is enabled Password field appears as a Text box and accepts static or variable values. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps. The data type is secure string. This field is mandatory.
6	Button: Test Connection	Test connection with Client ID and Client Secret provided. Verifies whether the connection is established or not. Note: For the purpose of verification fields coming from previous steps are not allowed since field values can only be accessed when workflow is in running state. Static values and environment variables are allowed.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Page Size	The page size is used to specify the number of entries returned at one time. So you can define how many items are displayed (on one page of an atom feed) with the page size. The default for the Event Web Service is set to 20 items. The minimum value is 1 and the maximum value can be any number that the service is able to support. The data type is string.
2	Start Index	The start index is used to specify the index of the first entry returned in a response feed. So you can define the item from which to start the query with the start index parameter. The first entry in a feed has an index of 1, the second entry an index of 2, and so on. The default value for start index is always 1 if the value is not specified. The request returns a fault if a value less than 1 is specified. A value greater than the number of entries in the collection will return an empty response feed. The data type is string.
3	Include Closed Events	The include closed Events query parameter is used to specify whether closed events are included when querying the Events Service (event_list). The default value of this parameter is No. If set to Yes, closed events are included in the query, otherwise only events that do not have a lifecycle state of closed are returned from the Event Web Service. The data type is string.
4	Order By	The order by query parameter is used to specify that the response feed should be ordered by the indicated field. If the order by query parameter is a time or the sequence_number, then the default ordering is descending, so that the newest entries appear first, otherwise it is ascending Allowed values: time_created time_first_received time_received time_state_changed state type severity sequence_number priority category. The data type is string.

5	Watermark	If the watermark parameter is specified, only events that have been created or updated after the specified time are returned. Default format for this parameter is yyyy-MM-ddTHH:mm:ssZ and yyyy-MM-ddTHH:mm:ssXXX. The data type is string.
6	Apply Filter Condition	To enable or disable 'Apply Filter Condition' checkboxz provided.
	Condition:	Provide the parameters.
7	NOT	Negate the condition.
8	Field	Select the value from pop up window. Note: Refer the table to select the values.
9	Function	Select the function supported for the field from pop up window. Note: Refer the table to select the function supported.
10	Field	Can accept the previous row data from this field.
11	Value	Enter the value in the pop up window. Note: Refer the table for supported values.

Output Tab:		
No.	Field Name	Description
	Output Fields:	
1	JSON Output	Specify an output json field name to hold the events details. The default value is - JSON_Output. The data type is string.

20.5   OMi: Update Event

20.5.1   Description

OMi: Update Event plugin step updates an event.

References:
* https://docs.microfocus.com/itom/Operations_Bridge_Manager:2018.11/OMi/ExtGuide/ExtApps/How_to_Access_the_Event#.24filename.7C

20.5.2   Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
2	Base URL	Provide Base URL which is the name of the gateway server. e.g. https://<*server.example.com*> The data type is string. This field is mandatory.
3	User Name	Specify a User Name. The data type is string. This field is mandatory.
	Password:	
4	Accept Value as variable/static	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
5	Password	Specify the Password. If checkbox above is enabled Password field appears as a Text box and accepts static or variable values. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps. The data type is secure string. This field is mandatory.
6	Button: Test Connection	Test connection with Client ID and Client Secret provided. Verifies whether the connection is established or not. Note: For the purpose of verification fields coming from previous steps are not allowed since field values can only be accessed when workflow is in running state. Static values and environment variables are allowed.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Event ID	Specify the event Id to fetch the event details. The data type is string. This field is mandatory.
2	Title	Specify event title. The data type is string.
3	State	Specify the state of the event Allowed values: closed, open, in_progress, resolved. The data type is string.
4	Severity	Specify the severity. Allowed values: major, minor, critical, warning, normal, Unknown. The data type is string.

5	Priority	Specify the priority. Allowed values: low, high, medium, lowest, highest. The data type is string.
6	Description	Provide a description for the event update. The data type is string.
7	Solution	Specify a solution. The data type is string.

Output Tab:		
No.	Field Name	Description
	Output Fields:	
1	JSON Output	Specify an output json field name to hold the events details. The default value is - JSON_Output. The data type is string.

21 PDF Utilities

21.1 Fill PDF Form [Community]

21.1.1 Description
Fill PDF Form step is used to fill form inside pdf.

Reference:

https://pdfbox.apache.org/

21.1.2 Configurations

No.	Field Name	Description
1	Step name	Name of the step. This name has to be unique in a single workflow.
2	Input PDF Path	Specify the path of the PDF file contains fillable form. Alternatively, click the Browse button to browse the file path. The data type is String. The field is mandatory
3	Output PDF Path	Specify the path of the PDF file to save filled PDF Form. If blank then file specified in Input PDF Path will update.
4	PDF Password	Provide PDF Password if Input PDF is password protected.

5	Get Form Fields	Reflect form fields from Input PDF to plugin step UI. **Note:** Get Form Fields button will only work with static (hardcoded) values and environment variables. It will not work for the previous step fields. Validations for form fields value have to be done in previous steps.
6	Clear Form Fields	Clear form fields present on the plugin step UI.

22   SAP

22.1   SAP Login [Community]

22.1.1   Description

This step is used to connect to SAP through SAP client.

22.1.2   Configurations

No.	Field Name	Description
1	Step name	Name of the step. This name has to be unique in a single workflow.
2	Connection	Enter the name of the SAP client connection.
3	User Name	Enter the username of the SAP client connection.
4	Password	Enter the password of the SAP client connection.

22.2   SAP Logout [Community]

22.2.1   Description

The step is used to logout SAP connection established through SAP client.

22.2.2   Configurations

No.	Field Name	Description
1	Step name	Name of the step. This name has to be unique in a single workflow.

23   SCCM

SCCM (**System Center Configuration Manager)** is a software management suite provided by Microsoft that allows users to manage a large number of Windows based computers. **SCCM** features remote control, patch management, operating system deployment, network protection and other various services.

Compatibility: Microsoft System Center 2012 Configuration Manager SP2

Prerequisites:
- Login details to authenticate to a SCCM server.
- User must have WMI permissions in SCCM server to add the device to the specified device collection.
- User must have WMI permissions in SCCM server to get list of primary devices associated with the specified user.

23.1   SCCM: Add Device To Device Collection [Community]

Compatibility: Microsoft System Center 2012 Configuration Manager SP2

Prerequisites:
- Login details to authenticate to a SCCM server.
- User must have WMI permissions in SCCM server to add the device to the specified device collection.

23.1.1   Description
SCCM: Add Device to Device Collection Plugin step adds a device (computer) to a device collection in SCCM.

23.1.2   Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
1	SCCM Server Name	Specify the SCCM Hostname/Server Name/Fully Qualified Domain Name/IP address. This field is mandatory.
2	Username	Specify a username to connect to the SCCM server. This field is mandatory.
	Password:	
3	Accept Value as variable/static	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.

4	Password	Specify the password of the user to authenticate to SCCM Server. This field is mandatory. Password is encrypted and not stored in the .psw workflow file. Password is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). If checkbox above is enabled Password field appears as Text box. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Device Name	Specify the device (computer) name which is to be added to a Device Collection.
2	Device Collection Name	Specify a Device Collection Name in the SCCM server to which Device Name is to be added.

Common Buttons:		
No.	Field Name	Description
	Buttons:	
1	OK	On click of this button. It will check the field values. If any required field values are missing then it will display validation error message. If all the required field values are provided then it will save the field values.
2	Cancel	On click of this button, it will cancel the window and do not save any values

23.2   SCCM: Get Primary Devices by Username [Community]

Compatibility: Microsoft System Center 2012 Configuration Manager SP2

Prerequisites:
- Login details to authenticate to a SCCM server.
- User must have WMI permissions in SCCM server to get list of primary devices associated with the specified user.

23.2.1   Description

SCCM: Get Primary Devices by Username Plugin step fetches a list of primary devices (computers) devices associated with the specified user in SCCM.

23.2.2   Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
1	SCCM Server Name	Specify the SCCM Hostname/Server Name/Fully Qualified Domain Name/IP address. This field is mandatory.
2	Username	Specify a username to connect to the SCCM server. This field is mandatory.
	Password:	
3	Accept Value as variable/static	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
4	Password	Specify the password of the user to authenticate to SCCM Server. This field is mandatory. Password is encrypted and not stored in the .psw workflow file.

Password is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). If checkbox above is enabled Password field appears as Text box. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps. |

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Username	Specify the username to fetch the list of primary devices (computer) associated with it.

Output Tab:		
No.	Field Name	Description
	Output Field:	
1	Device Name	Specify an output field to hold the list of primary devices associated with the username specified.

Common Buttons:

No.	Field Name	Description
	Buttons:	
1	OK	On click of this button. It will check the field values. If any required field values are missing then it will display validation error message. If all the required field values are provided then it will save the field values.
2	Cancel	On click of this button, it will cancel the window and do not save any values

24   SharePoint Online

SharePoint Online Plugin has been designed to perform and automate SharePoint Online operations.

Compatibility: SharePoint Online

Following sections describe the Plugin steps:

24.1   Add List Column [Community]

24.1.1   Description

Add List Column plugin step adds a Column in a Generic List on SharePoint Online.

24.1.2   Prerequisites

- SharePointOnline instance with access details.

- Refresh Token generated using ClientID, which is generated after creating App in Azure AD.

- You require the following permissions for app on Azure:

Account Type	Permission type	Permission (from least to most privileged)
Work or School account	Delegated	Sites.Manage.All, Sites.FullControl.All

24.1.3   Configurations

Configuration:

No.	Field Name	Description
1	Step Name	Specify the name of the step. This name has to be unique in a single workflow. This is a mandatory field.

	Connection:	
2	Client ID	Specify the Client ID of SharePoint App. For information about creating a client ID, see Appendix: SharePoint: App Registration & Refresh Token Generation. The field data type is String. This is a mandatory field.
3	Accept value as variable/static	Select the checkbox if you want enter the Refresh Token name in the Refresh Token field. If you do not select the checkbox, then you can select the refresh token in the Refresh Token field.
4	Refresh Token	Specify or select the Refresh Token generated using ClientID, which is generated after creating App in Azure AD. This is a mandatory field.
5	Test Connection	Verifies whether the connection is established or not. **Note**: This connection will not work for the previous step variables. The button will only work with static values and environment variables.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Site Relative URL	Select the SharePoint site-relative URL. {Tenant Name}.sharepoint.com:/{Sharepoint Site Path For example: firstUser.sharepoint.com:/sites/TestingSite. This is a mandatory field. **Note:** For root site (Communication Site), you need not give {sharepoint site path}.
2	List Name/ ID	Select the name or ID of the user list, to which you want to add the column to. This is a mandatory field.
3	Column Name	Select the name of column that you want to add to the list. This is a mandatory field.
4	Column Type	Select the column type. Allowed value: Boolean, dateTime, Number, or Text. This is a mandatory field.
5	Description	Select the description of the column.
6	Enforce Unique Values	Select if you want the end user to enter unique values in that column. (Default: No)
7	Read Only	Select if you want the column to be read only type. (Default: No)
8	Required	Select if you want a field to be a mandatory field for the end user to enter. (Default: No)

9	Hidden	Select if you want the field to be hidden or visible on the user interface. **Note:** If True, the field is completely hidden from the user interface. Setting ReadOnly to True means the field is not displayed in New or Edit forms but can still be included in views.

Output Tab:	
Field Name	Description
Output Fields:	
Column ID	Specify ID of the column created as the output field.

24.2 Add List Item [Community]

24.2.1 Description

Add List Item plugin step adds an item in a Generic List on SharePoint Online.

24.2.2 Prerequisites

- SharePointOnline instance with access details.

- Refresh Token generated using ClientID, which is generated after creating App in Azure AD.

- You require the following permissions for app on Azure:

Account Type	Permission type	Permission (from least to most privileged)
Work or School account	Delegated	Sites.ReadWrite.All

24.2.3 Configurations

Configuration:		
No.	Field Name	Description
1	Step Name	Specify the name of the step. This name has to be unique in a single workflow. This is mandatory field.
	Connection:	
2	Client ID	Specify the Client ID of SharePoint App. For information about creating a client ID, see Appendix: SharePoint: App Registration & Refresh Token Generation. The field data type is String. This is a mandatory field.

3	Accept value as variable/static	Select the checkbox if you want enter the Refresh Token name in the Refresh Token field. If you do not select the checkbox, then you can select the refresh token in the Refresh Token field.
4	Refresh Token	Specify or select the Refresh Token generated using ClientID, which is generated after creating App in Azure AD. This is a mandatory field.
5	Test Connection	Verifies whether the connection is established or not. **Note:** This connection will not work for the previous step variables. The button will only work with static values and environment variables.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Site Relative URL	Select the SharePoint site-relative URL. {Tenant Name}.sharepoint.com:/{Sharepoint Site Path For example: firstUser.sharepoint.com:/sites/TestingSite. This is a mandatory field. **Note:** For root site (Communication Site), you need not give {sharepoint site path}.
2	List Name/ID	Select the name or ID of the list that you want the user to perform operation in. This is a mandatory field.
3	Title	Select the value of title column. The field data type is String. This is a mandatory field. **Note:** maximum limit of characters for Title is 256, to store more than 256 characters create new column of type Multi line text.
	Tabular Fields:	
4	Column Name	Specify the column name present in List. The field data type is String. This is mandatory. **Note:** You may get column names from SharePoint Online UI or use Get List Items step.
5	Value	Specify a value for the column. The field data type is String. This is mandatory.

Output Tab:	
Field Name	Description

Output Fields:	
Item	Specify ID of added list item as the output field.

24.3 Delete Shared Link [Community]

24.3.1 Description

Delete Shared Link plugin step deletes a shared link created to share a file or folder from Document Library present in a specified site in SharePoint Online.

24.3.2 Prerequisites

- SharePointOnline instance with access details.

- Refresh Token generated using ClientID, which is generated after creating App in Azure AD.

- You require the following permissions for app on Azure:

Account Type	Permission type	Permission (from least to most privileged)
Work or School account	Delegated	Files.ReadWrite, Files.ReadWrite.All, Sites.ReadWrite.All

24.3.3 Configurations

Configuration:		
No.	Field Name	Description
1	Step Name	Specify the name of the step. This name has to be unique in a single workflow. This is a mandatory field.
	Connection:	
2	Client ID	Specify the Client ID of SharePoint App. For information about creating a client ID, see Appendix: SharePoint: App Registration & Refresh Token Generation. The field data type is String. This is a mandatory field.
3	Accept value as variable/static	Select the checkbox if you want enter the Refresh Token name in the Refresh Token field. If you do not select the checkbox, then you can select the refresh token in the Refresh Token field.
4	Refresh Token	Specify or select the Refresh Token generated using ClientID, which is generated after creating App in Azure AD. This is a mandatory field.

5	Test Connection	Verifies whether the connection is established or not. **Note:** This connection will not work for the previous step variables. The button will only work with static values and environment variables.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Site Relative URL	Select the SharePoint site-relative URL. {Tenant Name}.sharepoint.com:/{Sharepoint Site Path Ex-firstUser.sharepoint.com:/sites/TestingSite. This is a mandatory field. **Note:** For root site (Communication Site), no need to give {sharepoint site path}.
2	Source Document Library Name	Select name of source Document Library in which file or folder is present. This is a mandatory field.
3	Path Of Shared File Or Folder	Select the full path (from root of Document Library). (ex: "Folder1/Example_1.txt", "Folder1/Folder2"). This is a mandatory field.
4	Permission ID	Select the ID of permission. This can be got by Get Sharing Information step. This is a mandatory field.

24.4 Rename Document Library Or List [Community]

24.4.1 Description

Rename Document Library Or List plugin renames Document Library and List from the specified site in SharePoint Online.

24.4.2 Prerequisites

- SharePointOnline instance with access details.

- Refresh Token generated using ClientID, which is generated after creating App in Azure AD.

- You require the following permissions for app on Azure:

Account Type	Permission type	Permission (from least to most privileged)
Work or School account	Delegated	Sites.Manage.All, Sites.FullControl.All

24.4.3 Configurations

Configuration:		
No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
2	Client ID	Specify the Client ID of SharePoint App. For information about creating a client ID, see [Appendix: SharePoint: App Registration & Refresh Token Generation](#). The field data type is String. This is a mandatory field.
3	Accept value as variable/static	Select the checkbox if you want enter the Refresh Token name in the Refresh Token field. If you do not select the checkbox, then you can select the refresh token in the Refresh Token field.
4	Refresh Token	Specify or select the Refresh Token generated using ClientID, which is generated after creating [App in Azure AD](#). This is a mandatory field.
5	Test Connection	Verifies whether the connection is established or not. **Note:** This connection will not work for the previous step variables. The button will only work with static values and environment variables.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Site Relative URL	Select the SharePoint site-relative URL. {Tenant Name}.sharepoint.com:/{Sharepoint Site Path Ex-firstUser.sharepoint.com:/sites/TestingSite. This is a mandatory field. **Note:** For root site (Communication Site), no need to give {sharepoint site path}
2	Document Library/List Name/ID	Select the Document Library/List Name/ID of Document Library/List you want to rename. This is a mandatory field.
3	New Name	Select the new name of Document Library/List. This is a mandatory field.

24.5 Update List Item [Community]

24.5.1 Description

Update List Item plugin updates an item from the Generic List from the specified site in SharePoint Online.

24.5.2 Prerequisites

- SharePointOnline instance with access details.

- Refresh Token generated using ClientID, which is generated after creating App in Azure AD.

- You require the following permissions for app on Azure:

Account Type	Permission type	Permission (from least to most privileged)
Work or School account	Delegated	Sites.ReadWrite.All

24.5.3 Configurations

Configuration:		
No.	Field Name	Description
1	Step Name	Specify the name of the step. This name has to be unique in a single workflow. This is a mandatory field.
	Connection:	
2	Client ID	Specify the Client ID of SharePoint App. For information about creating a client ID, see Appendix: SharePoint: App Registration & Refresh Token Generation. The field data type is String. This is a mandatory field.
3	Accept value as variable/static	Select the checkbox if you want enter the Refresh Token name in the Refresh Token field. If you do not select the checkbox, then you can select the refresh token in the Refresh Token field.
4	Refresh Token	Specify or select the Refresh Token generated using ClientID, which is generated after creating App in Azure AD. This is a mandatory field.
5	Test Connection	Verifies whether the connection is established or not. **Note:** This connection will not work for the previous step variables. The button will only work with static values and environment variables.

Input Tab:		
No.	Field Name	Description
	Input Fields:	

1	Site Relative URL	Select the SharePoint site-relative URL. {Tenant Name}.sharepoint.com:/{Sharepoint Site Path Ex-firstUser.sharepoint.com:/sites/TestingSite. This is a mandatory field. **Note:** for root site (Communication Site), no need to give {sharepoint site path}.
2	List Name/ID	Select name/ID of list user want to perform operation into. This is a mandatory field.
3	Item ID	Select the ID of item you want to update. This is a mandatory field.
Table field		
No.	Field Name	Description
1	Column Name	Specify the name of column present in list.
2	Value	Specify the column value.

25 Snowflake

Prerequisites

- To get the Refresh Token, you must have the USE INTEGRATION privilege to use the integration for OAuth 2.0 authentication and obtain a refresh token from the Snowflake Instance.
- To get access to the Salesforce API, give **the user** role of **sysadmin**.

References:

- **API:** https://docs.snowflake.com/en/developer-guide/sql-api/index
- **Token Generation and Credentials:** https://youtu.be/JZguyU66UsQ

25.1 Snowflake: Insert [Community]

25.1.1 Description

Snowflake: Insert step inserts data into a Snowflake table.

Notes:

- Test Connection and Get buttons will only work with static (hardcoded) values and environment variables. It will not work for the previous step fields.
- Users must have appropriate permissions as given in the Pre-requisites section.

25.1.2 Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection	
2	Input URL	Specify the input URL. The instance URL typically follows the format: *https://<account_name>.<region>.snowflakecomputing.com.* This is a String. This field is mandatory.
3	Client ID	Specify the Client ID generated from the Snowflake account. This is a String. This field is mandatory.
4	Client Secret	Specify the Client Secret generated from the Snowflake account. This is a Secure String. This field is mandatory.
5	Refresh Token	Specify a Refresh Token to obtain a new Access Token. This is a Secure String. This field is mandatory.
6	Test Connection	Verifies whether the connection is established or not.

No.	Field Name	Description
Input Tab:		
	Input Fields:	
1	Database	Specify the database in which you want to insert the record. This is a String. This field is mandatory.
	Button: Get	On click of this button, if the connection is successfully established it populates the list of Database present in the Snowflake Instance.
2	Schema	Specify the Schema in which you want to insert the record. This is a String. This field is mandatory.
	Button: Get	On click of this button, if the connection is successfully established it populates the list of Schema present in the snowflake Instance.
3	Warehouse	Specify the Warehouse in which you want to insert the record. This is a String. This field is mandatory.
	Button: Get	On click of this button, if the connection is successfully established it populates the list of Warehouse present in the snowflake Instance.
4	Statement	Fill the statement box with respective SQL query to perform the record insert. This is a String. This field is mandatory. **Sample SQL Query for Inserting a record:** `INSERT INTO EMPLOYEE VALUES (28, 'Tunisia');`

Output Tab:		
No.	Field Name	Description
	Output Fields:	
1	JSON Output	Output field to hold the result of the successful plugin execution. Default value: "JSONOutput".

25.2   Snowflake: Update [Community]

25.2.1   Description

Snowflake: Update step updates data into a Snowflake Table.

Notes:

- Test Connection and Get buttons will only work with static (hardcoded) values and environment variables. It will not work for the previous step fields.
- Users must have appropriate permissions as given in the Pre-requisites section.

25.2.2   Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection	
2	Input URL	Specify the input URL. The instance URL typically follows the format: *https://<account_name>.<region>.snowflakecomputing.com.* This is a String. This field is mandatory.
3	Client ID	Specify the Client ID generated from the Snowflake account. This is a String. This field is mandatory.
4	Client Secret	Specify the Client Secret generated from the Snowflake account. This is a Secure String. This field is mandatory.
5	Refresh Token	Specify a Refresh Token to obtain a new Access Token. This is a Secure String. This field is mandatory.
6	Test Connection	Verifies whether the connection is established or not.

Input Tab:		
No.	Field Name	Description
	Input Fields:	

1	Database	Specify the database in which you want to update the record. This is a String. This field is mandatory.
	Button: Get	On click of this button, if the connection is successfully established it populates the list of Database present in the Snowflake Instance.
2	Schema	Specify the Schema in which you want to update the record. This is a String. This field is mandatory.
	Button: Get	On click of this button, if the connection is successfully established it populates the list of Schema present in the snowflake Instance.
3	Warehouse	Specify the Warehouse in which you want to update the record. This is a String. This field is mandatory.
	Button: Get	On click of this button, if the connection is successfully established it populates the list of Warehouse present in the snowflake Instance.
4	Statement	Fill the statement box with respective SQL query to perform the record update. This is a String. This field is mandatory. **Sample SQL Query for updating a record:** `UPDATE Employee SET Salary = 799000 WHERE ID = 4`

Output Tab:		
No.	Field Name	Description
	Output Fields:	
1	JSON Output	Output field to hold the result of the successful plugin execution. Default value: "JSONOutput".

26   Terminal Automation

Terminal Automation Plugin is used to perform Terminal Automation.

Prerequisites:
- IBM java based emulator (3270, 5250, VT) on the machine to connect to.
- To fetch terminal positions a UI access, with an application such as **IBM i Access Client Solutions (ACS)** Et al.
- Get the following external JARS from IBM machine- Host Access Toolkit: habasen2, hacp, hodbasen2, hoddbg2. Copy these jars to PS and AE lib directories to run terminal automation steps.

Note:
- If there are Terminal Plugin steps in a workflow the workflow must start with a Terminal: Start step and end with the Terminal: Stop step.

- Also, the Emulator window should be open before running the workflow.

Limitations:

- For certain cases like wrong input, instance specific or unknown error, the plugin may not provide any error message or exception. (For e.g. if a wrong property name is provided in the Start step it does not provide any exception or error.)
- Additional delay can be required before the step in the workflow as per the terminal response.

26.1 Terminal Automation: Get [Beta]

26.1.1 Description

Terminal Automation: Get step fetches the text from an X, Y position of a terminal.

26.1.2 Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	X-POS	Specify X position on terminal to fetch text. This is an integer. This field is mandatory.
2	Y-POS	Specify Y position on terminal to fetch text. This field is an integer. This field is mandatory. Allowed value for X-POS, Y-POS is >0 and < = max row & column of the terminal.
3	Length	Specify length of text to be retrieved. This field is mandatory. A positive integer is allowed for Length.
4	Output	Specify an output field name to hold the text retrieved. This is a string. This field is mandatory.

Common Buttons:		
No.	Field Name	Description
	Buttons:	

1	OK	On click of this button, all field values are checked. If any required field values are missing then it displays validation error message. If all the required field values are provided then it saves the field values.
		At design-time in Process Studio, a consolidated error message for all rows for any missing values from the Input Table/Tab above is displayed whereas at run time in AutomationEdge UI error messages for each row will be displayed.
2	Cancel	On click of this button, it will cancel the window and do not save any values

26.2 Terminal Automation: Set [Beta]

26.2.1 Description

Terminal Automation: Set step sets data at X, Y position on a terminal.

26.2.2 Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	X-POS	Specify X position on the terminal to set text. This value is an integer. This field is mandatory.
2	Y-POS	Specify Y position on the terminal to set text. This value is an integer. This field is mandatory.
3	Data	Specify a Value or Mnemonic Keyword to set. This is a String value. This field is mandatory. Allowed value is >0 and < =max row & column of the terminal for non-Mnemonic Keyword. • For sending keys, set values of X-POS=-1, Y-POS=-1 and Data=Mnemonic Keyword. • For updating existing field value please use [eraseeof] Mnemonic. • Following is reference URL for Mnemonic Keyword details.

https://www.ibm.com/support/knowledgecenter/SSS9FA_14.0.0/com.ibm.hod.doc/doc/SessionManager/SessionManagerAPI.html#bidimnemonic

- For Mnemonic Keywords the string must be enclosed in [ ]. If incorrect Mnemonic Keyword is provided within [] then the plugin step is aborted and may not return any error message.

Sample Example,
To update existing field value at x=5,y=25 below is the sample example.

- Current Field value : ABCDEF and value to update=XYZ
- For updating existing field value use [eraseeof] Mnemonic.

Table Fields	#	X-POS	Y-POS	Data	Maximum Delay (ms)
	1	5	25	XYZ	100
	2	-1	-1	[eraseeof]	100

- At design-time, a consolidated error message for missing table fields is displayed whereas at run time segregated error messages is displayed.
- For certain cases like wrong input, instance specific or unknown error, the plugin may not provide any error message or exception.

4	Maximum Delay(ms)	Specify the amount of time (in milliseconds) to wait before execution of the Input data. This is the maximum delay. The operation continues if it gets the required controls/things before completion of the delay period in the case of 5250 Terminal.

Common Buttons:		
No.	Field Name	Description
	Buttons:	
1	OK	On click of this button, all field values are checked. If any required field values are missing then it displays validation error message. If all the required field values are provided then it saves the field values. At design-time in Process Studio, a consolidated error message for all rows for any missing values from the Input Table/Tab above is displayed whereas at run time in AutomationEdge UI error messages for each row will be displayed.

2	Cancel	On click of this button, it will cancel the window and do not save any values

26.3   Terminal Automation: Start [Beta]

26.3.1   Description

Terminal Automation: Start step establishes connection to a terminal. This is an input step, use this as the first step in the workflow.

26.3.2   Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
2	Host	Provide IP address of the machine on which emulator is present. This field is mandatory.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Property	Provide the property names for the session. This is a string value. Blank value should not be passed from incoming fields or a variable. Notes: • In case you do not explicitly specify 'sessionType' property, it is set to terminal TN3270 by default. • **Reference URL to get property names:** https://www.ibm.com/support/knowledgecenter/SSS9FA_13.0.0/com.ibm.hod.doc/doc/beans/com/ibm/eNetwork/beans/HOD/Session.html
2	value	Provide an appropriate value for the property. **Note:** • **Reference Link to get Property values :** https://www.ibm.com/support/knowledgecenter/cs/SSS9FA

		12.0.0/com.ibm.hod.doc/doc/hacl/com/ibm/eNetwork/ECL/ ECLSession.html#SESSION_TYPE_5250_STR

For e.f if you choose property

sessionType	enum*	ECLSession.SESSION_TYPE_3270_STR

SESSION_TYPE - Type of session to establish the value can be one of the following:

Constant	Value	Session Type
SESSION_TYPE_3270_STR	"1"	3270 (**default**)
SESSION_TYPE_5250_STR	"2"	5250
SESSION_TYPE_VT_STR	"3"	VT
SESSION_TYPE_CICS_STR	"4"	CICS
SESSION_TYPE_3270_PRT_STR	"5"	3270 Printer

Common Buttons:		
No.	Field Name	Description
	Buttons:	
1	OK	On click of this button, all field values are checked. If any required field values are missing then it displays validation error message. If all the required field values are provided then it saves the field values.
2	Cancel	On click of this button, it will cancel the window and do not save any values

26.4   Terminal Automation: Stop [Beta]

26.4.1   Description
Terminal Automation: Stop step closes the session of a terminal.

26.4.2   Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.

Common Buttons:		
No.	Field Name	Description

	Buttons:	
1	OK	On click of this button, all field values are checked. If any required field values are missing then it displays validation error message. If all the required field values are provided then it saves the field values.
2	Cancel	On click of this button, it will cancel the window and do not save any values

27   Terraform

Prerequisites:

1. Download the Terraform binary from the [official Terraform website](#) and extract it to a local directory on your machine.

2. Add the Terraform binary path to your system environment variables:

   i.   Go to: **Control Panel → System and Security → System → Advanced system settings → Environment Variables**. A pop-up window appears.

   ii.   In the pop-up window, under **System Variables**, select **Path** and then click **Edit**.

   iii.   Add the path of the directory which contains Terraform binary to the list of paths. For more details, see [configuring terraform windows systems](#).

3. Get provider instance with access details. For example, providers, such as AWS, Azure, and so on.

4. The Terraform working directory must contain appropriate permissions for file deletion, which is applicable to all the files residing inside the Terraform working directory.

Reference:

https://www.terraform.io/

Note:

Types of files accepted by Terraform are as follows:

- **.tf files**: These are the main Terraform configuration files that define resources and their attributes.
- **.tfvars files**: These files contain variable definitions and their values that can be used in the main **.tf** files.
- **.tfstate files**: These files store the current state of the infrastructure managed by Terraform.

- **.tfstate.backup files**: These files are backups of the state files and are automatically created by Terraform.
- **.auto.tfvars files**: These files contain automatically loaded variable definitions and their values.
- **.override.tf files**: These files are used to override the attributes of resources defined in the main **.tf** files.
- **.ignore files**: These files contain patterns for files or directories to ignore during the execution of Terraform.
- **.json files**: These files can be used to define resources and variables in JSON format instead of the HCL syntax.
- **.yaml** or **.yml files**: These files can be used to define resources and variables in YAML format instead of the HCL syntax.
- *Ideally, we give only one of three types of files as input to our Terraform Plugin Step, such as,* ***.tf files****,* ***.tf.json files****, and* ***.tfvars files****.*

27.1   Terraform: Apply [Community]

27.1.1   Description

Terraform: Apply step creates the infrastructure or updates the existing infrastructure for a specified provider using the **Terraform Declarative Script**, such as *.tf, .tf.json, .tfvars*.

Note:

The step **does not support the** *ctrl + space bar* **key combination** to get all possible process studio environment variables when a user tries to use it inside the script text area when the **Write Terraform Script Manually** checkbox is selected.

27.1.2   Configurations

Configuration:		
No.	**Field Name**	**Description**
1	Step Name	Name of the step. This name has to be unique in a single workflow.
Input Tab:		
No.	**Field Name**	**Description**
	Input Fields:	
1	Terraform Working Directory	Provide the directory's absolute path, that is, complete path with directory name. The field data type is String. The field is mandatory. **Note:** Terraform working directory shouldn't contain any other unintended Terraform script before the plugin step execution starts. All files except **.terraform** directory will get deleted by the plugin step when in execution state.
	Browse	Click the button and a pop-up of a list of directories from the current system will appear, from which the user has to select a directory used as a **Terraform Working Directory**.

2	Terraform State File	Provide the absolute path, that is, the complete path with the file name and extension of the terraform input state file, if available, which was created by the existing step on any previous execution. The field data type is String. This field is mandatory.
	Browse	Click the button and a pop-up of the list of directories and files with extension **.tfstate** from the current system will appear, from which the user must select a terraform state file, that is, a file with extension **.tfstate**, which will be used as **Terraform State File**.
3	Terraform Script File Path	Provide the terraform declarative script's absolute path, that is, complete path with a file name and extension. The field data type is String. This field is mandatory.
	Browse	Click the button and a pop-up of the list of directories and files with extensions, such as, **.tf**, **.tf.json** from the current system will appear. From this list, select any one Terraform script file, that is, a file with an extension **.tf** or **.tf.json**, which is used as **Terraform Script File Path**.
	OR	
	Write Terraform Declarative Script Manually	Select the checkbox to disable the **Terraform Script File Path** field and the corresponding **Browse** button, and to enable the tree items available under the checkbox on the left hand side pane. In addition, **CTabItems**, basically a **Simple** tab, along with embedded text area components, one inside each **CTabItem** component, gets **enabled**. These **CTabItems** are located under the **Write Terraform Declarative Script Manually** checkbox label on the right-hand side. Users can write Terraform script/scripts manually, following the standard coding protocols of Terraform in the provided white **text area** under the checkbox label. The field is mandatory.
	Scripts	Under the **Write Terraform Declarative Script Manually** checkbox, a **Scripts** tree item in an expanded state is displayed. From the **Scripts** tree item, the user can select any script from the list of scripts to make it active (visible for editing) by **double-clicking the icon** of that individual script. Users can **right-click on any particular script name**, where the user will get the dropdown options to either rename or delete the script. Script name should follow standard naming conventions and

		extension of the script must be one of the following extensions: **.tf** **.tf.json** **.tfvars**
	Get Input fields	Under the **Scripts** tree item, a **Get Input Fields** tree item in an expanded state is displayed. From the **Get Input Fields** tree item, the user can select any field name from the list of field names received from previous step/steps, to add inside the text area displayed on the right-hand side by **double-clicking** on it. This text area is used to write the **Terraform Declarative Script** code. At runtime, all the field names added inside this text area will be substituted with values stored inside each of them and used for further execution purposes.
	tfScript	By default, one **CTabItem**, basically a **Simple** tab with the default name **tfScript** is always kept visible to the user. The **CTabItem** name **tfScript** also corresponds to the name of the terraform script. The **CTabItem** name is the same as the script name and will get updated when we rename the script. Inside each **CTabItem**, **a text area is embedded inside**, which the user can **manually write, or copy-paste** terraform declarative code. Users can **right-click on this script tab title**, where the user will get the dropdown option to **Add a new tab**, that is, a new **CTabItem**. In this way, the user can add multiple scripts which will be used during the execution of this plugin step. Users can also use process studio environment variables inside this text area by **manually writing** the variable name inside curly braces preceded by the dollar symbol. For example, If the process studio variable name is **data**, then the user can write it as **${data}** while writing script code inside the text area component.
4	Pre-approve Plan For Execution	Provide **Yes** or **No**. If **Yes** is given as input, then the plugin step on execution will automatically approve the plan which Terraform application has

		prepared to achieve the requirements coded inside the input Terraform declarative script.
		If **No** is given as input, then the plugin step on execution will display the plan prepared by Terraform in a pop-up dialog box and will wait for the user to either **APPROVE** or **REJECT** the plan by clicking on the respective button appearing on that specific pop-up dialog box.
		If the **REJECT** button is pressed, then this plugin step will be executed successfully, and the Terraform code execution part will be skipped.
		The field data type is String. This field is mandatory.
	Additional Input tab	
No.	**Field Name**	**Description**
	Additional Input Fields:	
1	Terraform State File Backup Path	Provide the absolute path, that is, the complete path with the file name and extension of the terraform state file in which the content of the terraform state file created by the existing step on execution will be copied.
	Browse	Click the button and a pop-up of the list of directories and files with extension **.tfstate** from the current system appears, from which the user must select a terraform state file, that is, a file with extension **.tfstate**, which will be used as the **Terraform State File Backup Path**.
2	Add Terraform State File To Result	Provide *Yes* or *No*. **Note:** If you provide, *Yes*, then the generated Terraform state file will be available as a downloadable link on AutomationEdge UI after execution.

Output Tab:	
Field Name	**Description**
Output Field:	
Terraform Plan Status	The field stores, the value of whether the terraform plan was accepted or rejected by the user.
Output	The field stores the result of execution.

27.2   Terraform: Destroy [Community]

27.2.1   Description

Terraform: Destroy step destroys the existing infrastructure for specified providers with credentials using the Terraform Declarative Script.

27.2.2   Configurations

Configuration:		
No.	**Field Name**	**Description**
1	Step Name	Name of the step. This name has to be unique in a single workflow.
Input Tab:		
No.	**Field Name**	**Description**
	Input Fields:	
1	Terraform Working Directory	Provide the directory's absolute path, that is, complete path with directory name. The field data type is String. The field is mandatory. **Note:** Terraform working directory shouldn't contain any other unintended Terraform script before the plugin step execution starts. All files except **.terraform** directory will get deleted by the plugin step when in execution state.
	Browse	Click the button and a pop-up of a list of directories from the current system will appear, from which the user has to select a directory used as a **Terraform Working Directory**.
2	Terraform Script File Path	Provide the terraform declarative script's absolute path, that is, complete path with a file name and extension. The field data type is String. This field is mandatory.
	Browse	Click the button and a pop-up of the list of directories and files with extensions, such as, **.tf**, **.json**, **.yml**, **.yaml** from the current system will appear. From this list, select any one Terraform script file, that is, a file with an extension **.tf** or **.json** or **.yml** or **.yaml**, which is used as **Terraform Script File Path**.
3	Terraform State File Path	Provide the absolute path, that is, complete path with the file name and extension of the terraform state file, which was created previously as an output of **Terraform: Apply** plugin step or using **Terraform** application.
	Browse	Click the button and a pop-up of the list of directories and files from the current system will appear, from which the user must select a terraform state file which has extension **.tfstate**, which will be used as **Terraform State File Path**.

Output Tab:	
Field Name	**Description**
Output Field:	
Output	The field stores the result of execution.

28   Topdesk

Topdesk plugin steps have been designed to perform tasks in an instance of Topdesk server.

Prerequisite

- TOPdesk instance with valid credentials.
- Valid Application Password(Token) generated from TOPdesk instance.
- Valid Admin and Supervisor SaaS permissions to generate application passwords and to perform necessary operations.

Compatibility

- Windows 7, Windows Server 2008

28.1   Topdesk: Create Incident [Community]

1.1.1   Description

Topdesk: Create Incident step creates a new incident in Topdesk instance.

Reference URL

https://developers.topdesk.com/documentation/index.html#api-Incident-CreateIncident

1.1.2   Configurations

General Tab:		
No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
2	Base URL	Base URL of TOPdesk instance. (e.g. https://xxxx.topdesk.net for on cloud instance) The data type is string. This field is mandatory.

3	Username	Specify the username of the TOPdesk instance that has administrative permission to authenticate. The data type is string. This field is mandatory.
	Password:	
4	Accept Values as variable/ static	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
5	Password	Password is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). This field is mandatory. If checkbox above is enabled Password field appears as Text box and accepts static values or variables. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps. The data type is secure string. This field is mandatory. **Steps to create password in TOPdesk:** To create password, go to the following URL: https://developers.topdesk.com/tutorial.html#show-collapse-usage-createAppPassword

Input Tab		
No.	Field Name	Description
	Input Fields:	
1	Accept Fields as JSON	Enable checkbox to accept field names as JSON input. In the JSON text you can have dynamic fields to insert rather than static fields to be provided in the Table Fields. Leave this unchecked to provide Table Fields as input.
2	JSON	About JSON text: If 'Accept Fields as JSON' checkbox is enabled, this field is activated. Choose a field containing the JSON text. JSON text should contain key-value pairs enclosed by double quotes (") enclosure. Provide all the required or mandatory fields as well as other fields to be inserted as keys in the JSON. **Note:** The JSON could be from any input step such as Generate rows, Text File input, Excel Input Et al. JSON text can only be accepted from input fields from previous steps and not as files directly. JSON text can also be specified by a parameter already defined. The data type is string. This field is optional. If 'Accept Fields as JSON' is selected this field is mandatory.

		Sample JSON key value pairs:
		```json [{ "status": "firstLine", "callerLookup": { "email": j.dean@topdesk.com }, "briefDescription": " briefDescription", "impact" : { "name": "Departamento" }, "urgency":{ "name": "Disponível" }, "operator" : { "id" : "07015ce6-c466-4ef7-b487-3a17678ee1fb" }, "operatorGroup" : { "id" : "b854bd57-419a-486c-b0bc-0bdba14a3db2" } }] ```
	Table Fields:	If 'Accept Fields as JSON' is not selected then the fields in this table are mandatory.
3	Variable Field Name	This field accepts values from previous fields in the stream/environment variables or variables (e.g. run-time parameters for incident fields. The data type is string. This field is optional.
4	Static Field Name	On click of this cell, fields associated with the form (incident in this case) are displayed. The data type is string. This field is optional.

Note: One of either Variable Field Name or Static Field Name must be provided. If both are provided then Static Field Name is taken. |
| 5 | Field Value | Valid values for the field associated with the field name. The data type is string. This field is mandatory. |

Output Tab		
No.	Field Name	Description
	Output Field:	
1	Incident ID	Specify an output field to hold Incident ID created on successful plugin execution. The default value for this field is Incident ID.

2	Incident Number	Specify an output field to hold the result of the successful plugin execution. The default value for this field is IncidentNumber.

Common Buttons:		
No.	Field Name	Description
	Buttons:	
1	OK	On click of this button. It will check the field values. If any required field values are missing then it will display validation error message. If all the required field values are provided then it will save the field values.
2	Cancel	On click of this button, it will cancel the window and do not save any values

28.2   Topdesk: Update Incident [Community]

1.1.3   Description

Topdesk: Update Incident updates an existing incident on the specified TOPdesk instance.

Note:
- The step does not support custom fields and other fields, such as phone number, mobile number, and email because the Metadata API call which provides the field details is not available. Field metadata is required to prevent hardcoding and develop a plugin step generically.
- Some Display Values on UI are not the same as that of Logical values in API. For example, the display value on UI for the Category field is Software but the Logical value (API) for that field (Category) is Software specifico.

Reference URL

https://developers.topdesk.com/explorer/?page=incident#/incident/patch_incidents_id__id_

1.1.4   Configurations

General Tab:		
No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	

2	Base URL	Base URL of TOPdesk instance. (e.g. https://xxxx.topdesk.net for on cloud instance) The data type is string. This field is mandatory.
3	Username	Specify the username of the TOPdesk instance that has administrative permission to authenticate. The data type is string. This field is mandatory.
	Password:	
4	Accept Values as variable/ static	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
5	Application Password (Token)	Application Password (Token) of the TOPdesk instance is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). This field is mandatory. If checkbox above is enabled Password field appears as Text box and accepts static values or variables. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps. The data type is secure string. This field is mandatory. **Steps to create password in TOPdesk:** To create password, go to the following URL: https://developers.topdesk.com/tutorial.html#show-collapse-usage-createAppPassword

Input Tab		
No.	Field Name	Description
	Input Fields:	
1	Incident Number/ID	Specify the incident number or ID, which you want to update.
2	Accept fields as JSON	Select the checkbox to use the 'JSON' field to create an incident. Else, use the table fields to build JSON to create an incident.

3	JSON	Provide JSON in a valid format to create an incident. Note: Provide a display name for the keys in the JSON.
		
		Sample JSON
		{
		"status": "firstLine",
		"callerLookup": {
		"email": "j.dean@topdesk.com"
		},
		"briefDescription": " briefDescription",

		"impact" : { "name": "Departamento" }, "urgency":{ "name": "Disponível" }, "operator" : { "id" : "07015ce6-c466-4ef7-b487-3a17678ee1fb" }, "operatorGroup" : { "id" : "b854bd57-419a-486c-b0bc-0bdba14a3db2" } }
	Table Fields:	If 'Accept Fields as JSON' is not selected then the fields in this table are mandatory.
3	Variable Field Name	This field accepts values from previous fields in the stream/environment variables or variables (e.g. run-time parameters for incident fields. The data type is string. This field is optional.
4	Static Field Name	On click of this cell, fields associated with the form (incident in this case) are displayed. The data type is string. This field is optional. Note: One of either Variable Field Name or Static Field Name must be provided. If both are provided then Static Field Name is taken.
5	Field Value	Valid values for the field associated with the field name. The data type is string. This field is mandatory.

Common Buttons:		
No.	Field Name	Description
	Buttons:	
1	OK	On click of this button. It will check the field values. If any required field values are missing then it will display validation error message. If all the required field values are provided then it will save the field values.
2	Cancel	On click of this button, it will cancel the window and do not save any values

29   VMware

VMWare Plugin can be used for managing VMware vSphere - vCenter server.

Compatibility: vSphere Web Client (Version 6.5.0.13000 Build 8024368)

Prerequisites:

- vCenter Server with access details (Login credentials to authenticate VMware-vCenter server, vCenter port number)
- VMware certificate must be installed on the system where the plugin step needs to be executed. For the steps to install the certificate refer **Error! Reference source not found.**.

Known Issues:

- If vCenter IP is given in 'vCenter Server Base URL' instead of vCenter server name, it may throw certificate error if the vCenter IP entry is not present in the Subject Alternative Name field of the certificate.
  Note: Usually, the certificate contains entry of vCenter server in FQDN (Fully Qualified Domain Name) format.
- If two or more virtual machines/Templates with the same name appear in the vCenter Server inventory then at the run time, the correct virtual machine/Template object may not be used among duplicate virtual machine names/Template names.
  Note: To resolve this issue, rename the duplicate virtual machine/Template to a unique name for each entity.
- If VM name contains '%' special character then '%' character should be replace with with '%25'.

29.1   Get VM UUID, Resource ID, Target ID [Beta]

29.1.1   Get VM UUID

- In most VMWare Plugin steps when you work on existing VMs you have to specify the VM Name or UUID.
  - VM Name/UUID can be fetched from vSphere vCenter. Login to vCenter server GUI,
  - Navigate to vCenter Host (in which VM is created) → Virtual Machines Tab containing tabular information of the VMs including VM Name.
  - In case VM UUID is not visible in the table,
    o Right Click on any column header
    o Click on the 'Show/Hide Columns' option and
    o Select UUID column to be displayed with each of the VM Name.
  - UUID is now visible in the table. You may fetch this UUID to use in the Plugin steps.

29.1.2   Get Compute Resource ID

- To find the 'Compute Resource ID', click on a Compute Resource (Host/Cluster/ResourcePool/vApp) on vSphere-vCenter and then click in the URL address bar.

  Scroll the URL in the address bar to copy the 'Compute Resource ID' in between '%253A' (which is preceded by the Compute Resource Type) and a '~'.

  Compute Resource Type preceding '%253A' is from one of the following.
  - HostSystem,
  - ClusterComputeResource,
  - ResourcePool,
  - VirtualApp

Following are samples of Resource ID marked in yellow. Note that Resource ID is is preceded by a %253A and followed by a ~. %253A must be which preceded by the desired Resource Type.

You may copy the Compute Resource ID required as marked in yellow below.

Host ID	HostSystem%253Ahost-528~
Cluster:	HostSystem%253Ahost-528~
ResourcePool	ResourcePool%253Aresgroup-545~
vApp:	ResourcePool%253Aresgroup-545~

The following screen shots depict how to get the Compute Resource ID of a Cluster Resource Type.

1. Select a cluster in the vSphere-vCenter as seen below.
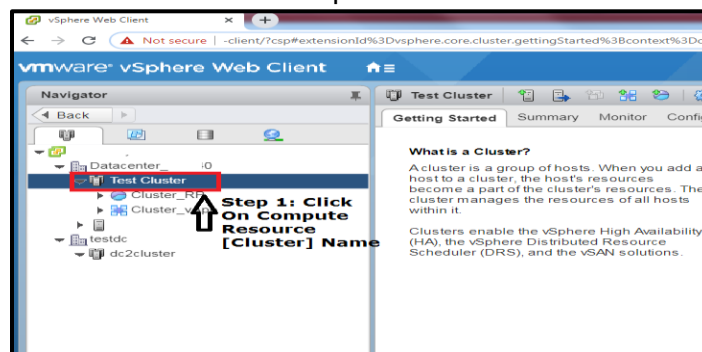
2. Once the Resource Type i.e. Cluster in this case is selected scroll the URL address bar to locate the Resource Type (ClusterComputeResource in this case). Then pick the Resource ID in between %253A and a ~.
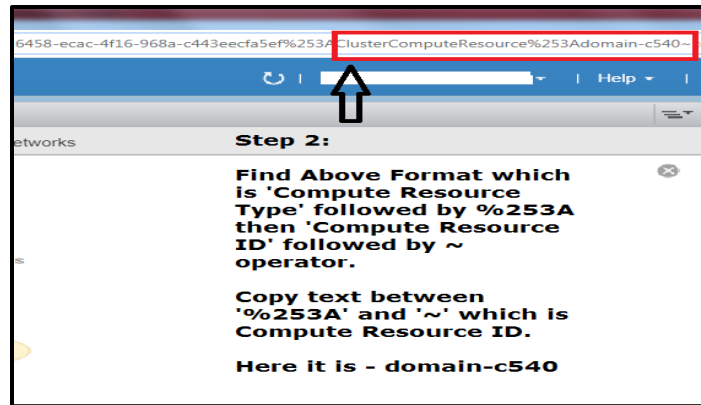
29.1.3   Get Target ID

• To find the 'Target ID', click on a Target Location Type (Datacenter/VM Folder) on vSphere-vCenter and then click in the URL address bar.

Scroll the URL in the address bar to copy the 'Target ID' in between '%253A' (which is preceded by the Target Location Type) and a '~'.

Target Location Type preceding '%253A' is from one of the following.

– Datacenter
– VM Folder

Following are samples of Target ID marked in yellow. Note that Target ID is is preceded by a %253A and followed by a ~. %253A must be which preceded by the desired Target Location Type.You may copy the Target ID required as marked in yellow below.

Datacenter	Datacenter%253Adatacenter-21~
VM Folder	Folder%253Agroup-v381~

The following screen shots depict how to get the Target ID of a Datacenter Target Location Type.

3. Select a Datacenter in the vSphere-vCenter as seen below.
4. Once the Target Location Type i.e. Datacenter in this case is selected scroll the URL address bar to locate the Target Location Type (Datacenter in this case). Then pick the Target ID in between %253A and a ~.

5. Similarly, once the Target Location Type i.e. VM Folder is selected scroll the URL address bar to locate the Target Location Type (Folder in this case). Then pick the Target ID in between %253A and a ~ as seen below.
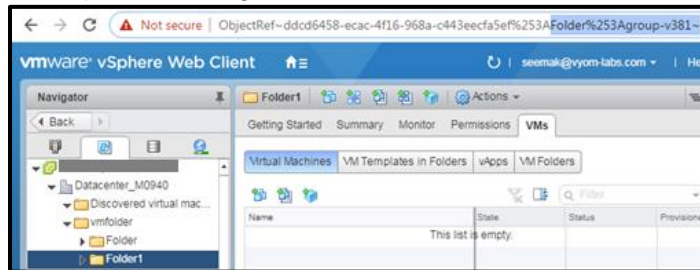
29.2   VMware: Create Snapshot [Beta]

29.2.1   Description

VMware: Create Snapshot plugin step is designed to create a snapshot of a virtual machine on a specified vCenter server.

29.2.2   Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Configuration:	
1	vCenter Server Base URL	Specify the vCenter Server Base URL to connect to vCenter. (e.g.: https://vmware.example.com) Note: If vCenter IP is given instead of vCenter server name, it throws certificate error if the vCenter IP entry is not present in

		the Subject Alternative Name field of the certificate, because the certificate mostly contains entry of vCenter server in FQDN (Fully Qualified Domain Name) format.
2	Port	Specify the vCenter server port. (Default port is 443). This field should be an integer and value should be less than 65536.
3	Username	Specify a Username to authenticate vCenter server.
	Password:	The password to authenticate vCenter server.
4	Accept value as variable/static	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
5	Password	Password is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). This field is mandatory. If checkbox above is enabled Password field appears as Text box and accepts static or variable values. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps. Please note that Field values can only be accessed when workflow is in running state.
6	Button: Test Connection	Verifies whether the connection is available or not. For the purpose of verification fields coming from previous steps are not allowed since field values can only be accessed when workflow is in running state. Static values and environment variables are allowed.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Virtual Machine Name	Specify the Name/UUID of the virtual machine for which snapshot is to be created. The data type is String. This field is mandatory. **Notes:** • Refer Get VM UUID in the VMWare Plugin introduction for steps to fetch the VM UUID. • If two or more virtual machines with the same name appear in the vCenter Server inventory then you may provide the UUID which is unique to each VM.

		• If VM name contains '%' special character then to execute the plugin step, provide VM name by replacing '%' character with '%25'.
2	Snapshot Name	Specify the name to be given to the new snapshot to be created. Snapshot Name is mandatory.
3	Snapshot the virtual machines memory	Enable this checkbox to capture the memory of the virtual machine.
4	Quiesce guest file system	Enable this checkbox to pause the running processes on the vCentre server, so that file system contents are in a known consistent state when you take the snapshot.

Output Tab:		
No.	Field Name	Description
	Output Fields:	
1	Snapshot Name	Provide the output field to hold the name of the new snapshot created as a result of the successful plugin execution. Default label value for this field is "SnapshotName".

Common Buttons:		
No.	Field Name	Description
	Buttons:	
1	OK	Click this button to check and save the field values. If any required field values are missing then it will display a validation error message else if all the required field values are provided then it will save the field values.
2	Cancel	Click this button, to cancel the window and does not save any values.

29.3   VMware: Create Standard Virtual Switch [Beta]

29.3.1   Description

VMware: Create Standard Virtual Switch plugin step creates a Standard Virtual Switch on the specified vCenter server.

29.3.2   Configurations

No.	Field Name	Description

1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Configuration:	
1	vCenter Server Base URL	Specify the vCenter Server Base URL to connect to vCenter. (e.g.: https://vmware.example.com) Note: If vCenter IP is given instead of vCenter server name, it throws certificate error if the vCenter IP entry is not present in the Subject Alternative Name field of the certificate, because the certificate mostly contains entry of vCenter server in FQDN (Fully Qualified Domain Name) format.
2	Port	Specify the vCenter server port. (Default port is 443). This field should be an integer and value should be less than 65536.
3	Username	Specify a Username to authenticate vCenter server.
	Password:	The password to authenticate vCenter server.
4	Accept value as variable/static	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
5	Password	Password is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). This field is mandatory. If checkbox above is enabled Password field appears as Text box and accepts static or variable values. Else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps. Please note that Field values can only be accessed when workflow is in running state.
6	Button: Test Connection	Verifies whether the connection is available or not. For the purpose of verification fields coming from previous steps are not allowed since field values can only be accessed when workflow is in running state. Static values and environment variables are allowed.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Host Name/IP	Specify the Host Name/IP of an existing host in the vCenter Server where the Standard Virtual Switch is to be created. The data type is String. This field is mandatory.

2	Button: Get	On click of this button, if the connection is successfully established it populates the list of Host Names/IPs in the vCenter Server.
3	New Standard Virtual Switch Name	Specify a name for the virtual switch to be created. The data type is String. This field is mandatory.
4	New Virtual Machine Port Group Name	Specify a Network Port Group Name (which is an endpoint to connect to VMs) to create the virtual switch. The data type is String. This field is mandatory.
5	Number of Ports	Specify the number of ports for the vSwitch. The data type is Integer. This field is mandatory.

Common Buttons:		
No.	Field Name	Description
	Buttons:	
1	OK	Click this button to check and save the field values. If any required field values are missing then it will display a validation error message else if all the required field values are provided then it will save the field values.
2	Cancel	Click this button, to cancel the window and does not save any values.

30   Windows

Windows plugin has been designed to perform actions on a Windows machine.

Compatibility:

Windows 7, Windows Server 2008

Prerequisites:

- Enable WinRM Protocol and set trusted host list value to * (or a list of hostname/IP) on local as well as target system (Refer Appendix: Power Shell Remote Connection).
- WMI access on local and target machine (Required for Windows: Create Event Log, Restart Machine and Shutdown Machine steps). This is discussed below.
- PowerShell version 5 and above. This is discussed below.

Following are the steps to **provide WMI access on local and target machines.**
1. Under Control Panel click Windows Firewall
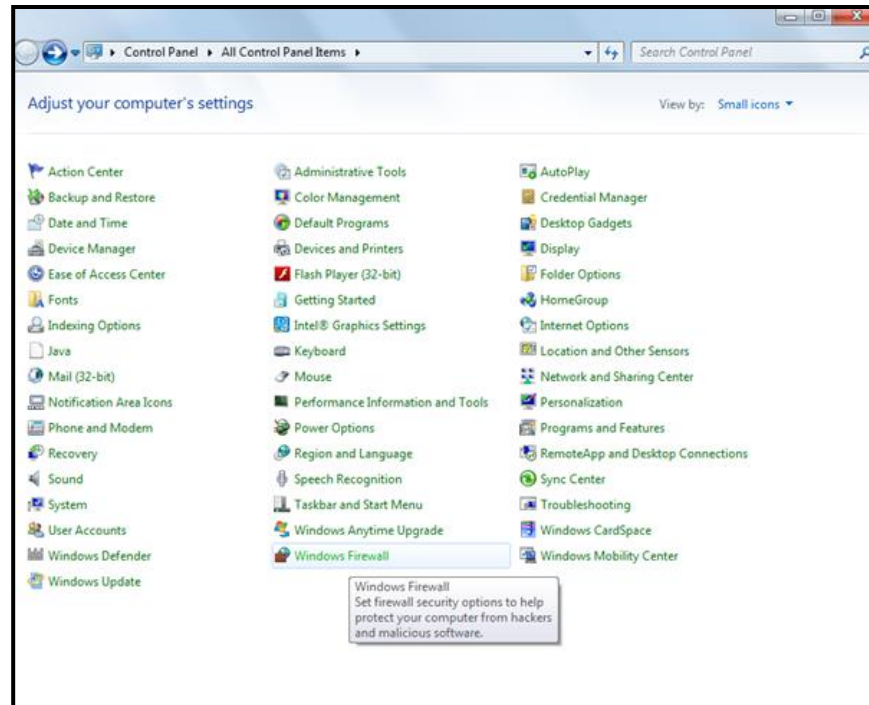
2. Click the link – Allow a program or feature through Windows Firewall.
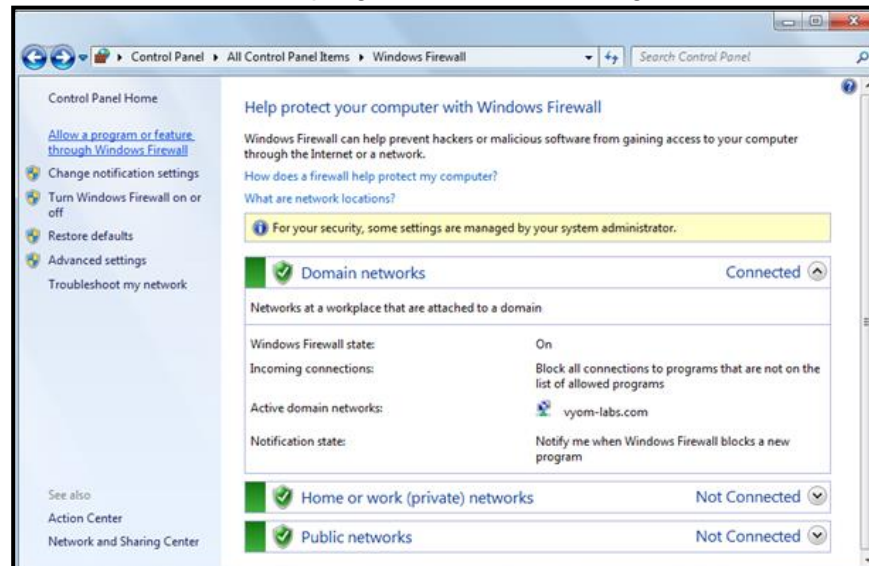
3. Enable to allow Windows Management Instrumentation (WMI) at all levels as shown below.
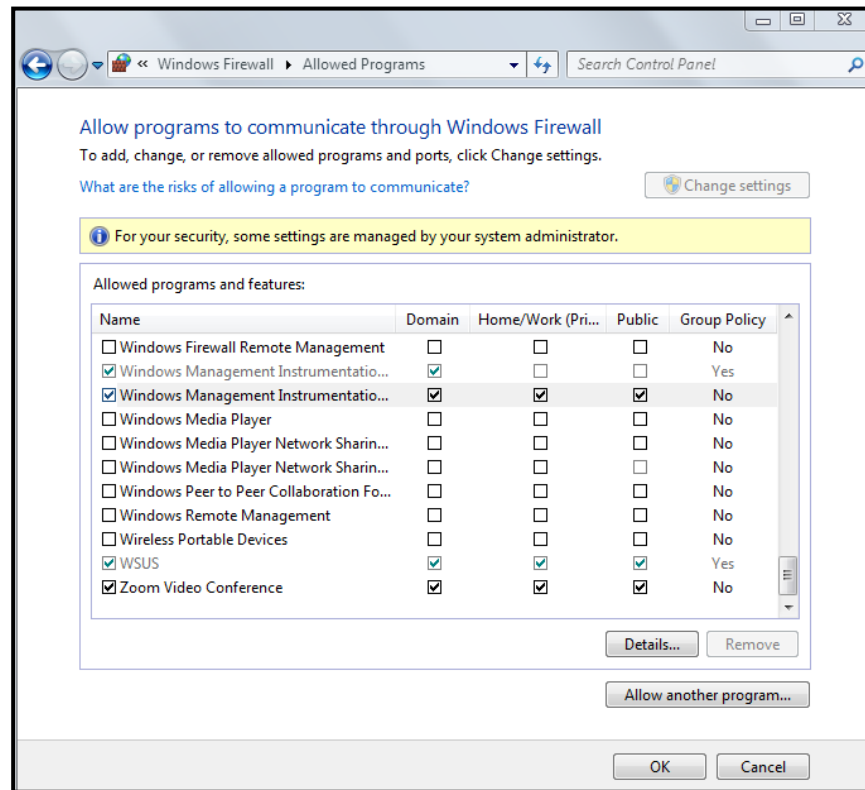
Following are the steps to **setup Power Shell version 5 or above,**

A. **Set PowerShell Execution Policy:**

1. Open PowerShell command prompt in Run as administrator mode (Go to **Start**-> Search **PowerShell** -> Right Click on **Windows PowerShell** -> Click **Run as administrator option**)

2. Change execution policy of computer to allow running PowerShell scripts by using below:
command: Set-ExecutionPolicy unrestricted –Force

3. Check if execution policy is changed by using below command:
command: Get-ExecutionPolicy

B. **Updating PowerShell Version:**

1. **Download Windows Management Framework from below url: (to update to Windows PowerShell version 5.1or higher)**
https://www.microsoft.com/en-us/download/details.aspx?id=54616

System requirements:

- WMF 5.1 requires Microsoft .NET Framework 4.5 or above. You can install Microsoft .NET Framework 4.5 or above by following the instructions at [Installing the .NET Framework.](#)
- Use a 64-bit version of Windows.
- Need to restart machine once "Windows Management Framework 5.1"installation is completed.

Note: Open PowerShell by right clicking and select Run As Administrator

2. **Check if PowerShell version is updated to 5.1 or higher using below command:**
   Command: $PSVersionTable

   Expected output:

```
Name                   Value
----                   -----
PSVersion              5.1.14409.1005
PSEdition              Desktop
PSCompatibleVersions   {1.0, 2.0, 3.0, 4.0...}
BuildVersion           10.0.14409.1005
CLRVersion             4.0.30319.42000
WSManStackVersion      3.0
PSRemotingProtocolVersion   2.3
SerializationVersion   1.1.0.1
```

Following are the Plugin steps,

30.1   Windows: Create Event Log [Beta]

30.1.1   Description

Windows: Create Event Log plugin step creates an entry - in the selected Windows Event Log on a local or remote computer.

30.1.2   Configurations

No.	Field Name	Description
Input Tab:		
No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.
	Connection:	
1	Host	Provide the Hostname/Server Name/Fully Qualified Domain Name (FQDN)/IP address of the local or a remote Windows machine on which an Entry has to be created in an Event Log.

2	Username	Specify the username of Windows account to authenticate. You may also provide username in the format <Domain name>\username or <Computer name>\username. However, if you need to connect to a remote machine you need to provide <Domain name>\username. This field is mandatory.
	Password:	
3	Accept Value as variable/static	Leave checkbox unchecked to accept Password value from a field in the previous steps of the stream using a drop down list. Else enable checkbox for Password field to appear as Text box.
4	Password	Specify the password of the Windows Account. Password is encrypted and is not stored in the .psw workflow file. This field is mandatory. Password is entered using a widget. The widget handles both Text (static value or environment variable) and Combo (drop down containing values from previous steps). If checkbox above is enabled Password field appears as Text box and accepts static or variable values, else if checkbox above is disabled Password field appears as a drop down to select fields from previous steps.

Input Tab:		
No.	Field Name	Description
	Input Fields:	
1	Event Log Name	Specify the Event Log Name to which the event is to be written. Event Log Name field data type is String. This field is mandatory.
2	Event Type	Specify the entry type of the event. Event Type field data type is String. This field is mandatory. Note: The acceptable values for this parameter are: Error, Warning, Information, SuccessAudit, and FailureAudit.
3	Event Source	Specify the Event Source, which is typically the name of the application that is writing the event to the log. Event Source field data type is String. This field is mandatory.
4	Event Id	Specify an event identifier (Event Id). Event Id field data type is String. This field is mandatory. Note: The maximum value for the *EventId* parameter is 65535.
5	Event Category	Specify the CategoryNumber of the Category for the event. The data type is Integer. This field is mandatory.

Enter an integer that is associated with the Category Task strings in the category message file for the event log. You may get the Category Task Number by following the steps below,

   i. Open Manage Computer on Windows OS.
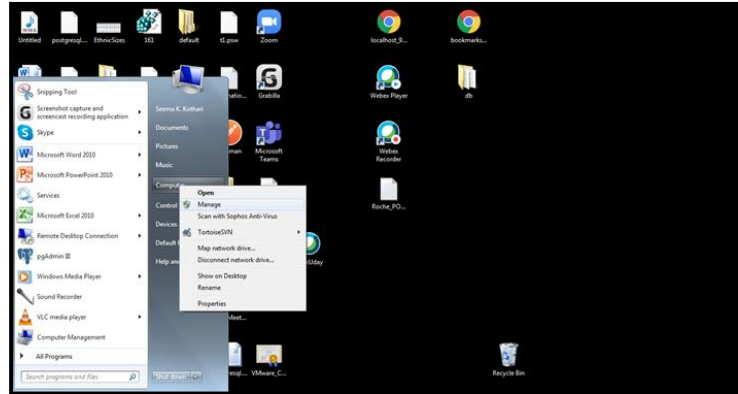
   ii. In Computer Management Console click Event Viewer.
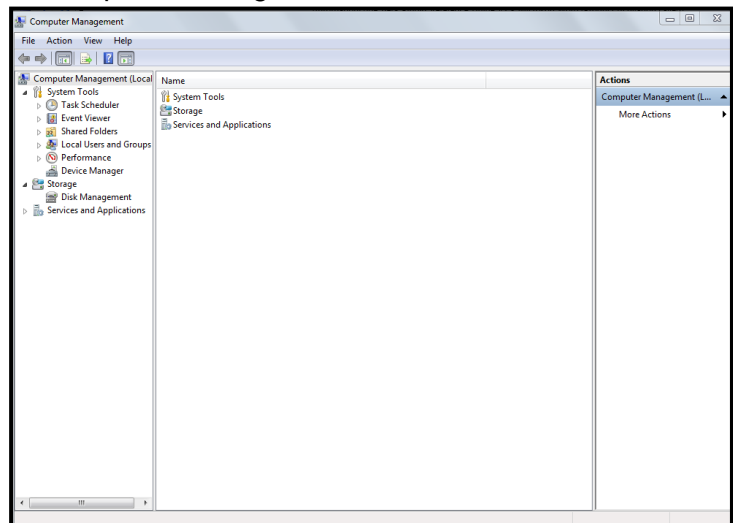
   iii. In the screen below 'Windows PowerShell' Log Name is chosen from Application and Services Logs. Notice that Source is PowerShell (PowerShell) and Task Category is Provider Lifecycle as marked below. Click Filter Current Log on the right.
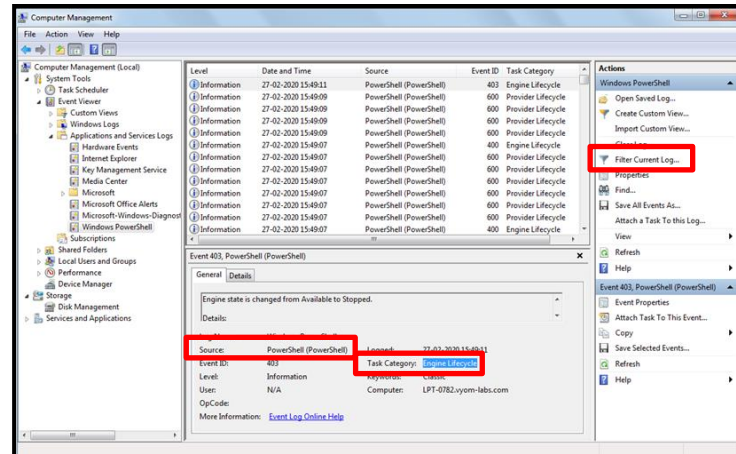
iv. In the Filter Current Log window select Power Shell (PowerShell) as the Event Source from the drop down list.
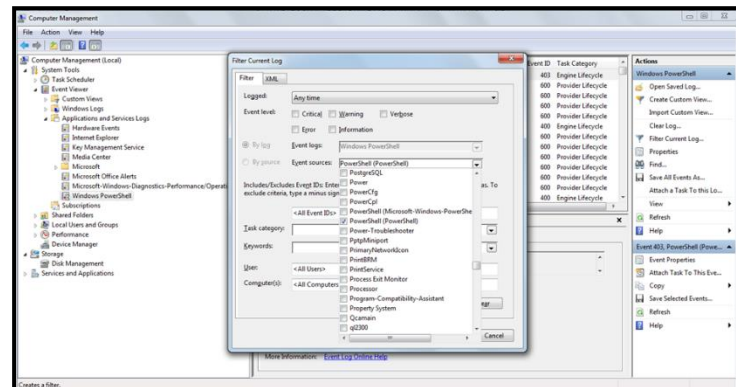
v. In the Filter Current Log window select Provider Lifecycle as the Task Category from the drop down list.
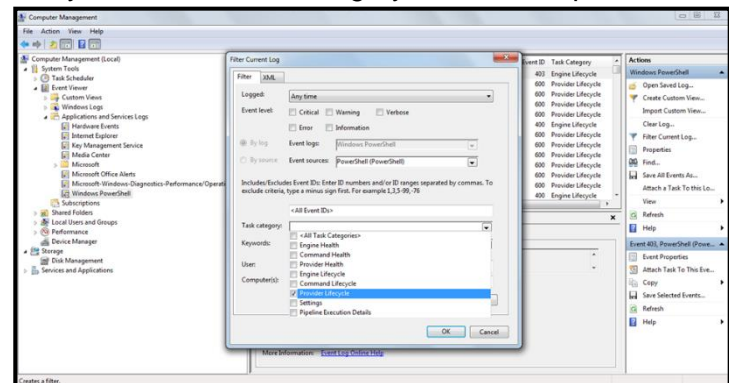
		vi. Go to the XML tab. Note the Task Category Number, 6 in this case as seen below. Alternatively, Category Number can also be obtained using the PowerShell command as shown in the screenshot below `(Get-EventLog -LogName "Windows PowerShell" | select -First 1 | fl)`.
6	Event Description	Specify a descriptive message for the event log to be created. Event Description field data type is String. This field is mandatory.
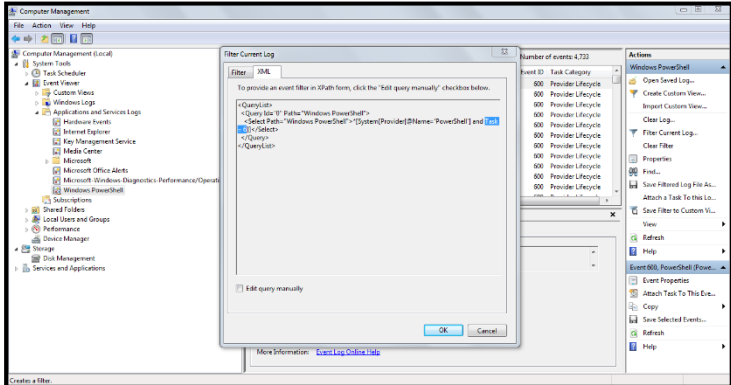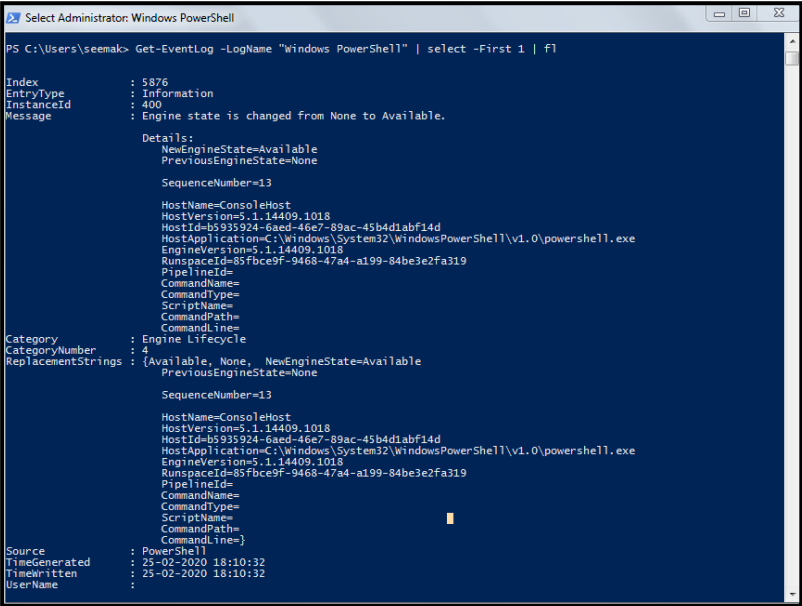
Common Buttons:

No.	Field Name	Description
	Buttons:	

1	OK	On click of this button field values are checked. If any required field values are missing, then validation error message is displayed.
		If all the required field values are provided then it will save the field values.
2	Cancel	Click this button to cancel the window without saving any values.

II. Workflow Steps

31   Experimental

31.1   PDF key value extraction [Community]

31.1.1   Description
PDF key value extraction plugin step converts a digital pdf document to a specified output. This plugin step gives output in a key value format. Provide pdf as an input and configure the keys specifying the area of extraction, regex based values etc. to generate the output in key-value pairs.
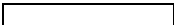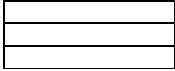
Compatibility:
- **Apache PDFBox** java library for development.

31.1.2   Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.

Configuration Tab:		
No.	Field Name	Description
	Common Input Parameters:	
1	Input File or Directory	Specify an input file in pdf format or a directory path. If you provide directory it picks up all the files one by one. Input files must be digital pdf. Image files are not compatible. Else image files must first be converted to digital pdf. (use a suitable tool such as Tesseract or Kofax(omni page) or Tessetact OCR plugin.
2	Output Directory	Specify output directory.
3	Output Format	Specify an output Format (JSON , CSV, XLSX or TXT)
	Configuration Tabular Fields:	
4	Variable	Desirable Display Name for the Key Name in the document.
5	Key Name	Specify Key Names in the input file (e.g. 'Invoice No', Supplier Name etc., the Key Names could include field names of tabular column names).
6	Start From	Allowed values are: Top/Bottom, referring to location on the page.
7	Search Zone	(z1/z2/z3/z4) the zones divides the pages into four horizontal sections as seen below.

		⊟
		• Specify the probable zone for the Key Name. • Else you may specify a combination of zones where the key Names may occur such as z1+z2 etc. • Or if you leave blank it cover all the zones or complete page
8	Value Regex	If data around Key Name is noisy Regex Exp for fetching the exact value. It also ensures that complete or exact value is fetched. It gives confidence of the result.
9	Area of extraction	Allowed values are: Right/Bottom It is used to specify if value of Key Name is to the right or below.
10	Reference Key Name	Specify Reference text to search a value. In case Key name is absent or otherwise also you may provide a Reference Key Name. If you have specified both Key name and Reference Key Name the Reference Key Name is used.
11	Offset	Specify co-ordinates of extraction - x1,y1,w,h (e.g.0,0,15,15 referring to top right coordinate of page to one character down and to the right) Start from the bottom right of the Reference Key Name to the left top of the first Key name value to get the offset. This could be achieved by trial and error or using some tool.

Common Buttons:		
No.	Field Name	Description
	Buttons:	
1	OK	On click of this button. It will check the field values. If any required field values are missing then it will display validation error message. If all the required field values are provided then it will save the field values.
2	Cancel	On click of this button, it will cancel the window and do not save any values

31.2   Table extractor [Community]

31.2.1   Description

Table extractor plugin step takes a digital pdf as an input and extracts a table as an output based on the output format configuration provided by the user. This plugin step can detect the table automatically or User can also specify a configuration to recognize the table properties.

Compatibility:

- **Tabula-Java** library for extracting tables from PDF files.

31.2.2   Configurations

No.	Field Name	Description
1	Step Name	Name of the step. This name has to be unique in a single workflow.

Configuration Tab:		
No.	Field Name	Description
	Common Input Parameters:	
1	Input File or Directory	Specify input file or directory. If you provide directory it picks up all the files one by one.
2	Output Directory	Specify output directory.
3	Pages	Specify the pages to process so as to process only necessary pages, saving on execution efforts. You could provide page numbers as integer values (e.g. 1, 2 etc.) or comma separated values (2, 5, 6, 7) or as a range (1-5). The default is blank. You may leave it blank to process all pages.
4	Output File Format	User can select output Extension (e.g. CSV, JSON, TSV) of output files as per requirement.
5	Auto Detection	Check to enable auto table detection.
6	Extraction Method	Extraction Method can be STREAM/LATTICE. User can select Extraction method as per requirement. • Stream method captures well formatted horizontal and vertical lines. • Lattice method can be used when horizontal and vertical lines not present only outer box is well formatted and no lines cell wise.
	Additional Parameters	• If all fields in this section are left blank Auto Detection of the table is done.

		• If Area Configuration is selected then Table area coordinates field is enabled. Specify the Table coordinates as described below. • If Area Configuration is unchecked provide Table area coordinates is disabled but you must provide values of all enabled fields in this section for better accuracy. • All fields in this section are optional
7	Area Configuration	Check to enable Table Area Coordinates field and all other fields in this section are disabled. Else leave unchecked and provide other details in enabled fields.
8	Start Text	Specify start reference of table in text or regular expression format.
9	Include Start Text	Check to include Start Text row.
10	Start Text Offset	Specify start text offset (e.g. 20) w.r.t Start Text
11	End Text	Specify end text reference of table.
12	Include End Text	Check to include End Text row.
13	End Text Offset	Specify end text offset (e.g. 70) w.r.t end Text.
14	Table area coordinates	Specify start and end coordinates of the table. It accepts top, left, bottom, right i.e., y1, x1, y2, x2,(e.g. 100,100,300,200)

No.	Field Name	Description
Common Buttons:		
	Buttons:	
1	OK	On click of this button. It will check the field values. If any required field values are missing then it will display validation error message. If all the required field values are provided then it will save the field values.
2	Cancel	On click of this button, it will cancel the window and do not save any values

III. Appendices

1 Appendix: Error Handling in IT Plugins

This appendix describes Error Handling for IT plugins.

1. Upon Successful execution of steps in Process Studio a workflow completes successfully and any Output field Data is displayed.

2. In case any step fails the workflow aborts.

3. On AutomationEdge the Error Message displayed is- Workflow detected one or more steps with errors.

4. To get the exact error message as displayed in Process Studio error handling needs to be done in the process studio workflow as shown below.
   - Add two Set Workflow Result steps as seen below, one for workflow success and the other one for error handling.

- Now right click the IT Plugin step (Alert) and provide a name for Error Descriptions field (In this case 'Error Message).
- In the Set Workflow Result Failure select this field, 'Error Message' from the Message drop down combo box.
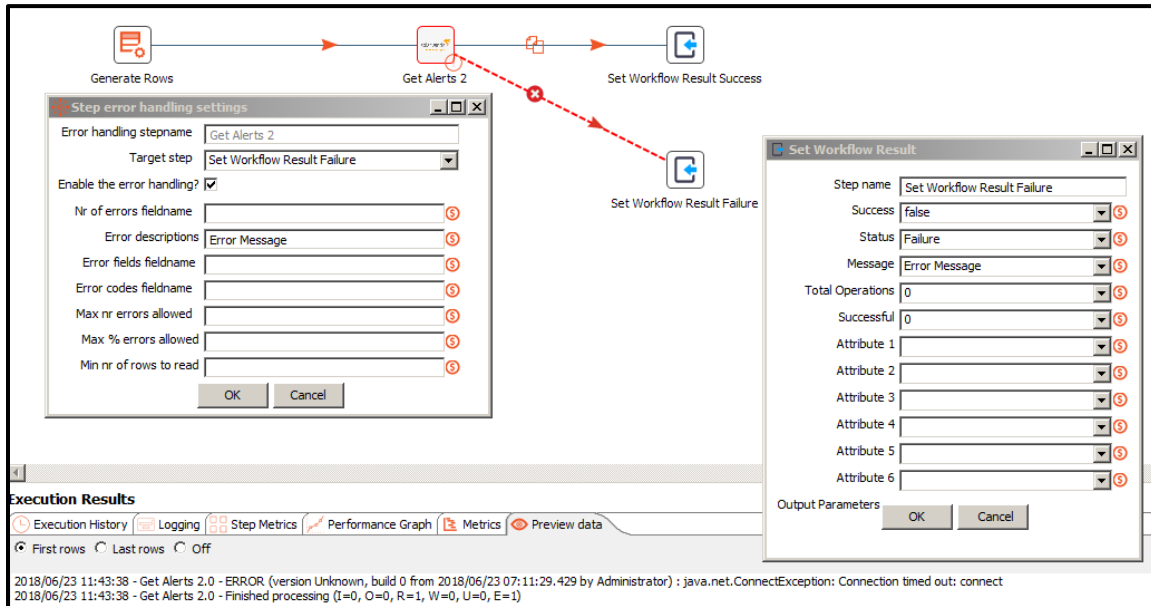
5. If the workflow is now published on AutomationEdge and run, it displays the complete error message as shown below.6   h

2   Appendix: PowerShell Setup - Azure AD

2.1   Pre-requisites for Microsoft Azure use cases:

1. Download Windows Management Framework from below url: (Windows PowerShell version 5.1**)**

   https://www.microsoft.com/en-us/download/details.aspx?id=54616

2. **System Requirements:**
   - WMF 5.1 requires Microsoft .NET Framework 4.5 or above. You can install Microsoft .NET Framework 4.5 or above by following the instructions at Installing the .NET Framework.
   - Use a 64-bit version of Windows. Support for the 32-bit version the Microsoft Azure Active Directory Module for Windows PowerShell was discontinued in October, 2014.
   - Need to restart machine once "Windows Management Framework 5.1" installation is completed.

NOTE: Open PowerShell by right clicking and select Run as Administrator option and use below commands on that terminal to proceed with module installation.

2.2 Check if PowerShell version is 5.1 using below command:

Command: $PSVersionTable

Expected output:

```
Name                    Value
----                    -----
PSVersion               5.1.14409.1005
PSEdition               Desktop
PSCompatibleVersions    {1.0, 2.0, 3.0, 4.0...}
BuildVersion            10.0.14409.1005
CLRVersion              4.0.30319.42000
WSManStackVersion       3.0
PSRemotingProtocolVersion    2.3
SerializationVersion    1.1.0.1
```

2.3 Install AzureRM module for Microsoft Azure :

Download **AzureRM** Module using below command: (Choose option as Yes i.e. Y or option A i.e. Yes To All option while installing module when there is any prompt for input)

Use below command to install module:

Command: Install-Module AzureRM

2.4 Import AzureRM Module using below command :

Command: Import-Module AzureRM

Check if AzureRM module is installed using below command:

Command: Get-Module -ListAvailable -Name AzureRM

Expected output:

```
   Directory: C:\Program Files\WindowsPowerShell\Modules


ModuleType Version    Name                     ExportedCommands
---------- -------    ----                     ----------------
Script     5.0.1      AzureRM                  {Add-AzureAnalysisServicesAccount, Add-
AzureKeyVaultCertificate, Add-AzureKeyVaultCertificateContact, Add-AzureK...
```

Below sub-modules will be required to run Microsoft Azure use cases:

Once **AzureRM** module is installed, it also installs sub-modules. Check if all modules and sub-modules are installed properly using below command:

Command: Get-Module -ListAvailable

Expected output:

```
    Directory: C:\Program Files\WindowsPowerShell\Modules


ModuleType Version    Name                         ExportedCommands
---------- -------    ----                         ----------------
Script     5.1.1      Azure                        {Get-AzureAutomationCertificate, Get-AzureAutomationConnection, New-
AzureAutomationConnection, Remove-AzureAutom...
Script     0.5.0      Azure.AnalysisServices       {Add-AzureAnalysisServicesAccount, Restart-
AzureAnalysisServicesInstance, Export-AzureAnalysisServicesInstanceLo...
Script     4.0.2      Azure.Storage                {Get-AzureStorageTable, New-AzureStorageTableSASToken, New-
AzureStorageTableStoredAccessPolicy, New-AzureStorage...
Script     4.0.0      Azure.Storage                {Get-AzureStorageTable, New-AzureStorageTableSASToken, New-
AzureStorageTableStoredAccessPolicy, New-AzureStorage...
Binary     2.0.0.131  AzureAD                      {Add-AzureADApplicationOwner, Get-AzureADApplication, Get-
AzureADApplicationExtensionProperty, Get-AzureADApplic...
Script     5.0.1      AzureRM                      {Add-AzureAnalysisServicesAccount, Add-AzureKeyVaultCertificate,
Add-AzureKeyVaultCertificateContact, Add-AzureK...
Script     0.5.0      AzureRM.AnalysisServices     {Resume-AzureRmAnalysisServicesServer, Suspend-
AzureRmAnalysisServicesServer, Get-AzureRmAnalysisServicesServer,...
Script     5.0.1      AzureRM.ApiManagement        {Add-AzureRmApiManagementRegion, Get-
AzureRmApiManagementSsoToken, New-AzureRmApiManagementHostnameConfiguration...
Script     0.1.0      AzureRM.ApplicationInsights  {Get-AzureRmApplicationInsights, New-
AzureRmApplicationInsights, Remove-AzureRmApplicationInsights, Set-AzureRmA...
Script     4.0.0      AzureRM.Automation           {Get-AzureRMAutomationHybridWorkerGroup, Get-
AzureRmAutomationJobOutputRecord, Import-AzureRmAutomationDscNodeCo...
Script     4.0.1      AzureRM.Backup               {Backup-AzureRmBackupItem, Enable-
AzureRmBackupContainerReregistration, Get-AzureRmBackupContainer, Register-Azu...
Script     4.0.1      AzureRM.Batch                {Remove-AzureRmBatchAccount, Get-AzureRmBatchAccount, Get-
AzureRmBatchAccountKeys, New-AzureRmBatchAccount...}
Script     0.14.0     AzureRM.Billing              {Get-AzureRmBillingInvoice, Get-AzureRmBillingPeriod}
Script     4.0.0      AzureRM.Cdn                  {Get-AzureRmCdnProfile, Get-AzureRmCdnProfileSsoUrl, New-
AzureRmCdnProfile, Remove-AzureRmCdnProfile...}
Script     0.9.0      AzureRM.CognitiveServices    {Get-AzureRmCognitiveServicesAccount, Get-
AzureRmCognitiveServicesAccountKey, Get-AzureRmCognitiveServicesAccoun...
Script     4.0.1      AzureRM.Compute              {Remove-AzureRmAvailabilitySet, Get-AzureRmAvailabilitySet,
New-AzureRmAvailabilitySet, Update-AzureRmAvailabili...
Script     0.3.0      AzureRM.Consumption          Get-AzureRmConsumptionUsageDetail
Script     0.1.0      AzureRM.ContainerInstance    {New-AzureRmContainerGroup, Get-AzureRmContainerGroup,
Remove-AzureRmContainerGroup, Get-AzureRmContainerInstanc...
Script     0.3.0      AzureRM.ContainerRegistry    {New-AzureRmContainerRegistry, Get-
AzureRmContainerRegistry, Update-AzureRmContainerRegistry, Remove-AzureRmCont...
Script     4.0.1      AzureRM.DataFactories        {Remove-AzureRmDataFactory, Get-AzureRmDataFactoryRun,
Get-AzureRmDataFactorySlice, Save-AzureRmDataFactoryLog...}
Script     0.3.0      AzureRM.DataFactoryV2        {Set-AzureRmDataFactoryV2, Get-AzureRmDataFactoryV2,
Remove-AzureRmDataFactoryV2, Set-AzureRmDataFactoryV2Linked...
Script     4.0.0      AzureRM.DataLakeAnalytics    {Get-AzureRmDataLakeAnalyticsDataSource, New-
AzureRmDataLakeAnalyticsCatalogCredential, Remove-AzureRmDataLakeAn...
Script     5.0.0      AzureRM.DataLakeStore        {Get-AzureRmDataLakeStoreTrustedIdProvider, Remove-
AzureRmDataLakeStoreTrustedIdProvider, Remove-AzureRmDataLake...
Script     4.0.0      AzureRM.DevTestLabs          {Get-AzureRmDtlAllowedVMSizesPolicy, Get-
AzureRmDtlAutoShutdownPolicy, Get-AzureRmDtlAutoStartPolicy, Get-AzureR...
```

```
Script    4.0.0    AzureRM.Dns                  {Get-AzureRmDnsRecordSet, New-AzureRmDnsRecordConfig,
Remove-AzureRmDnsRecordSet, Set-AzureRmDnsRecordSet...}
Script    0.2.0    AzureRM.EventGrid            {New-AzureRmEventGridTopic, Get-AzureRmEventGridTopic, Set-
AzureRmEventGridTopic, New-AzureRmEventGridTopicKey...}
Script    0.5.0    AzureRM.EventHub             {New-AzureRmEventHubNamespace, Get-
AzureRmEventHubNamespace, Set-AzureRmEventHubNamespace, Remove-AzureRmEventHu...
Script    4.0.1    AzureRM.HDInsight            {Get-AzureRmHDInsightJob, New-
AzureRmHDInsightSqoopJobDefinition, Wait-AzureRmHDInsightJob, New-AzureRmHDInsight...
Script    4.0.0    AzureRM.Insights             {Get-AzureRmMetricDefinition, Get-AzureRmMetric, Remove-
AzureRmLogProfile, Get-AzureRmLogProfile...}
Script    3.0.0    AzureRM.IotHub               {Add-AzureRmIotHubKey, Get-
AzureRmIotHubIotHubEventHubConsumerGroup, Get-AzureRmIotHubConnectionString, Get-AzureRmIot...
Script    4.0.1    AzureRM.KeyVault             {Add-AzureKeyVaultCertificate, Set-
AzureKeyVaultCertificateAttribute, Stop-AzureKeyVaultCertificateOperation, Ge...
Script    4.0.0    AzureRM.LogicApp            {Get-AzureRmIntegrationAccountAgreement, Get-
AzureRmIntegrationAccountCallbackUrl, Get-AzureRmIntegrationAccount...
Script    0.16.0   AzureRM.MachineLearning      {Move-AzureRmMlCommitmentAssociation, Get-
AzureRmMlCommitmentAssociation, Get-AzureRmMlCommitmentPlanUsageHistor...
Script    0.2.0    AzureRM.MachineLearningCompute    {Get-AzureRmMlOpCluster, Get-AzureRmMlOpClusterKey,
Test-AzureRmMlOpClusterSystemServicesUpdateAvailability, Upd...
Script    0.2.0    AzureRM.MarketplaceOrdering    {Get-AzureRmMarketplaceTerms, Set-
AzureRmMarketplaceTerms}
Script    0.8.0    AzureRM.Media               {Sync-AzureRmMediaServiceStorageKeys, Set-
AzureRmMediaServiceKey, Get-AzureRmMediaServiceKeys, Get-AzureRmMediaS...
Script    5.0.0    AzureRM.Network             {Add-AzureRmApplicationGatewayAuthenticationCertificate, Get-
AzureRmApplicationGatewayAuthenticationCertificate,...
Script    4.0.0    AzureRM.NotificationHubs     {Get-AzureRmNotificationHub, Get-
AzureRmNotificationHubAuthorizationRules, Get-AzureRmNotificationHubListKeys, G...
Script    4.0.0    AzureRM.OperationalInsights    {New-AzureRmOperationalInsightsAzureActivityLogDataSource,
New-AzureRmOperationalInsightsCustomLogDataSource, Di...
Script    4.0.0    AzureRM.PowerBIEmbedded      {Remove-AzureRmPowerBIWorkspaceCollection, Get-
AzureRmPowerBIWorkspaceCollection, Get-AzureRmPowerBIWorkspaceCol...
Script    4.1.1    AzureRM.profile             {Disable-AzureRmDataCollection, Disable-AzureRmContextAutosave,
Enable-AzureRmDataCollection, Enable-AzureRmCont...
Script    4.0.1    AzureRM.RecoveryServices     {Get-AzureRmRecoveryServicesBackupProperty, Get-
AzureRmRecoveryServicesVault, Get-AzureRmRecoveryServicesVaultSe...
Script    4.0.1    AzureRM.RecoveryServices.Backup    {Backup-AzureRmRecoveryServicesBackupItem, Get-
AzureRmRecoveryServicesBackupManagementServer, Get-AzureRmRecover...
Script    0.2.1    AzureRM.RecoveryServices.SiteRec... {Edit-AzureRmRecoveryServicesAsrRecoveryPlan, Get-
AzureRmRecoveryServicesAsrAlertSetting, Get-AzureRmRecoverySer...
Script    4.0.1    AzureRM.RedisCache          {Remove-AzureRmRedisCachePatchSchedule, New-
AzureRmRedisCacheScheduleEntry, Get-AzureRmRedisCachePatchSchedule, ...
Script    0.3.0    AzureRM.Relay               {New-AzureRmRelayNamespace, Get-AzureRmRelayNamespace,
Set-AzureRmRelayNamespace, Remove-AzureRmRelayNamespace...}
Script    5.0.0    AzureRM.Resources           {Get-AzureRmProviderOperation, Remove-
AzureRmRoleAssignment, Get-AzureRmRoleAssignment, New-AzureRmRoleAssignmen...
Script    0.16.0   AzureRM.Scheduler           {Disable-AzureRmSchedulerJobCollection, Enable-
AzureRmSchedulerJobCollection, Get-AzureRmSchedulerJobCollection,...
Script    4.0.0    AzureRM.ServerManagement     {Invoke-AzureRmServerManagementPowerShellCommand,
Get-AzureRmServerManagementSession, New-AzureRmServerManagemen...
Script    0.5.0    AzureRM.ServiceBus          {New-AzureRmServiceBusNamespace, Get-
AzureRmServiceBusNamespace, Set-AzureRmServiceBusNamespace, Remove-AzureRmS...
Script    0.3.0    AzureRM.ServiceFabric        {Add-AzureRmServiceFabricApplicationCertificate, Add-
AzureRmServiceFabricClientCertificate, Add-AzureRmServiceFa...
Script    5.0.1    AzureRM.SiteRecovery         {Get-AzureRmSiteRecoveryFabric, New-
AzureRmSiteRecoveryFabric, Remove-AzureRmSiteRecoveryFabric, Stop-AzureRmSit...
Script    4.0.1    AzureRM.Sql                 {Get-AzureRmSqlDatabaseTransparentDataEncryption, Get-
AzureRmSqlDatabaseTransparentDataEncryptionActivity, Set-A...
Script    4.0.1    AzureRM.Storage             {Get-AzureRmStorageAccount, Get-AzureRmStorageAccountKey,
New-AzureRmStorageAccount, New-AzureRmStorageAccountKe...
Script    4.0.1    AzureRM.StreamAnalytics      {Get-AzureRmStreamAnalyticsFunction, Get-
AzureRmStreamAnalyticsDefaultFunctionDefinition, New-AzureRmStreamAnaly...
```

```
Script    4.0.0     AzureRM.Tags              {Remove-AzureRmTag, Get-AzureRmTag, New-AzureRmTag}
Script    4.0.0     AzureRM.TrafficManager        {Disable-AzureRmTrafficManagerEndpoint, Enable-
AzureRmTrafficManagerEndpoint, Set-AzureRmTrafficManagerEndpoint,...
Script    4.0.0     AzureRM.UsageAggregates       Get-UsageAggregates
Script    4.0.0     AzureRM.Websites          {Get-AzureRmAppServicePlan, Set-AzureRmAppServicePlan,
New-AzureRmAppServicePlan, Remove-AzureRmAppServicePlan...}
Binary    1.0.0.1   PackageManagement          {Find-Package, Get-Package, Get-PackageProvider, Get-
PackageSource...}
Script    1.0.0.1   PowerShellGet             {Install-Module, Find-Module, Save-Module, Update-Module...}
```

2.5   Azure VM plugins parameters:

1. Subscription Id:
    - Goto portal.azure.com. Login with your credentials. Goto "Subscriptions" tab on the left hand side and copy the "Subscription Id".

2. Client Id and Authentication Key:
    - Create an Azure Active Directory application.
    - Select Azure Active Directory.
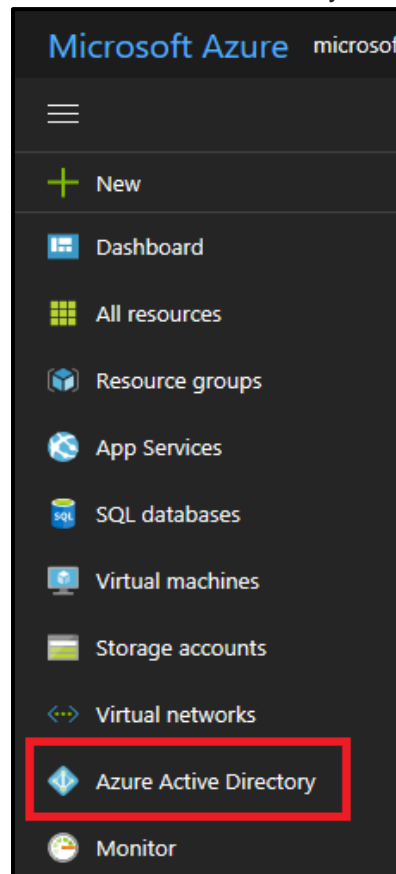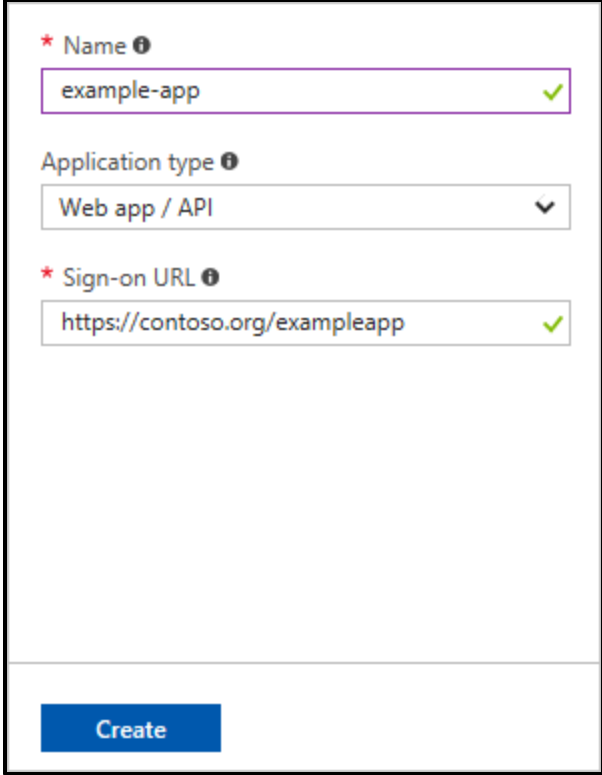
    - Select **App registrations**.
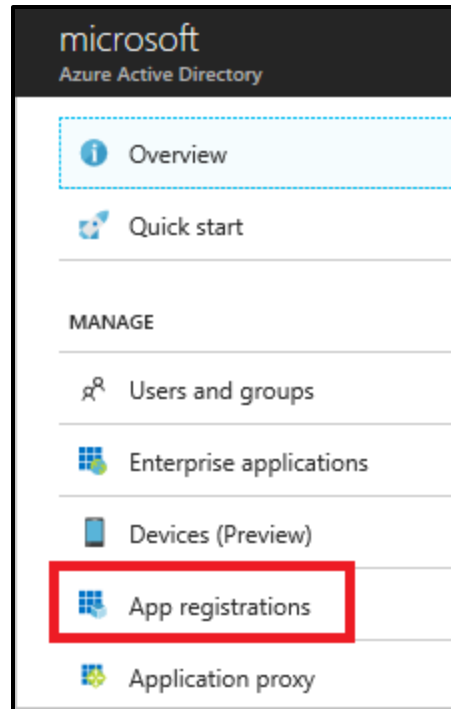
- Select **New application registration**.

- Provide a name and URL for the application. Select **Web app / API** for the type of application you want to create. You cannot create credentials for a **Native** application; therefore, that type does not work for an automated application. After setting the values, select **Create**.
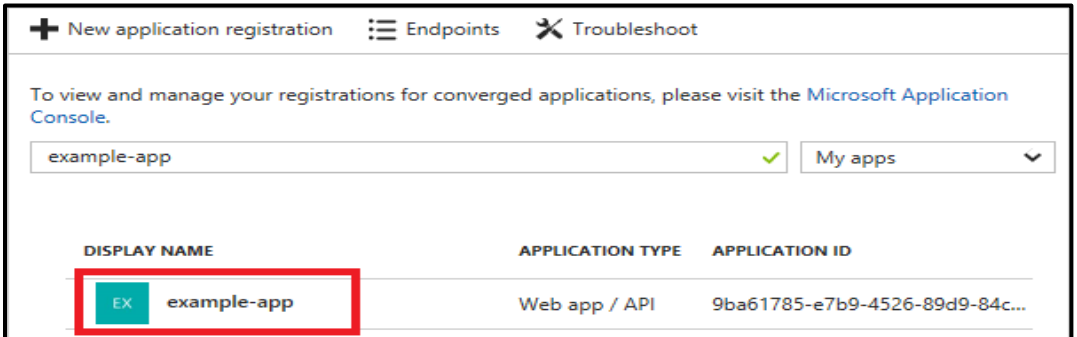
You have created your application.

- From **App registrations** in Azure Active Directory, select your application.

- Copy the **Application ID** and store it in your application code. This is your "Client Id".
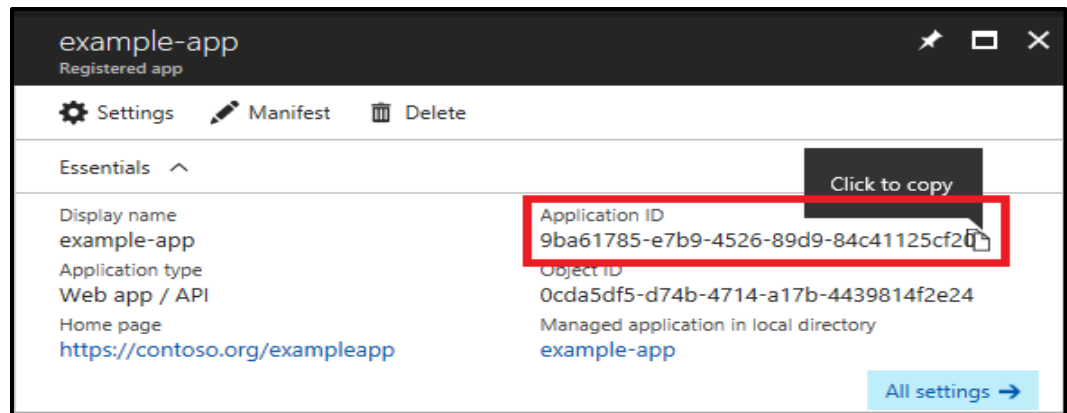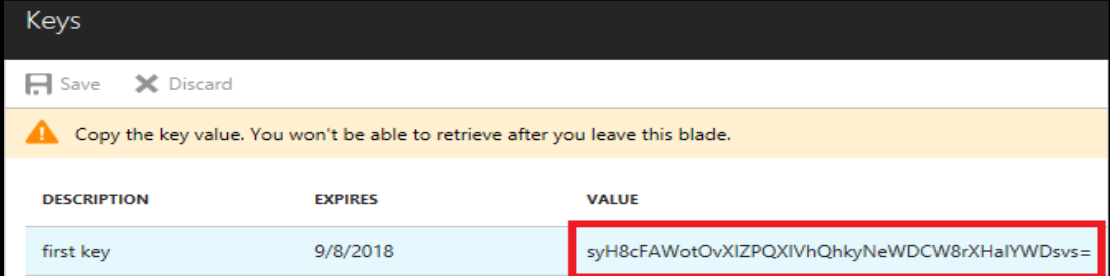
- To generate an authentication key, select Settings option as shown in above image and then select **Keys**.
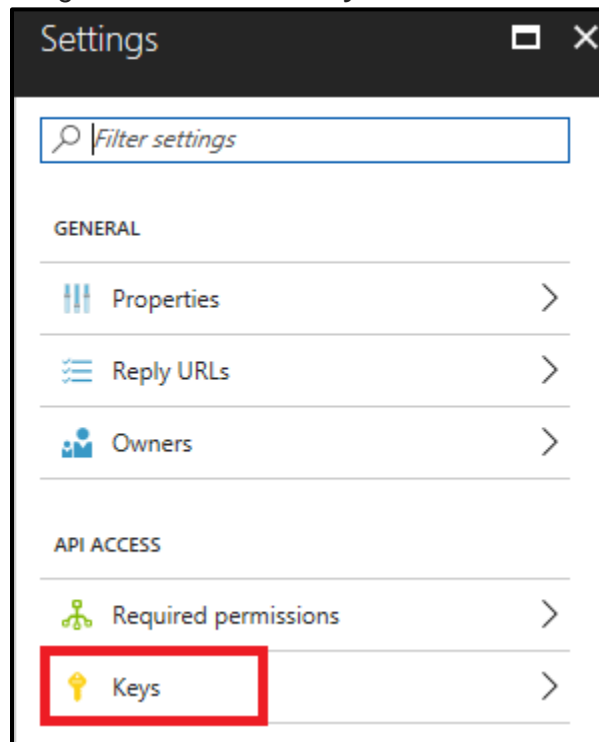
- Provide a description of the key, and duration for the key. When done, select **Save**.

- After saving the key, the value of the key is displayed. Copy this value because you are not able to retrieve the key later. You provide the key value with the application ID to log in as the application. Store the key value where your application can retrieve it.
- Users can generate keys as per their requirements. I.e for 1 year, 2 years and never expiring key.
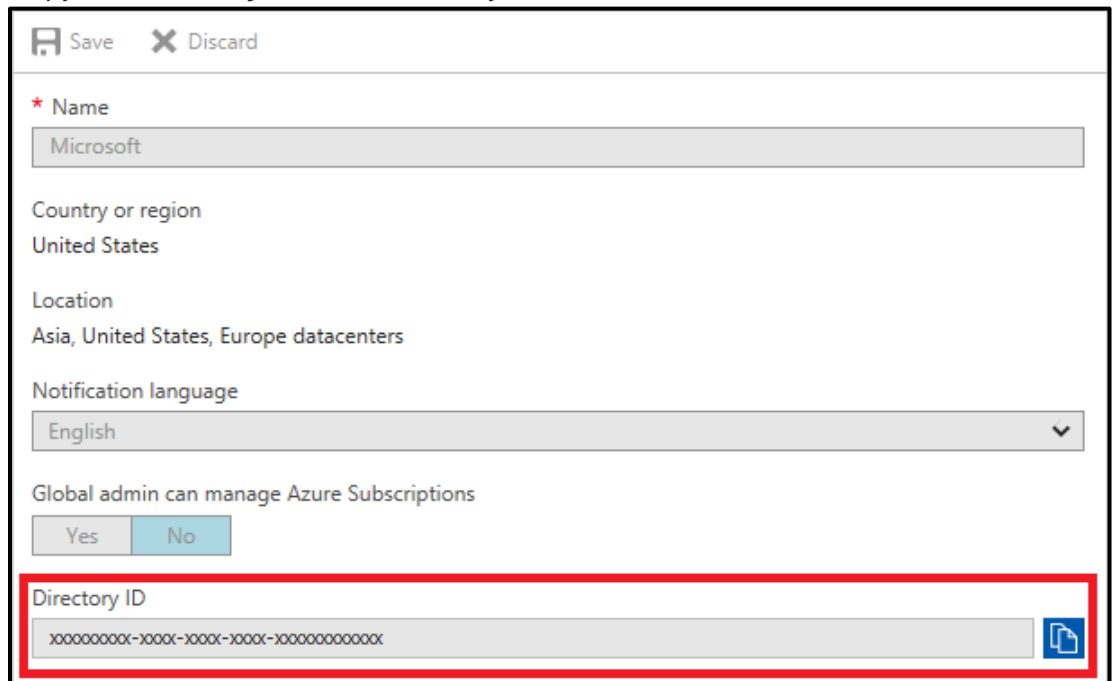
3. Get Tenant Id:
   - Select **Azure Active Directory**.
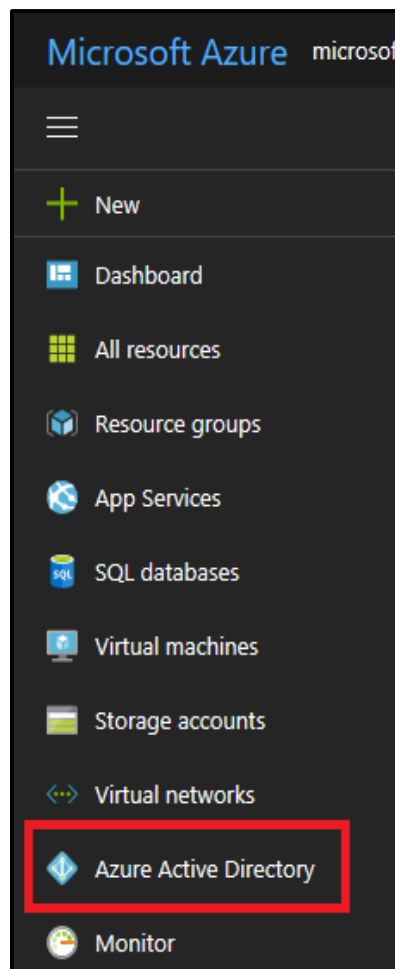
   - To get the tenant ID, select **Properties** for your Azure AD tenant.
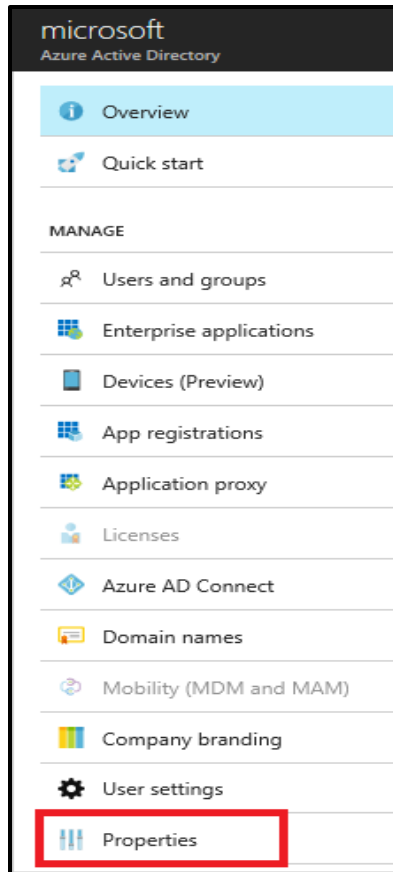
- Copy the **Directory ID**. This value is your tenant ID.

4. Assign application to role:

To access resources in your subscription, you must assign the application to a role. Decide which role represents the right permissions for the application.

You can set the scope at the level of the subscription, resource group, or resource. Permissions are inherited to lower levels of scope. For example, adding an application to the Reader role for a resource group means it can read the resource group and any resources it contains.

- Navigate to the level of scope you wish to assign the application to. For example, to assign a role at the subscription scope, select **Subscriptions**. You could instead select a resource group or resource.
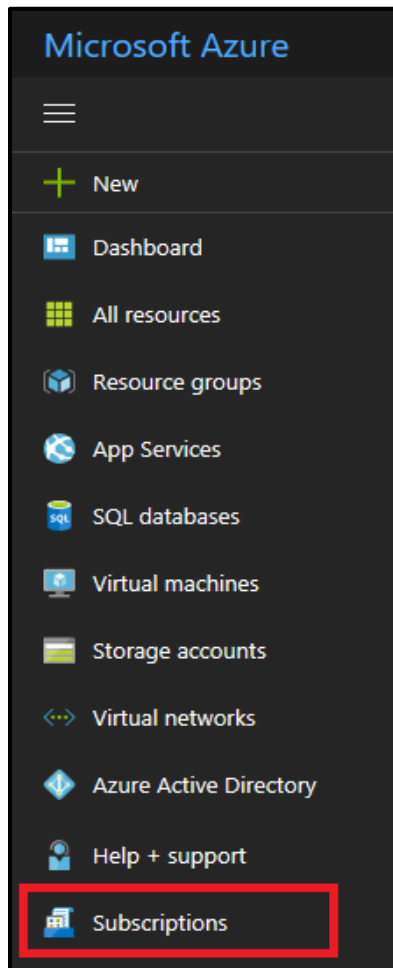
- Select the particular subscription (resource group or resource) to assign the application to.
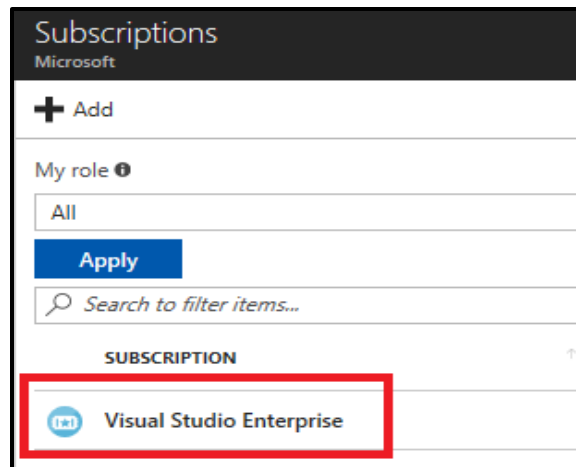
- Select **Access Control (IAM)**.
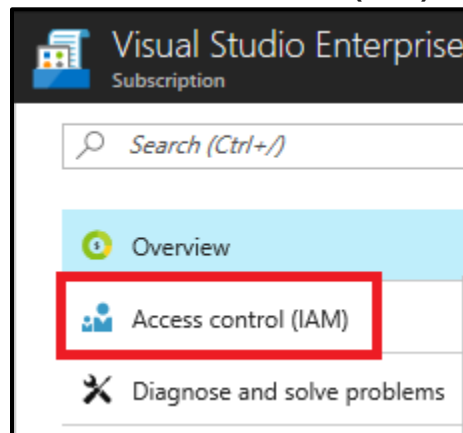
- Select Add
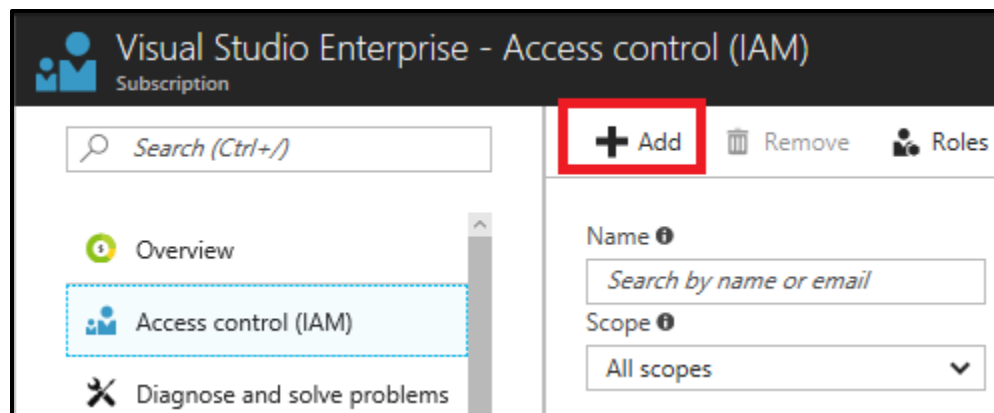
- Select the role you wish to assign to the application.
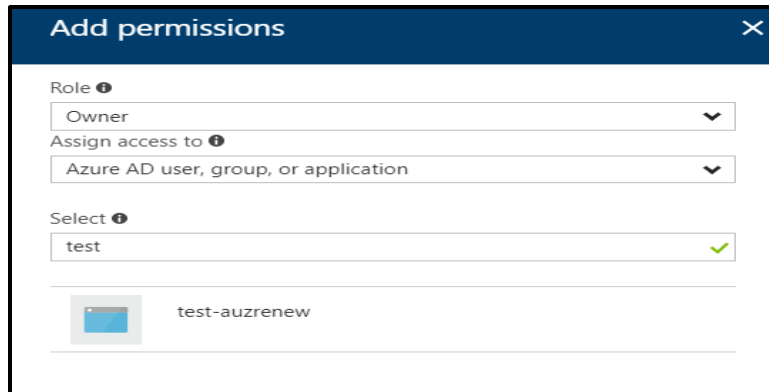
- Search for your application, and select it.
- Select **Save** to finish assigning the role. You see your application in the list of users assigned to a role for that scope.

For More Clarifications you can refer: https://docs.microsoft.com/en-us/azure/azure-resource-manager/resource-group-create-service-principal-portal

3 Appendix: Install VMware certificate

We need to instal VMware certificate to jvm

3.1 Export Certificate

1. Log in to vCenter Server using specified server name (https:\\vmware.example.com) and follow the below procedure to install the certificate.
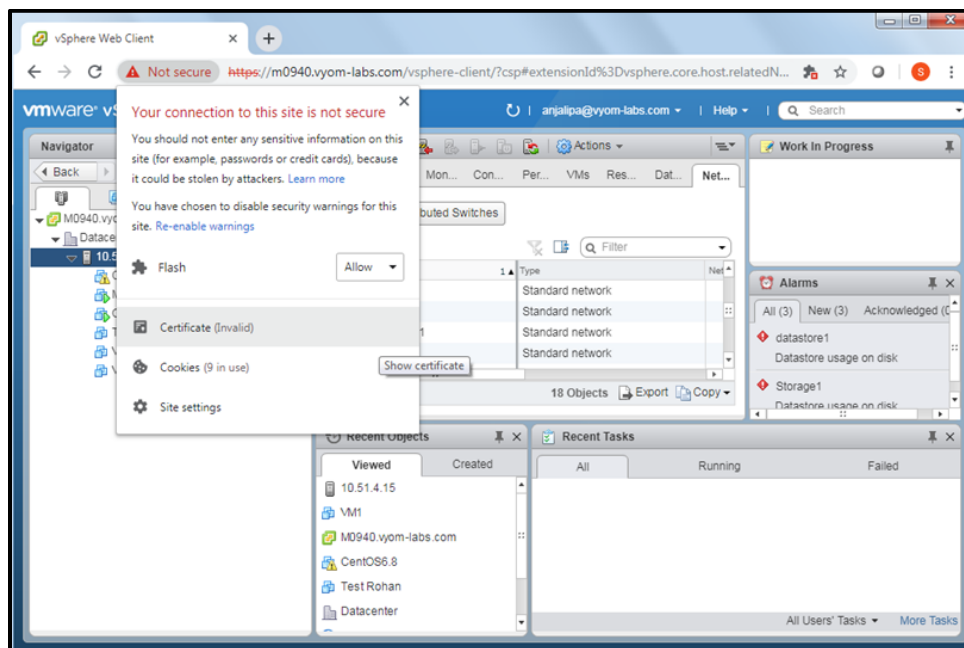
2. The Certificate Windows opens.
3. Navigate to the Details tab.
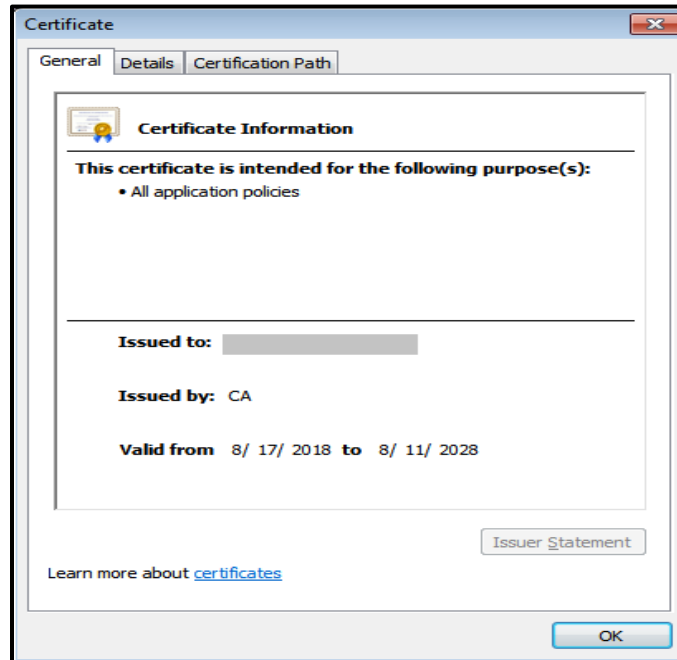
4. Click Copy to File button while on Details tab.
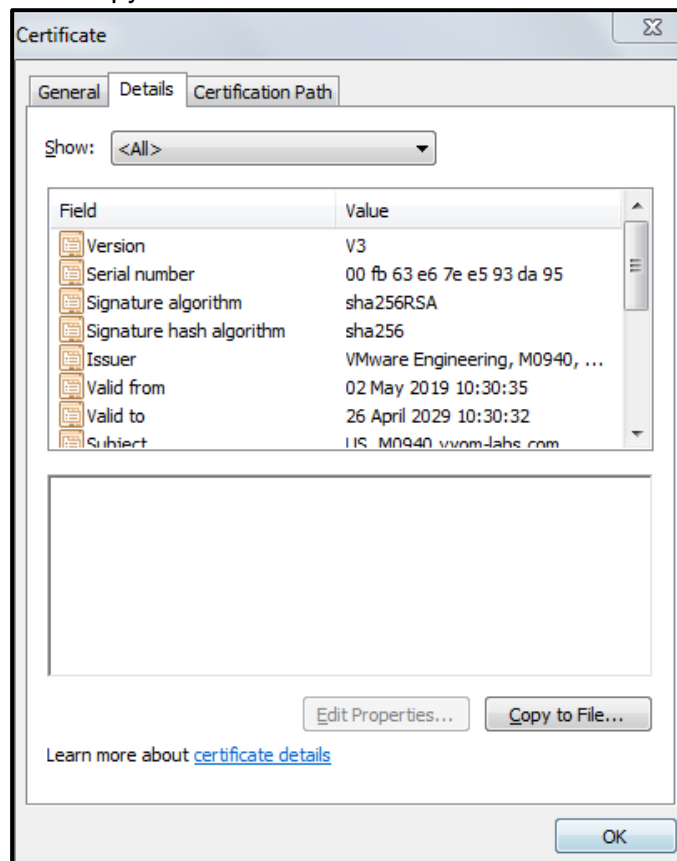
5. The Certificate Export Wizard appears.
6. Click Next

7. Select the format as shown below.
8. Click Next.
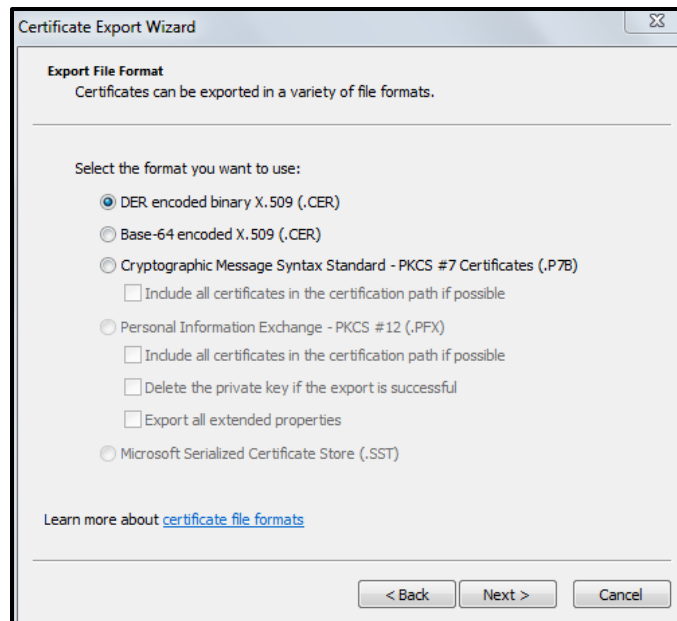
9. Browse a file path to download the certificate.
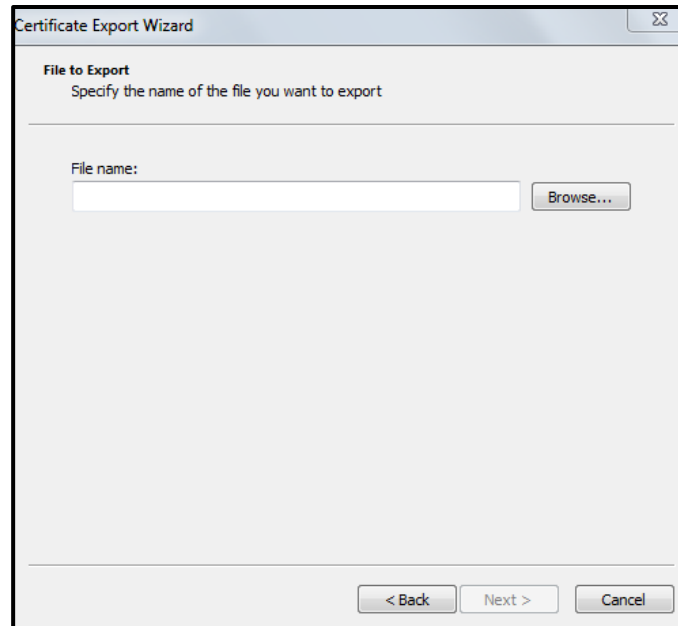
10. Provide a name for the certificate.
11. Click Save.
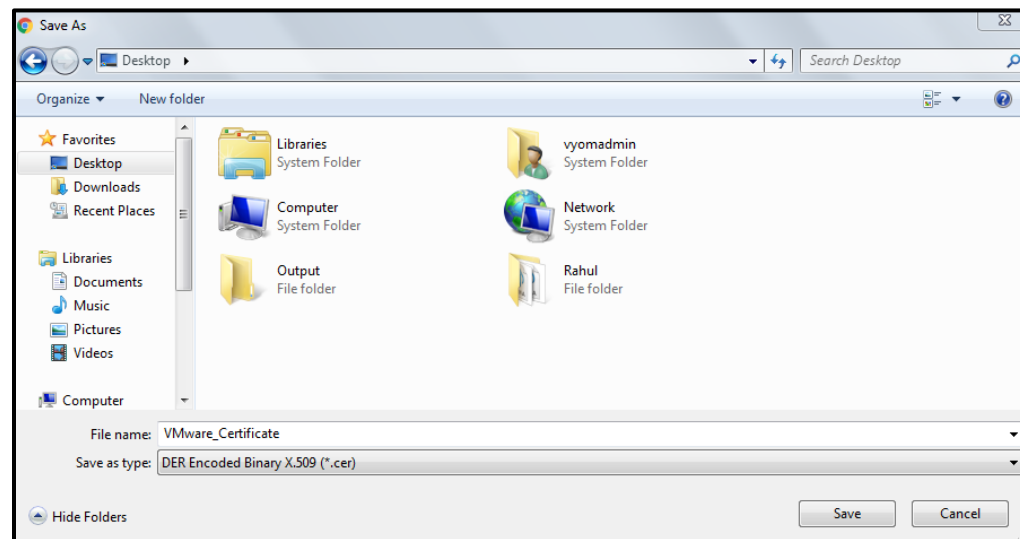
12. You can now see the file path in the Certificate Export Wizard.
13. Click Next
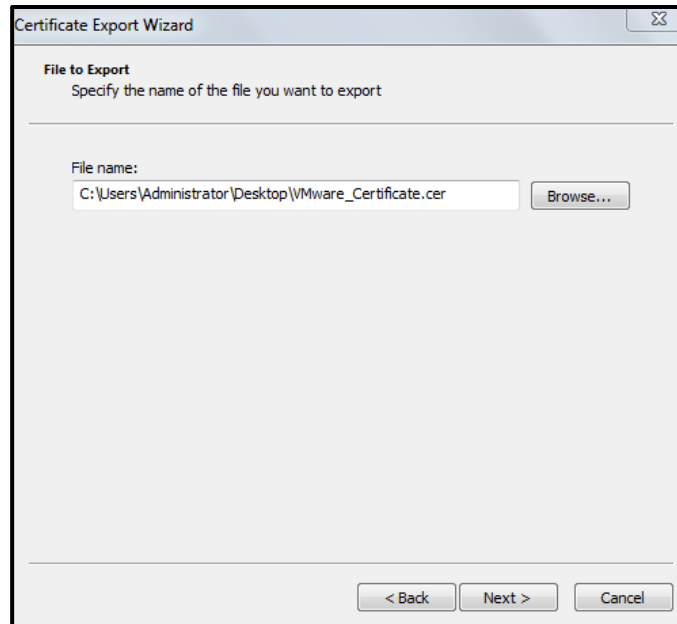
14. This is the final step: Completing the Certificate Export.
15. Click Finish.
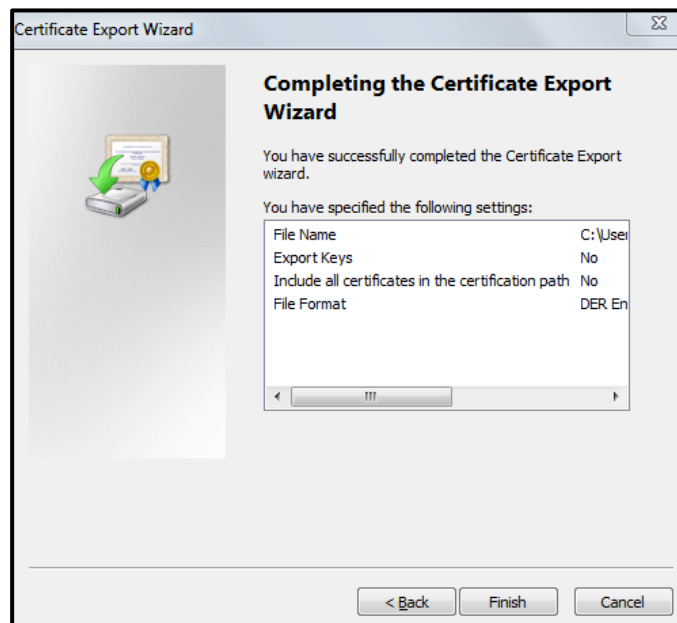
16. A pop-up window appears showing the export was successful.
17. Click OK.
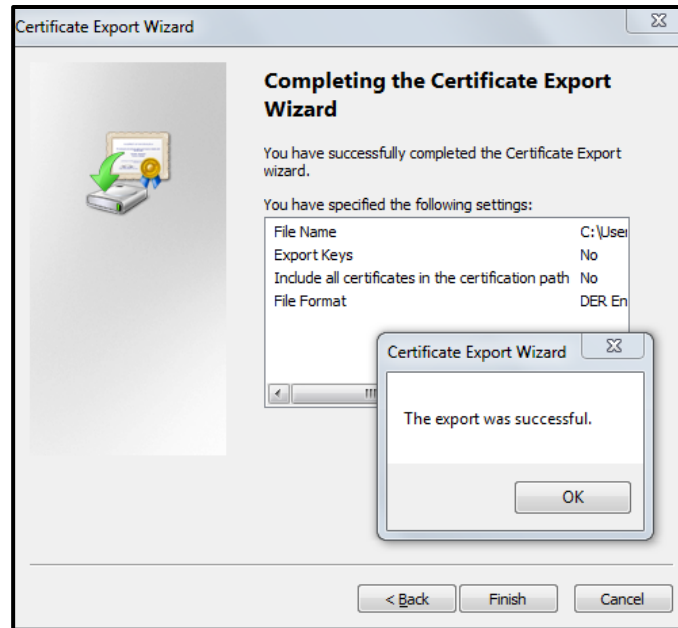
18. Click OK.
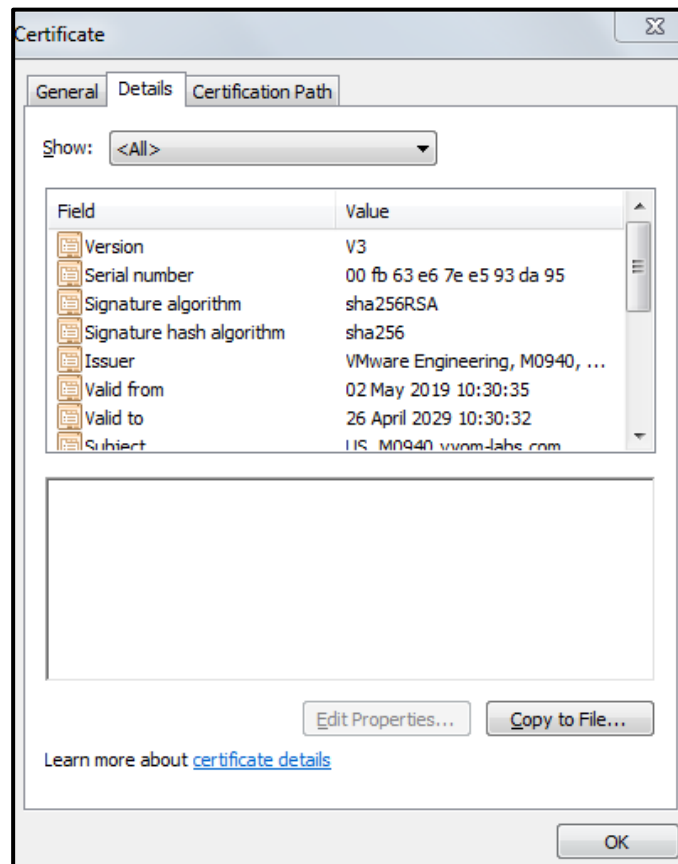
19. This completes the process of exporting the Certificate.

3.2 Import Certificate to Java Keystore

Once the certificate is exported (downloaded on the system), execute the below two commands to import the vCentre Server certificate.

1. Open command prompt in Run As Administrator mode and run below commands:
2. Change directory to the following path:

   `C:\Windows\system32>`**`cd <JAVA_HOME>\jre\lib\security`**

3. Now run the below command:

```
C:\Program Files\Java\jdk1.8.0_92\jre\lib\security>keytool -
import -keystore cacerts -file
"<file path>\example.cer"
Enter keystore password:

Trust this certificate? [no]:  y

Certificate was added to keystore



 Note:
    •   Enter password "changeit", when prompt is displayed is Enter keystore
        password:
            o   (It is default password for cacerts file where domain entry is
                done for VMware certificate)
    •   Type option "y" or "yes" when prompt is displayed like Trust this
        certificate? [no]:
    •   Give full path of saved certificate (example.crt) file in front of -file
        parameter in below command.
```

4   Appendix: Cisco

4.1   Connecting to Cisco with SSH

1. Use Putty to connect to CISCO Switch.
2. Provide the given IP Address and Port and click on Open
3. After clicking on Open, it will prompt for Security Alert, click on "Yes".
4. The console will ask you to enter the username and password by which you have to login to the Switch. Enter the provided username and password.
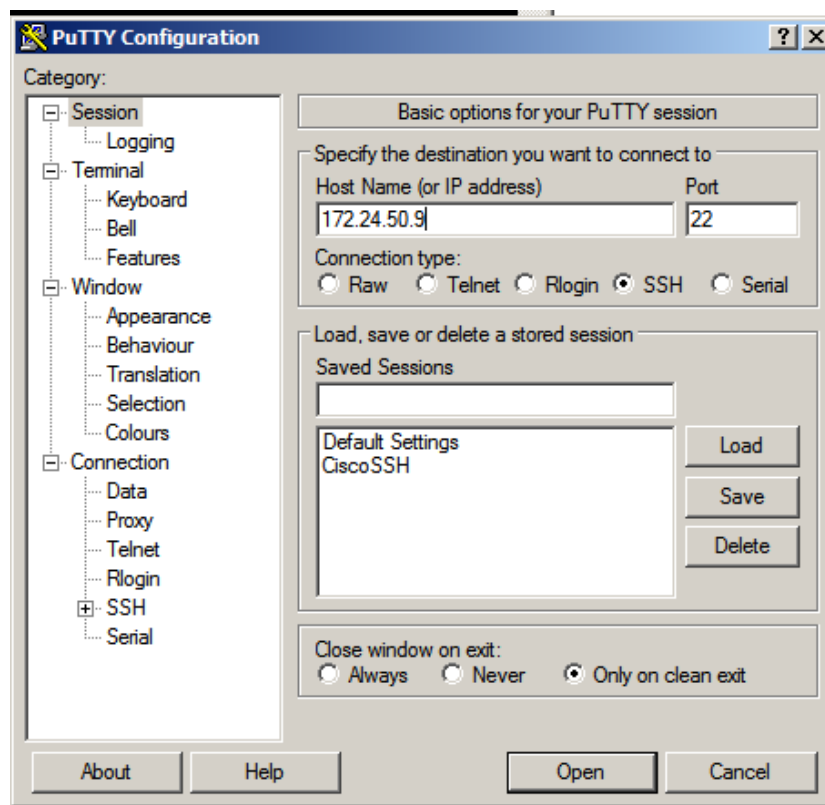
5. It will prompt for "VyomSwitch#", you can start writing your commands after #.

4.2 Commands used for Plugins.

1. **Backup Configuration:**
   - To take backup you require to have TFTP Server. Download and install Tftp Server.

- Connect to putty as mentioned above and use the below command to take backup of the switch:
- VyomSwitch#**copy running-config tftp**
- Address or name of remote host []? **10.51.29.28**
- Destination filename [vyomswitch-confg]? **backupFile**!!
- 8859 bytes copied in 2.156 secs (4109 bytes/sec)

2. **Get Interface from IP Address**
   - To get interface from IP Address execute the following command:
   - **show ip arp | include Hardware Addr | 172.24.50.9**

3. **Get Interface from Mac Address**
   - To get interface from MAC Address execute the following command:
   - **show mac address-table | include Type | 0011.9390.f600**

4. **Get Interface Status**
   - To get interface from MAC Address execute the following command:
   - **show interface fa0/1 status**

5. **Shutdown Interface**
   - To shutdown the interface use the below set of command:
   - VyomSwitch# **config terminal**
   - Enter configuration commands, one per line. End with CNTL/Z.
   - VyomSwitch(config)# **interface f0/1**
   - VyomSwitch(config-if)# **shutdown**
   - VyomSwitch(config-if)# **end**

6. **No Shutdown Interface**
   - To start the interface use the below set of command:
   - VyomSwitch#**config terminal**
   - Enter configuration commands, one per line. End with CNTL/Z.
   - VyomSwitch(config)#**interface f0/1**
   - VyomSwitch(config-if)#**no shutdown**
   - VyomSwitch(config-if)#**end**

4.3   Additional Commands used for Plugins.

1. **To get host name**
   - show configuration | inc hostname
2. **set terminal**
   - terminal length 0

5 Appendix: Enrolling devices for MDM in AirWatch

You can enroll Android, Apple, QNX, Chrome OS and Windows OS devices in AirWatch.

Following are the steps to Setup Mobile Devices,

5.1 Setup Apple MDM

This section is specific for MDM (Mobile Device Management) setup for Apple Devices. Follwing are the steps to setup Apple MDM,

1. Navigate to the Getting Started menu.
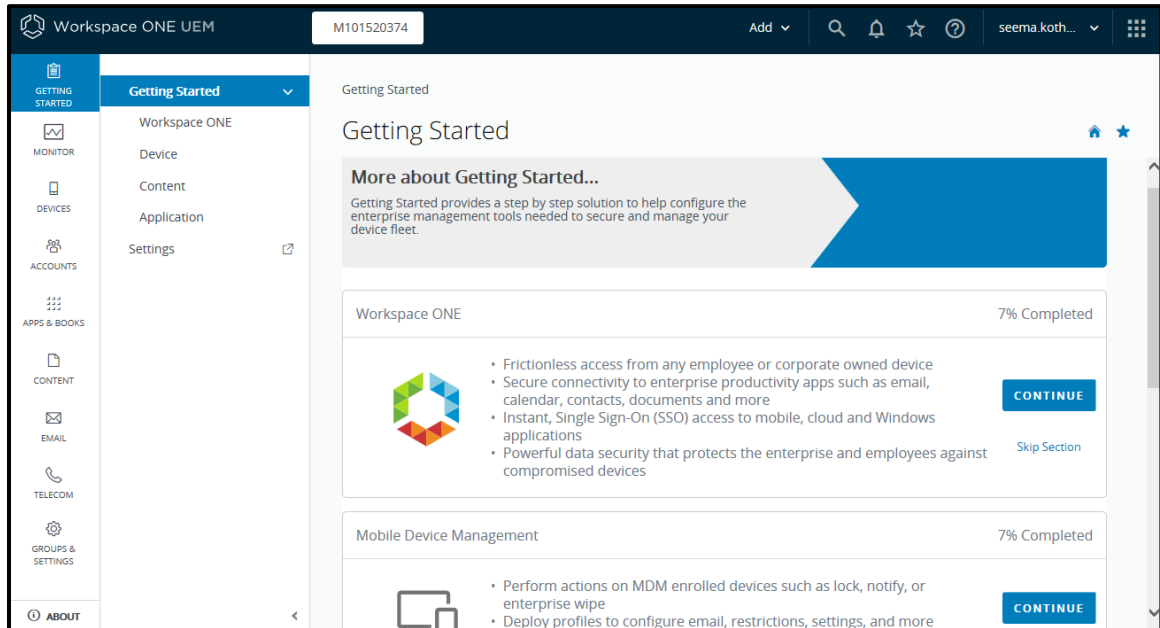
2. Click Continue next to Mobile Device Management.
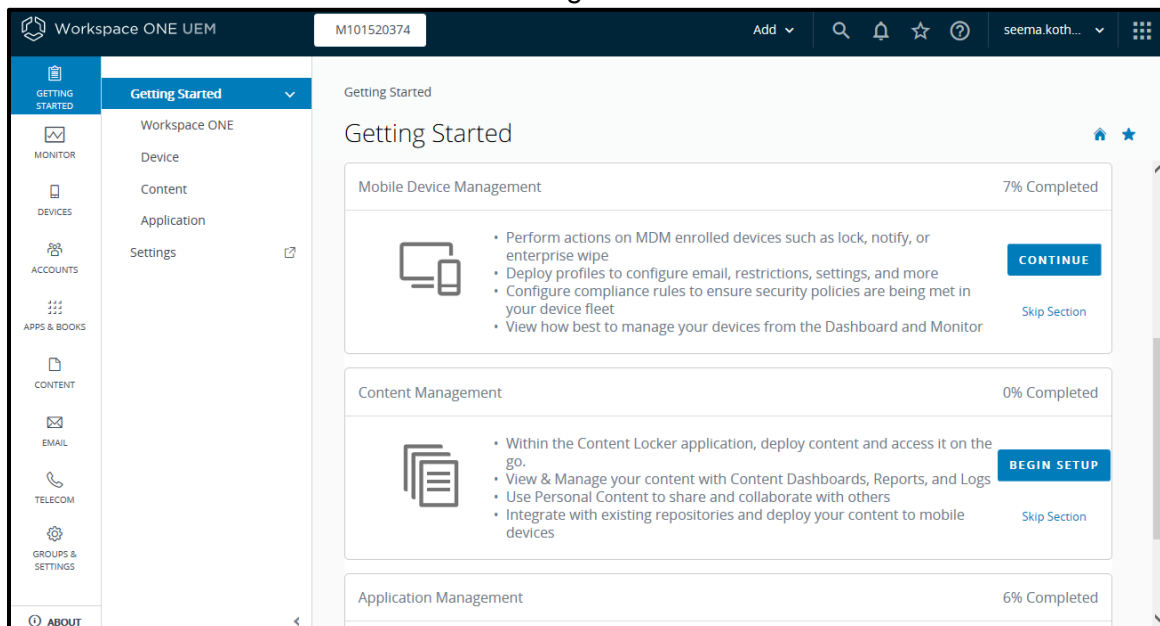
3. If you wish to enroll an Apple Device complete Apple MDM and Apple Certificate Setup as shown against ✅ icon below.

   Apple device Setup is wizard based, where you need to perform the following steps,

   i. Make sure you have Safari, Firefox or Chrome browser. Internet Explorer is not supported.

   ii. The first step of the wizard is - Download certificate signing request from AirWatch Administrator console (MDM_APNsRequest.plist).

   iii. Login to Apple Certificate Portal using your Apple ID, select "Generate Certificate" and upload the previously downloaded file to the Apple Push Certificate Portal.

   iv. Download the APNs certificate file (*.pem) provided by Apple and upload it here.

4. You can see that Apple MDM step is incomplete. If you will be using Workspace ONE UEM(AirWatch) to manage Apple devices click Yes button. For devices other than Apple you need not perform this step.
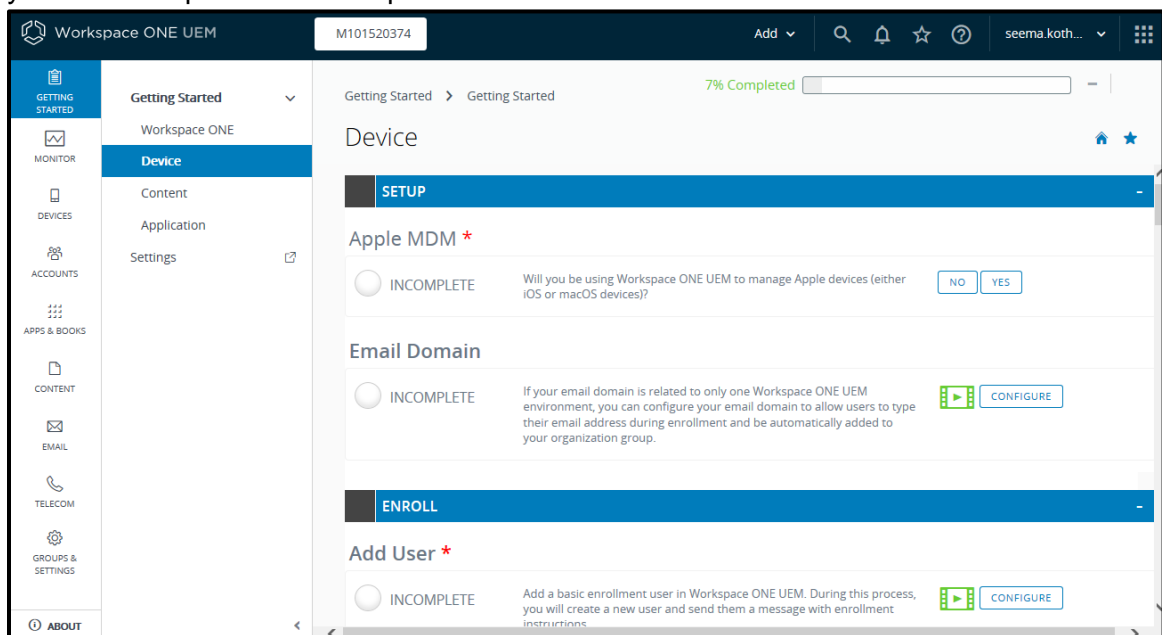
5. The following screen shot shows that Yes has been selected.
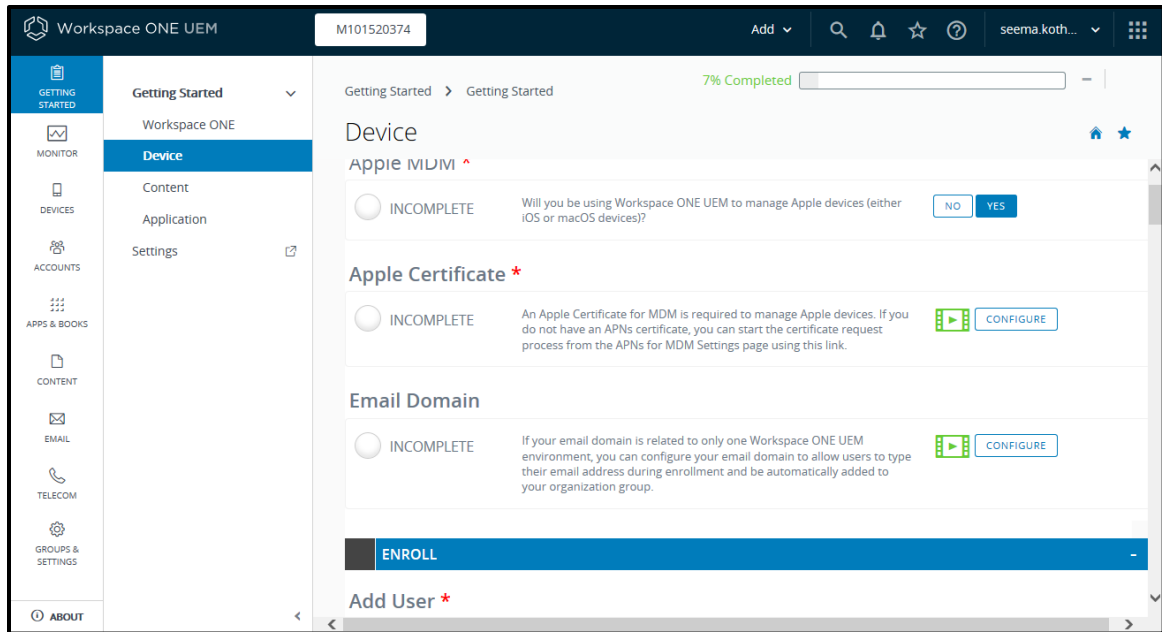
6. Once you click Yes above you get a popup as shown below. Click Yes to navigate to Apple Push Notification(APN) setup.
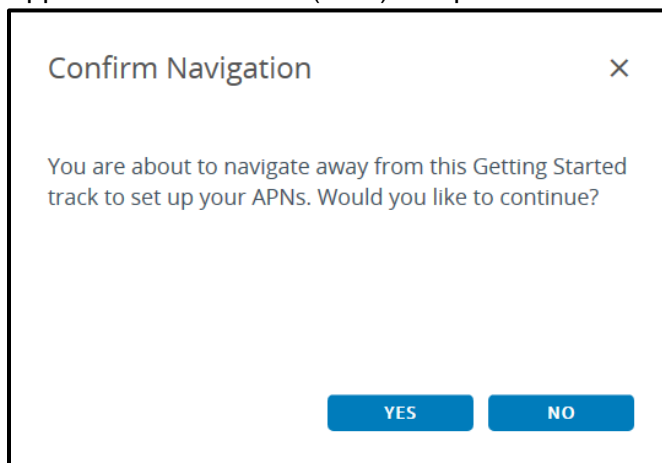
7. Click on the link to download Certificate Request (MDM_APNsRequest.plist)
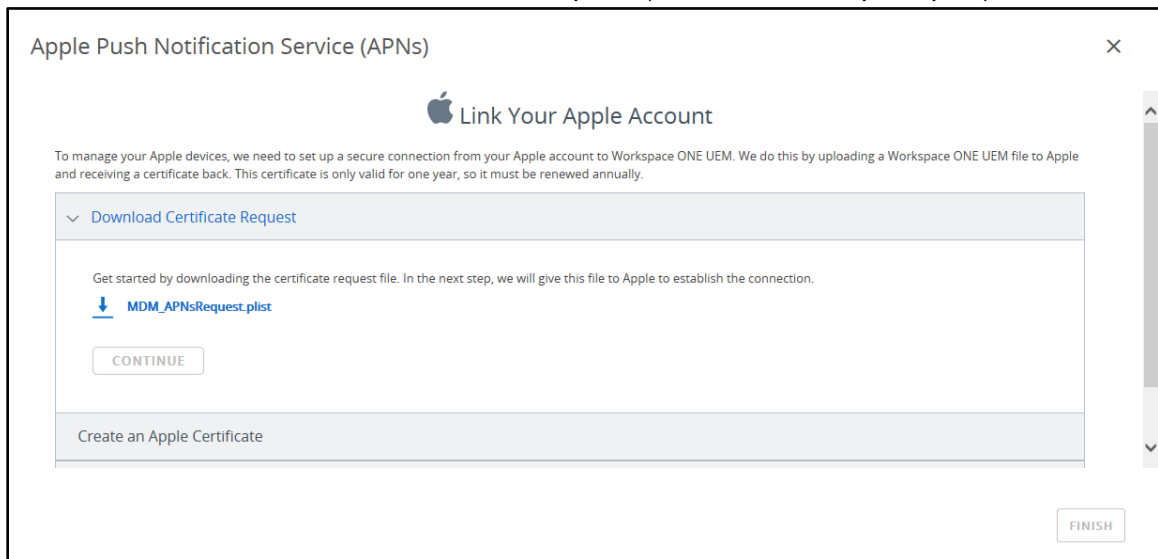
8. Click Continue.
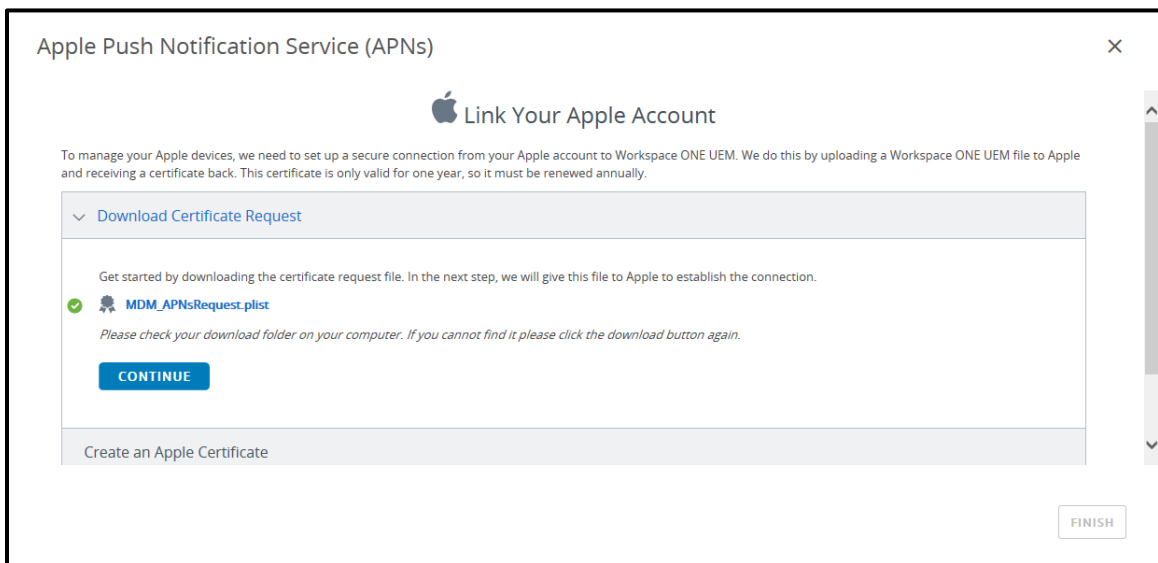
9. Provide your Corporate Apple ID. Click on Apple Push Certificates Portal.

10. Sign In to Apple Push Certificates Portal.
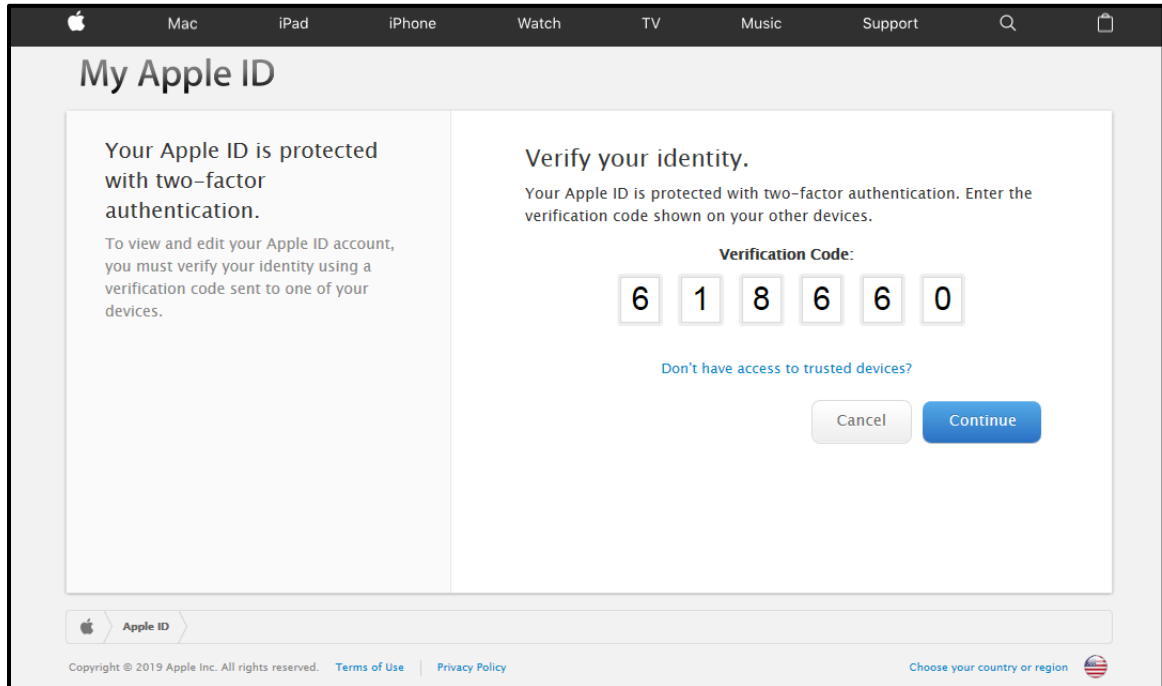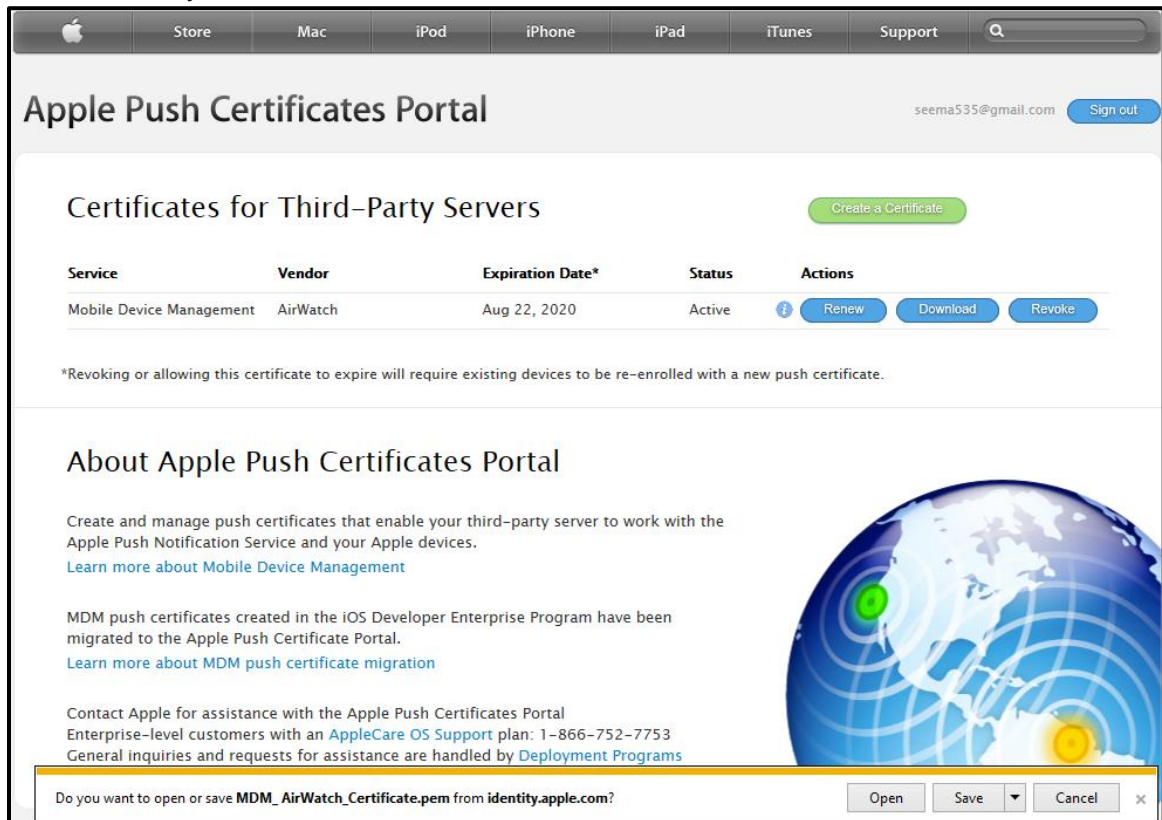
11. Enter the Verification Code shown on your trusted Apple device.

12. Click to Save your MDM_ AirWatch_Certificate.

13. Browse a file path to save MDM_AirWatch_Certificate.
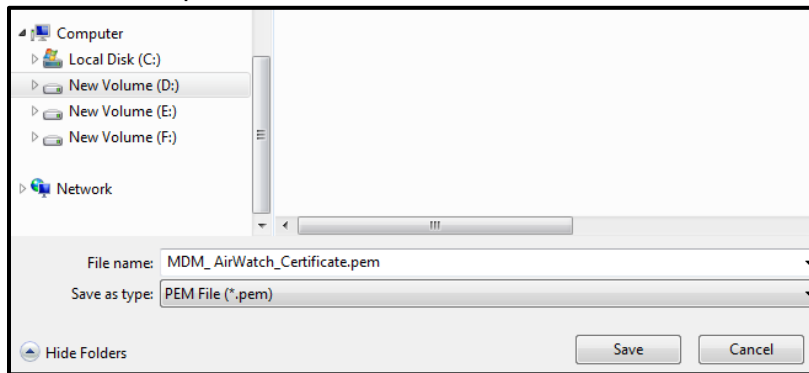
14. You have successfully created a new push certificate Confirmation screen appears.

15. Go back to Workspace ONE UEM on the third step upload the Apple Certificate.

16. Go back to Workspace ONE UEM. On the third step upload the Apple Certificate.

17. Apple issued certificate is successfully uploaded to Workspace ONE UEM MDM.
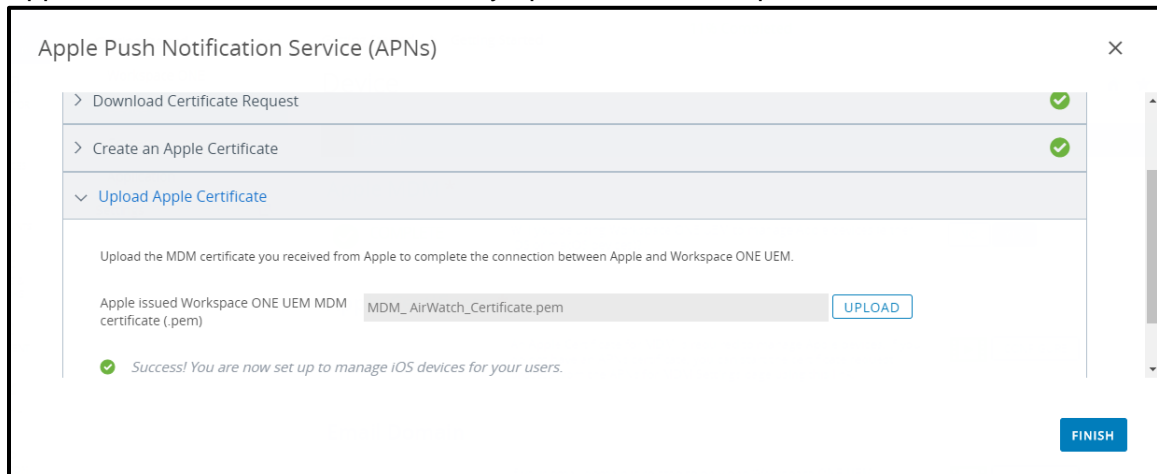
18. Apple MDM step is now complete.
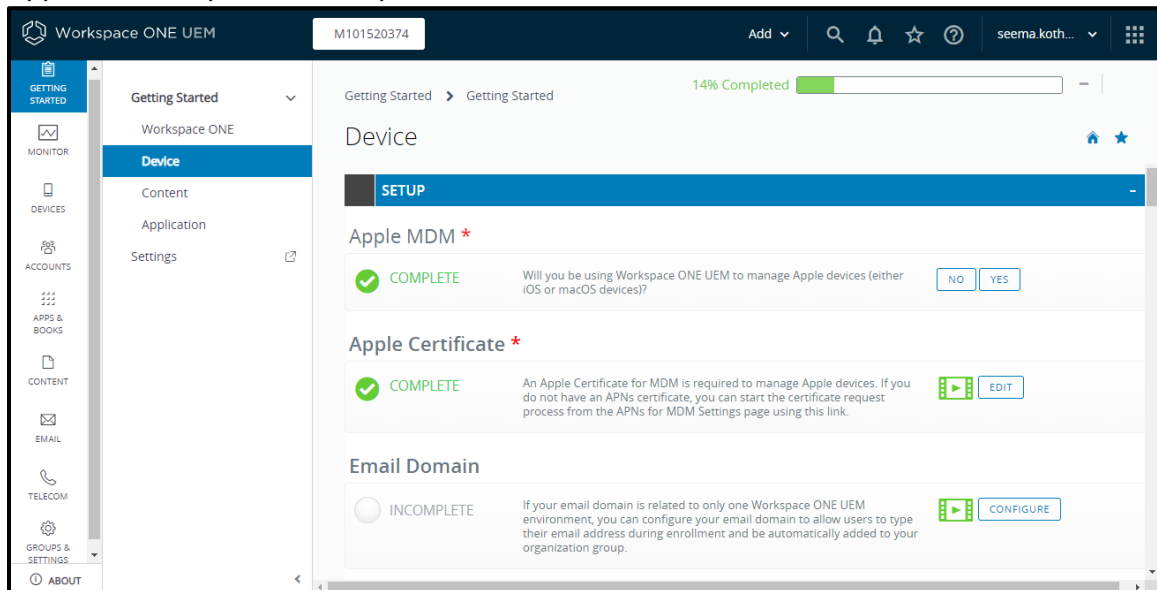
19. You may Skip or configure Email Domain. In this case we have skipped configuring email domain.
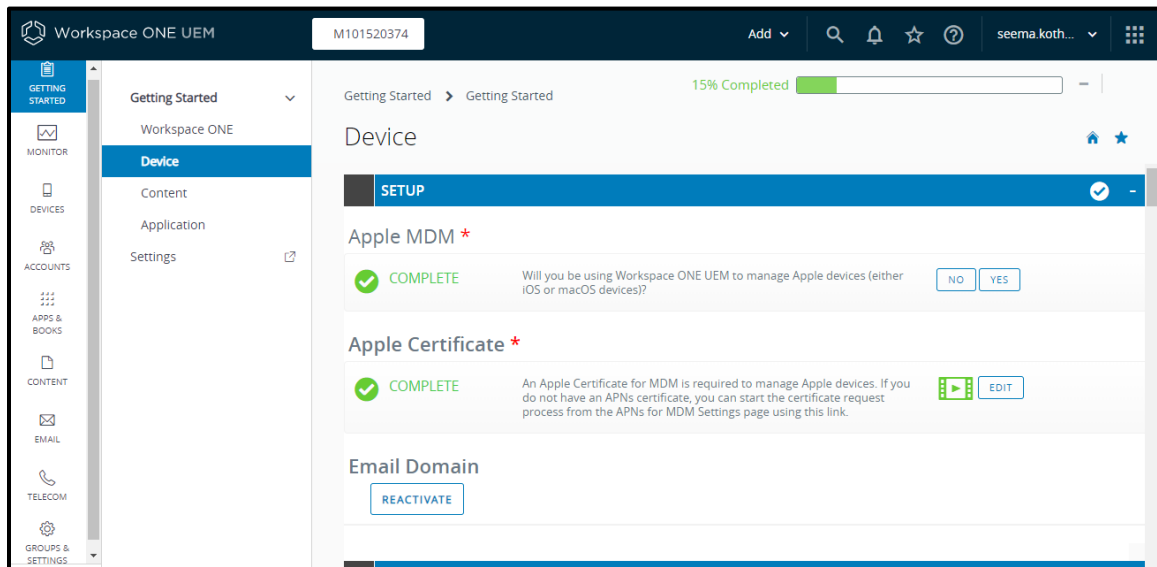
5.2   Enroll Users

This section explains steps to enroll users for all devices.

1. Next you can enroll users.
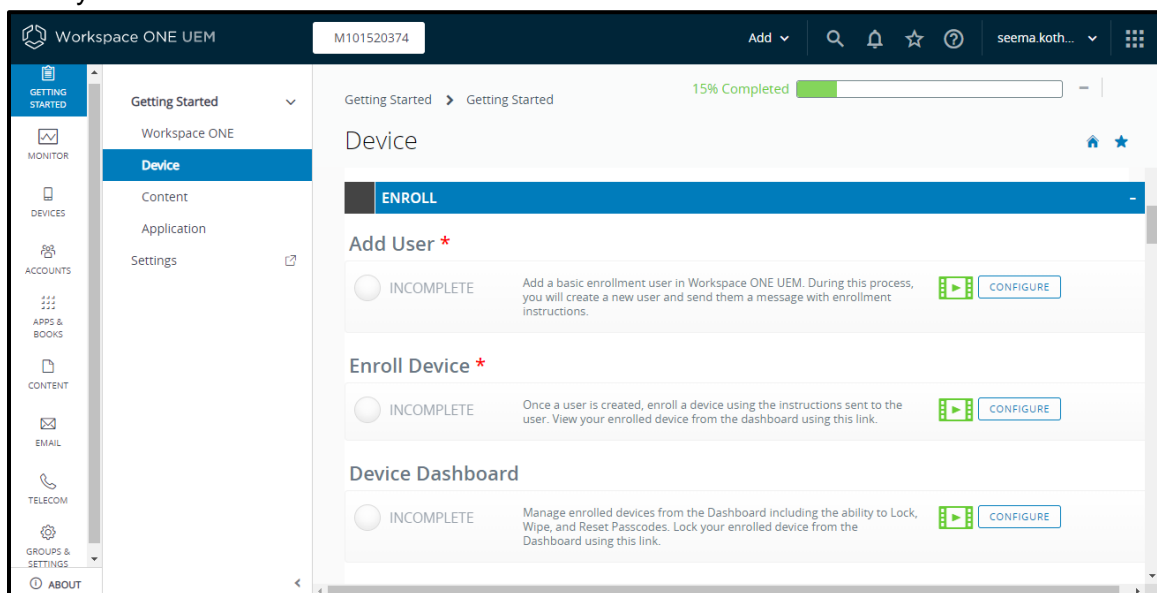
2. Provide the general user information.

3. Provide Advanced Information.

4. Enroll Device for the newly enrolled user.

5. For User is enrolled.

6. For devices other than Apple you need not perform this step.
7. Go to the Enroll section and Add User. Add user to a Custom User Group. During this process you add a user and a Message sent to the user with enrollment instructions.
8. The next step is to complete Enroll Device as shown below.
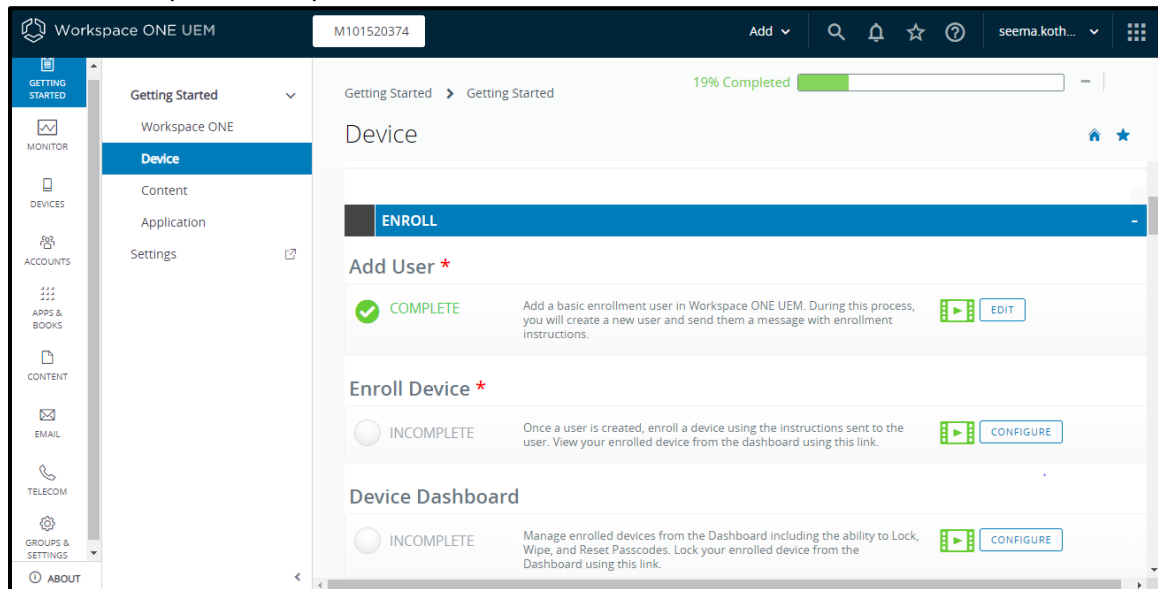
9. Enrollment user receives email for Device Activation.
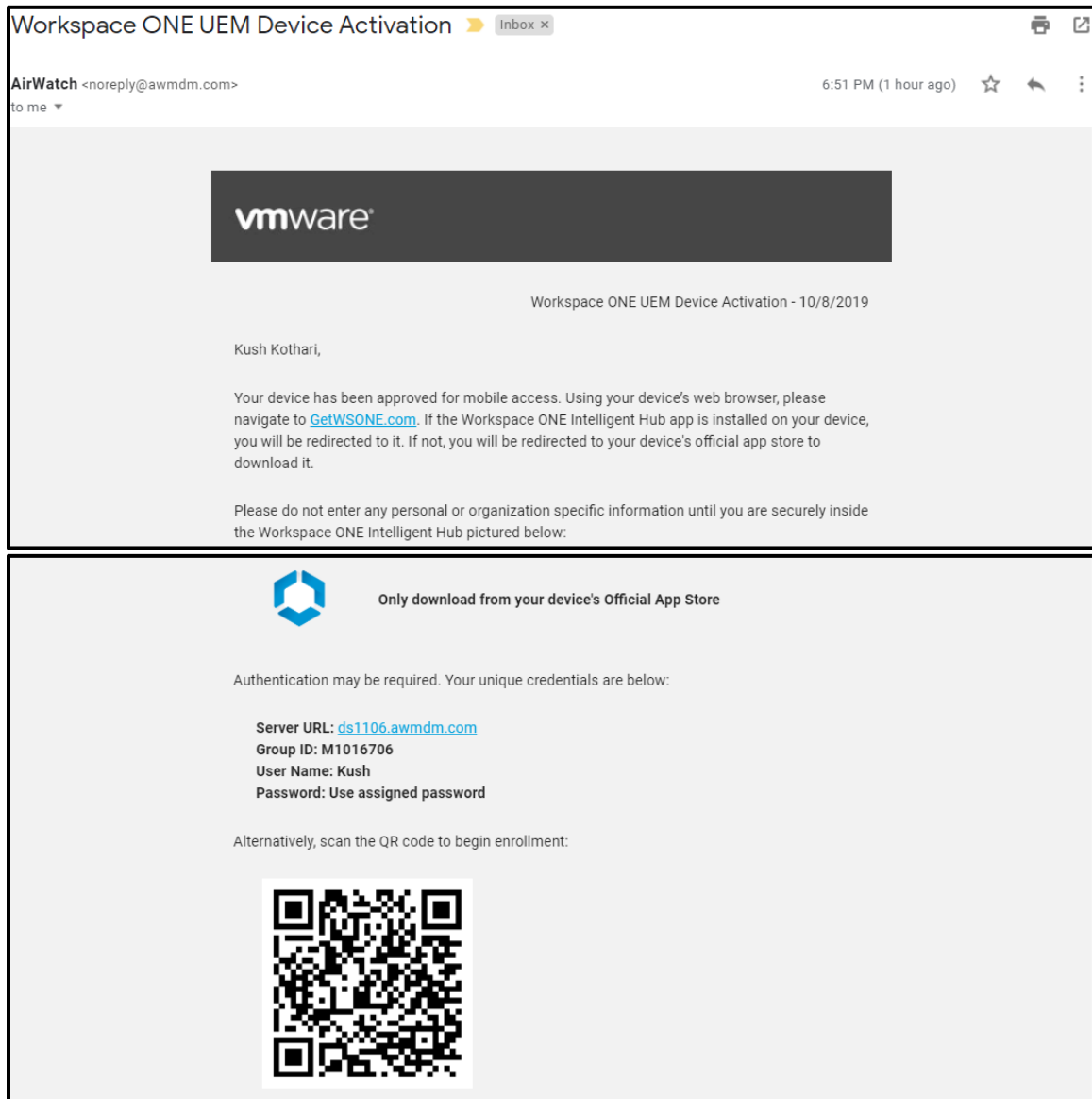
5.3 Enroll Device

This section explains steps to enroll devices.

1. To enroll a device you first need to download Workspace ONE Intelligent Hub (AirWatch MDM Agent) on your device
2. Open the email sent to you above and follow the instructions to enroll your device.
3. Scan QR code or provide User/password. In case of Android device it is checked that the user should be assigned to a custom user group.
4. You are redirected to the server URL.
5. Profile will be downloaded.
6. Install the profile.

7. Create a passcode.
8. You can see the screen downloading configuration profile.
9. You now enter Workspace ONE Intelligent Hub using credentials sent on an email.
10. You may receive another email to reset your enrolled user password. Please reset your password.
11. You can now view Apps and Notifications on your mobile device.

5.4　　Device Dashboard

1. You can now view your devices on the Device Dashboard. You can also start using Intelligent Hub and see Enterprise Applications as per roles assigned to the Custom User Group.
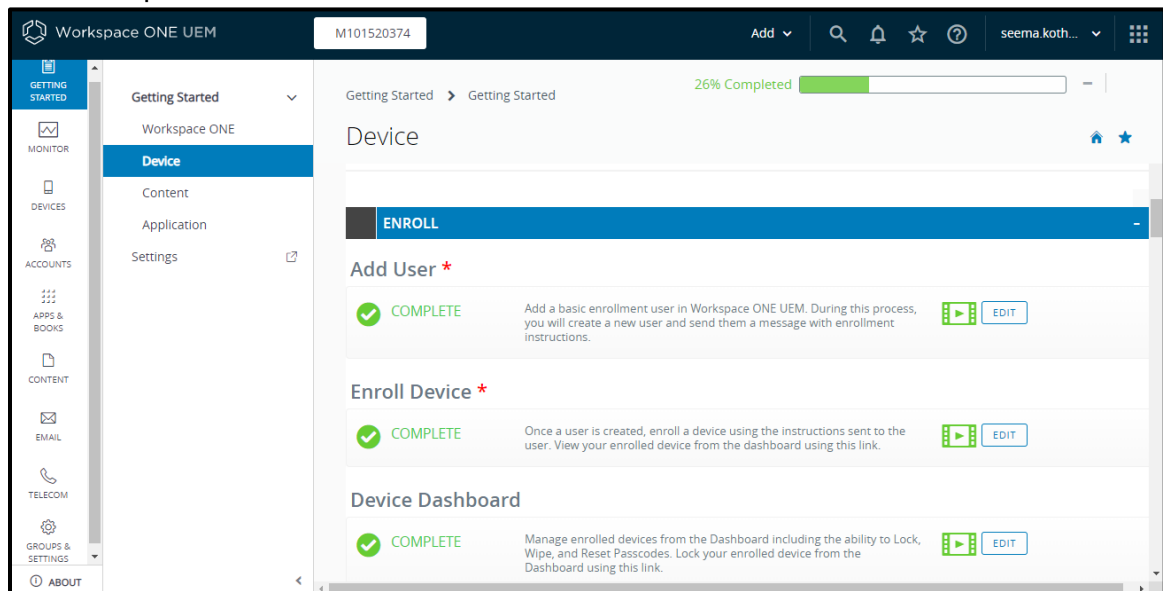
2. You can now start using the AirWatch Plugin steps.

6　　Appendix: Google Refresh Token Generation

It is assumed that you have a Google developer console account created on https://console.developers.google.com.

In this Appendix we complete the Google Spreadsheet steps prerequisites.

- Enable APIs for Google Drive and Google Spreadsheet
- Generate Client ID and Client Secret
- Generate Refresh Token in exchange for the Client ID and Client Secret

References

Google Spreadsheet documentation

https://developers.google.com/sheets/api

6.1   Enable APIs

In this section we will Enable APIs for Google Drive and Google Spreadsheet.
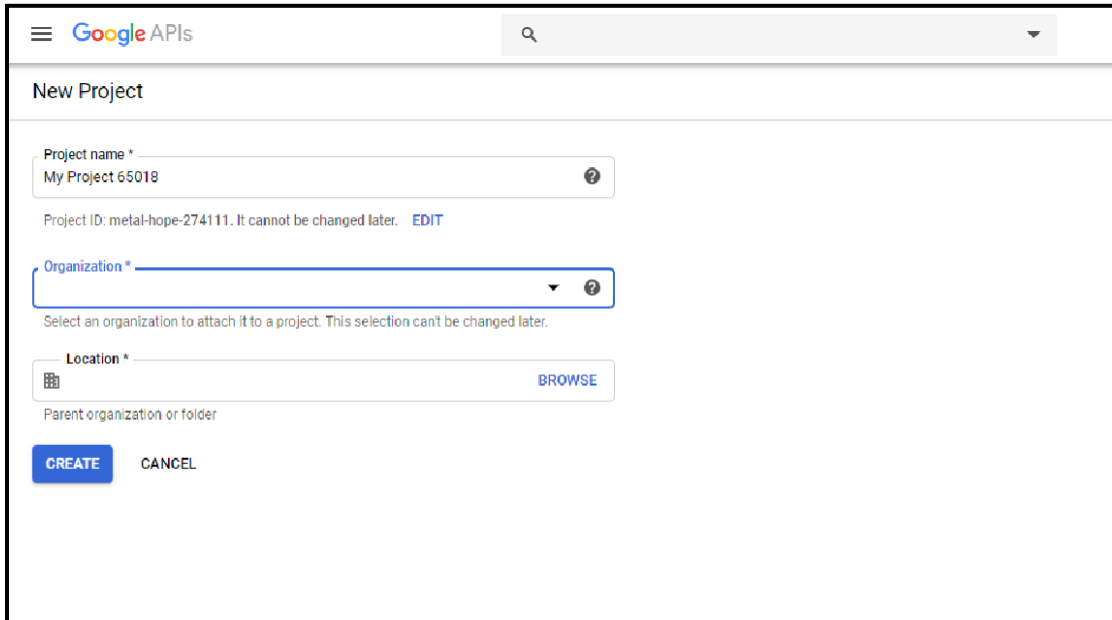
1. Go to the Google Developer Console (https://console.developers.google.com/)
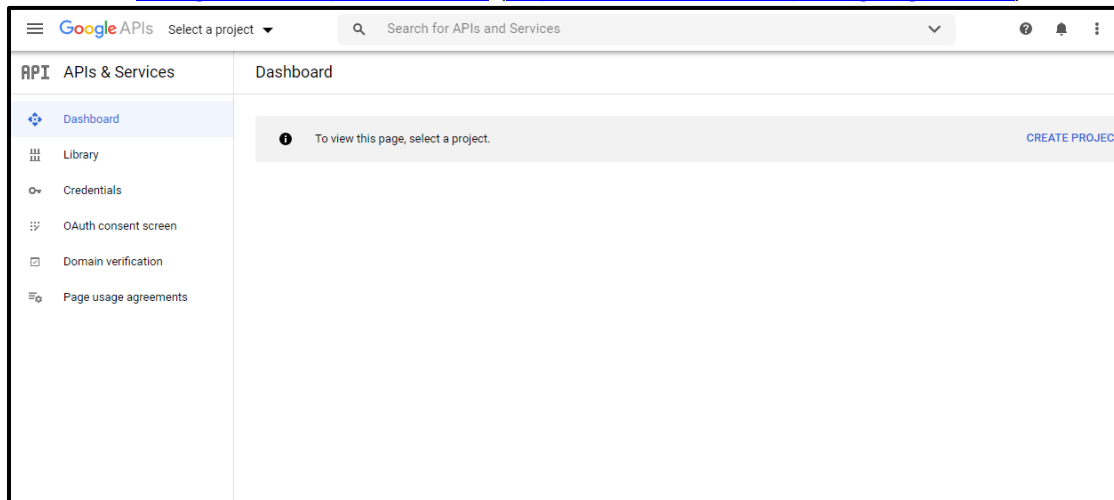
2. On the **Select a Project** page, click **New Project** to create a new project. However, if you have an existing project, you can select it from **ALL**.

3. Provide valid values for the project and click on the **Create** button.

4. Navigate to **Dashboard** on Google Developer console and click **ENABLE APIS AND SERVICES**.
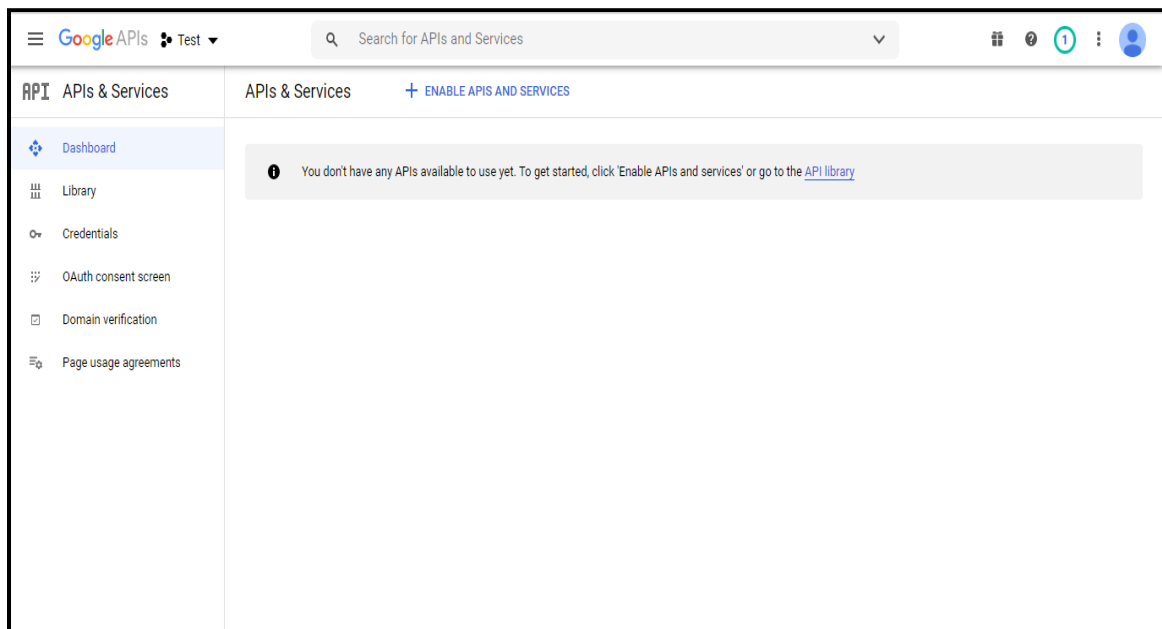
5. Search for **Google Drive API** and **Google Sheets API.** Click **Enable**.
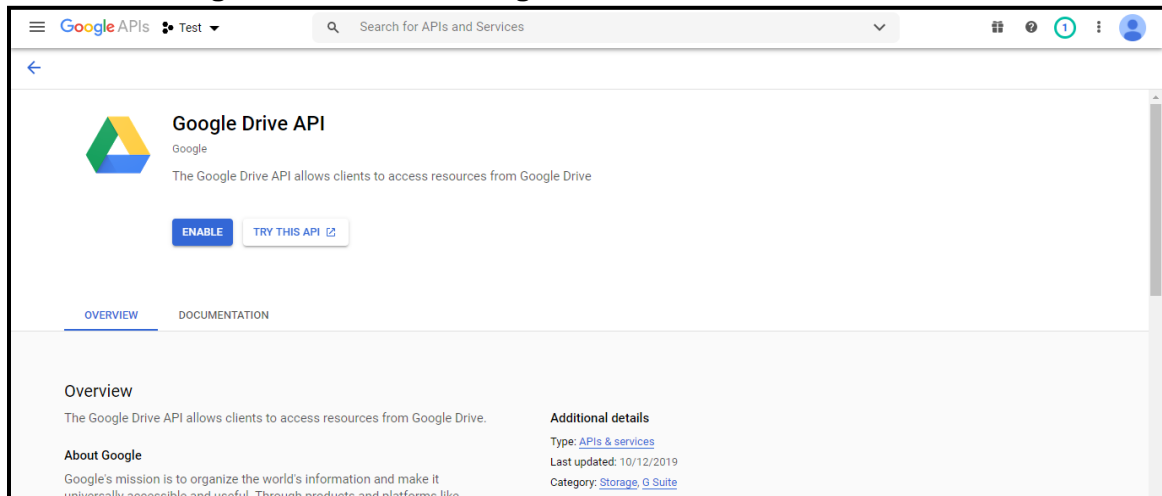
6. The following screenshot shows **Google Sheets API.** Click on **Enable.**
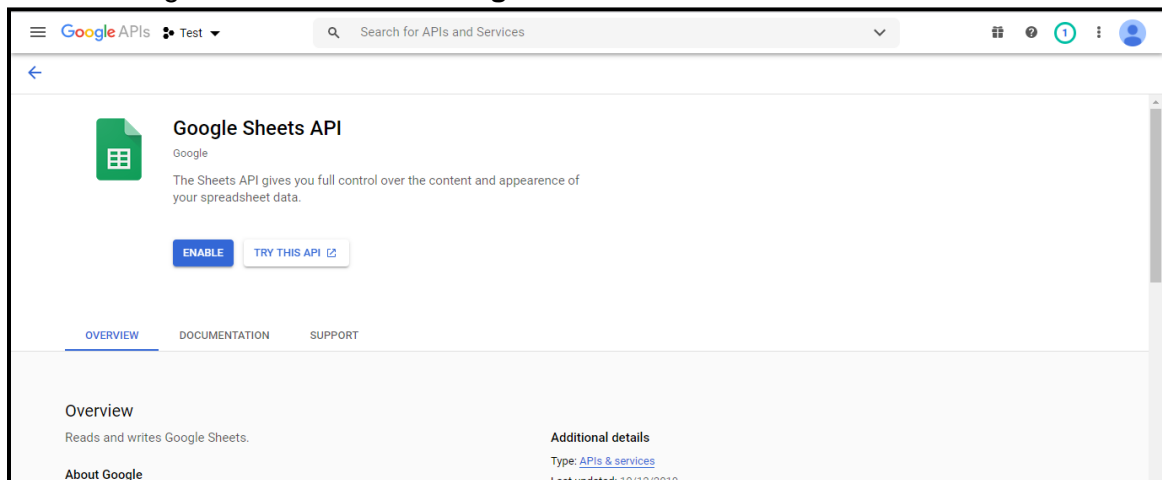
6.2 Configure OAuth Consent Screen
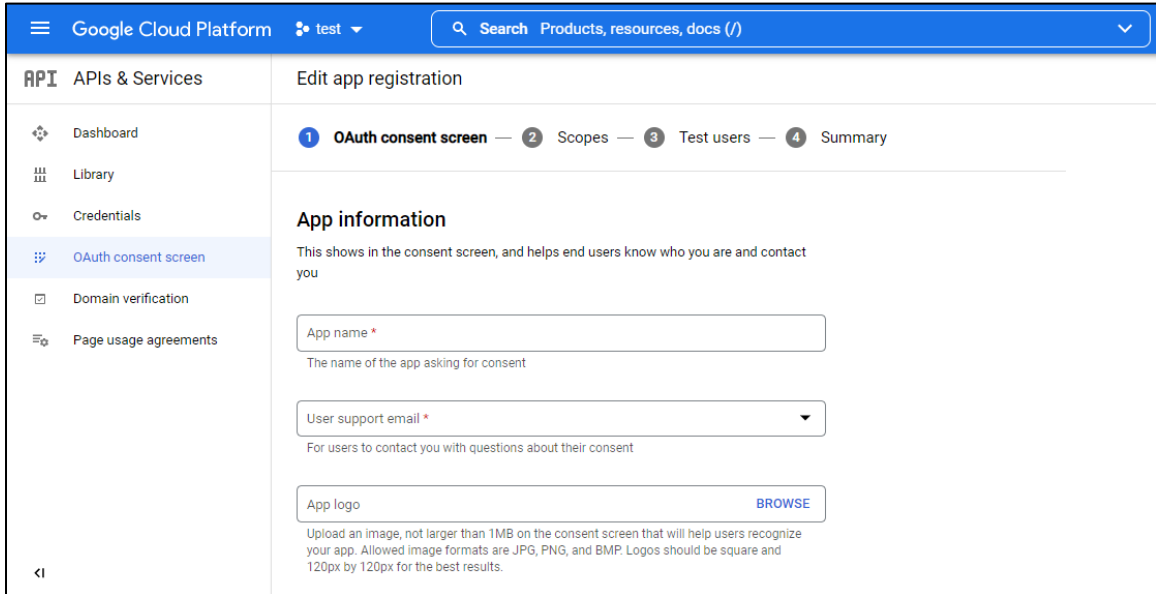
1. Click **Menu > APIs & Services > OAuth** consent screen at the top-left.
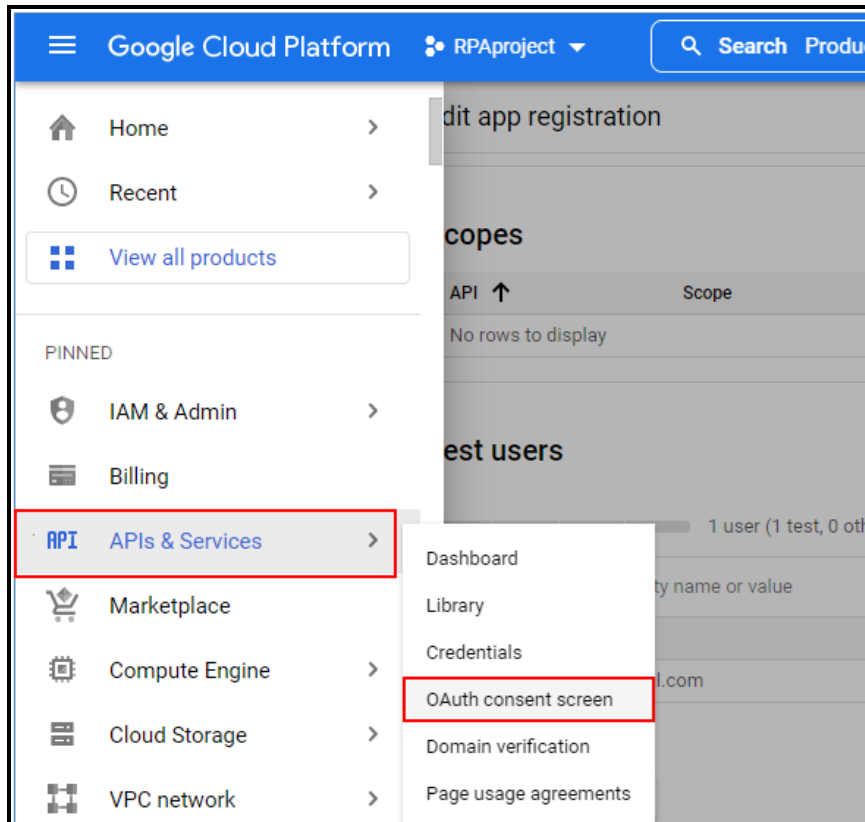
2. Select the user type for your app, and then click **Create**.
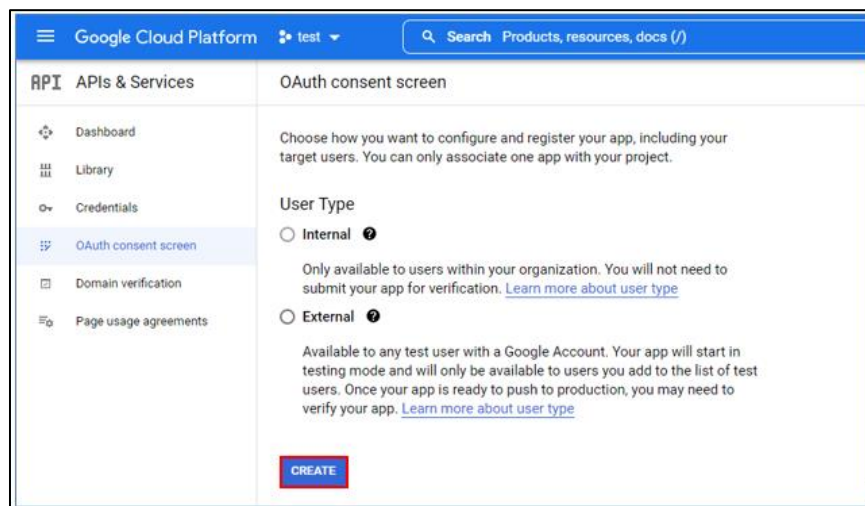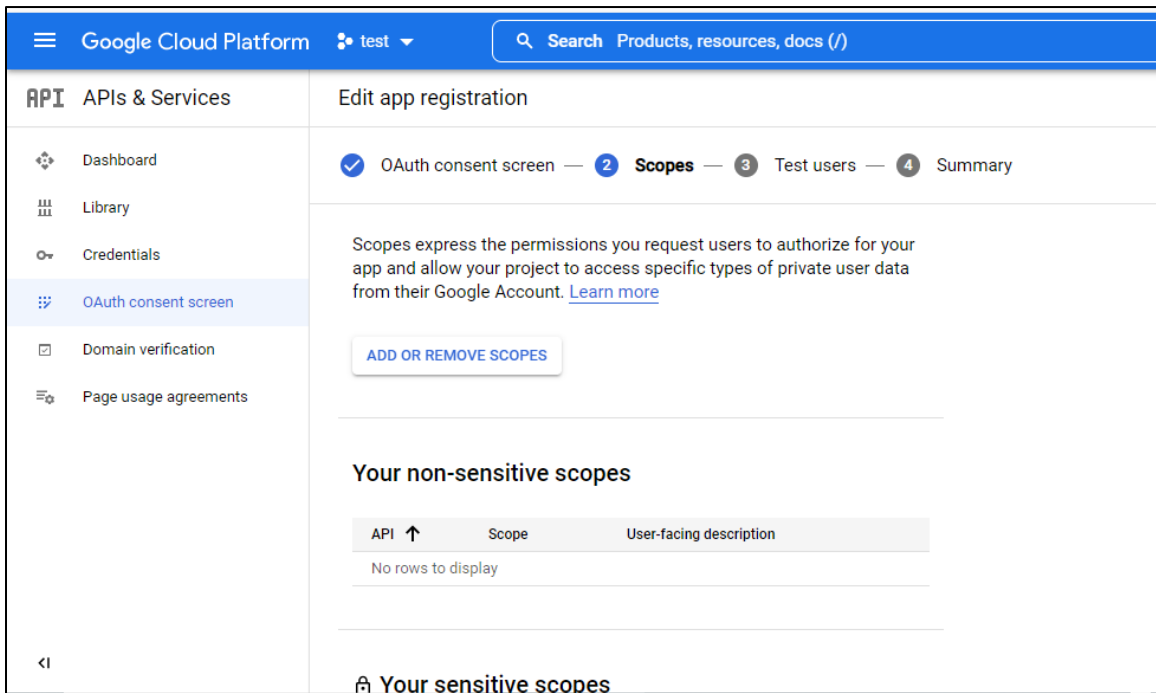
3. Complete the app registration form with valid details such as **App Name**, **User Support Email**, and **Developer Contact Information**. Click **Save and Continue.**

4. If one wants to give certain permissions to the user, they can do it in the **Scopes** section.

5. Click **Add or Remove Scopes**.

6. Add and verify the authorization scopes required by your app, and then click **UPDATE**. Scopes given in the image are needed for authorization of plugin steps.

7. Click **Save and Continue**.
8. Under **Test users**, click **Add Users**. Enter the users' email addresses and any other authorized test users, then click **Save and Continue**.

9. Review your app registration summary. Click **Edit** to make changes, or click **Back to Dashboard**.

6.3 Get a Client ID and Client Secret

1. Click **Menu > APIs & Services > Credentials** at the top-left.
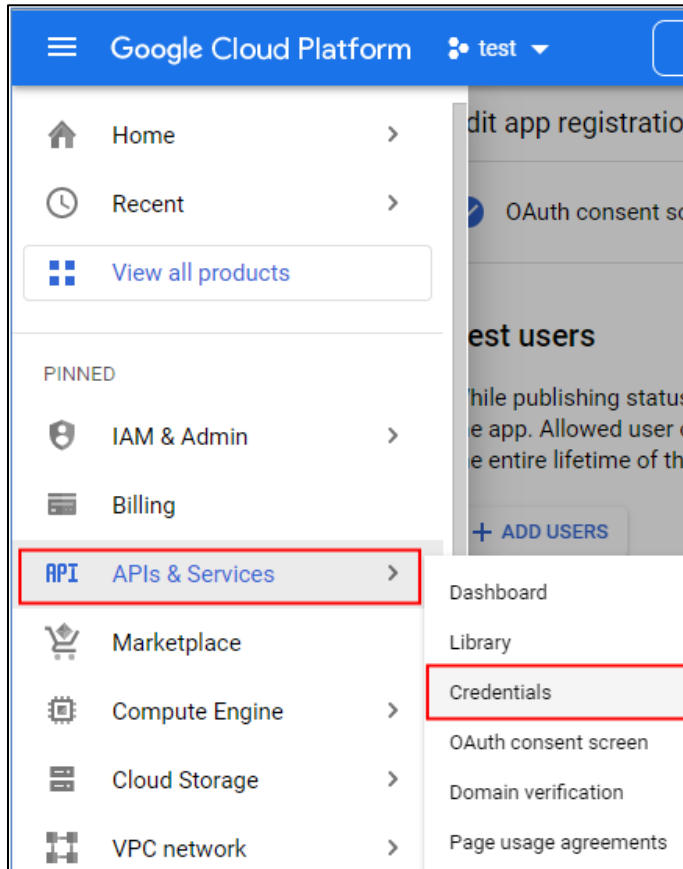
2. Click **Credentials** tab **> Create Credentials** and from the dropdown list select **OAuth client ID**.
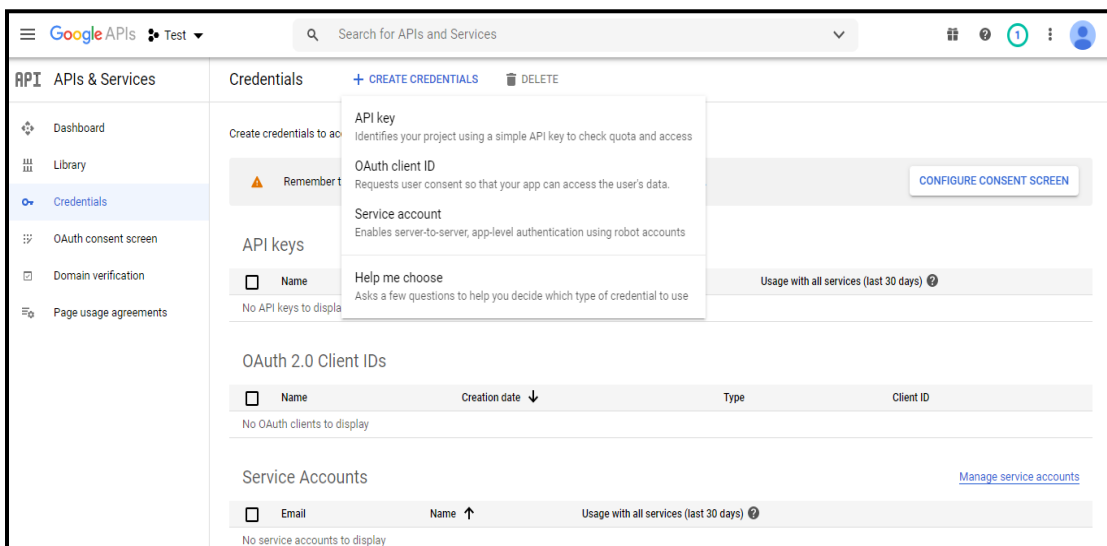
3. From the Application type, select the **Web Application.**
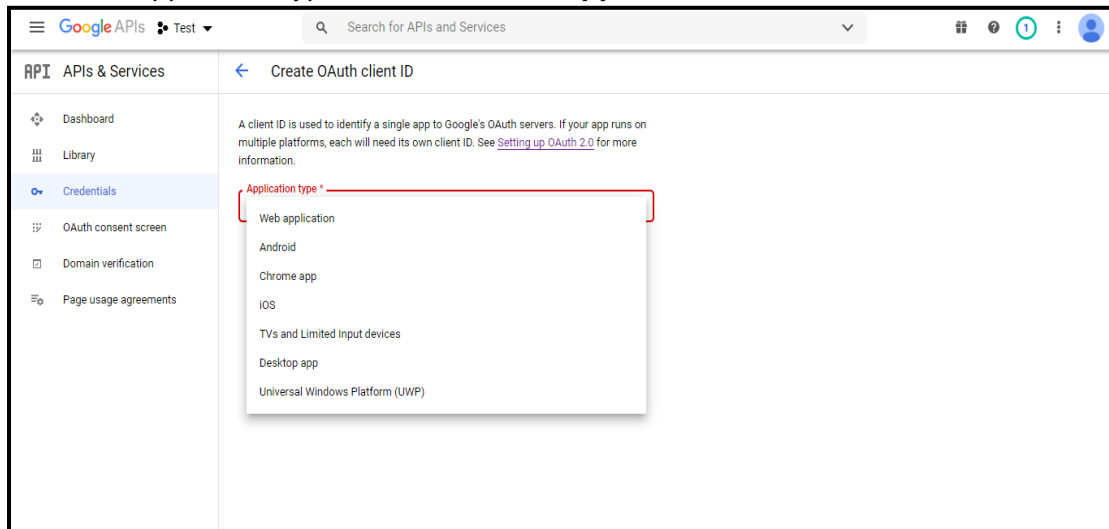
4. Enter valid **Name** and **Authorized Redirect URIs**. Click on the **Create** button.
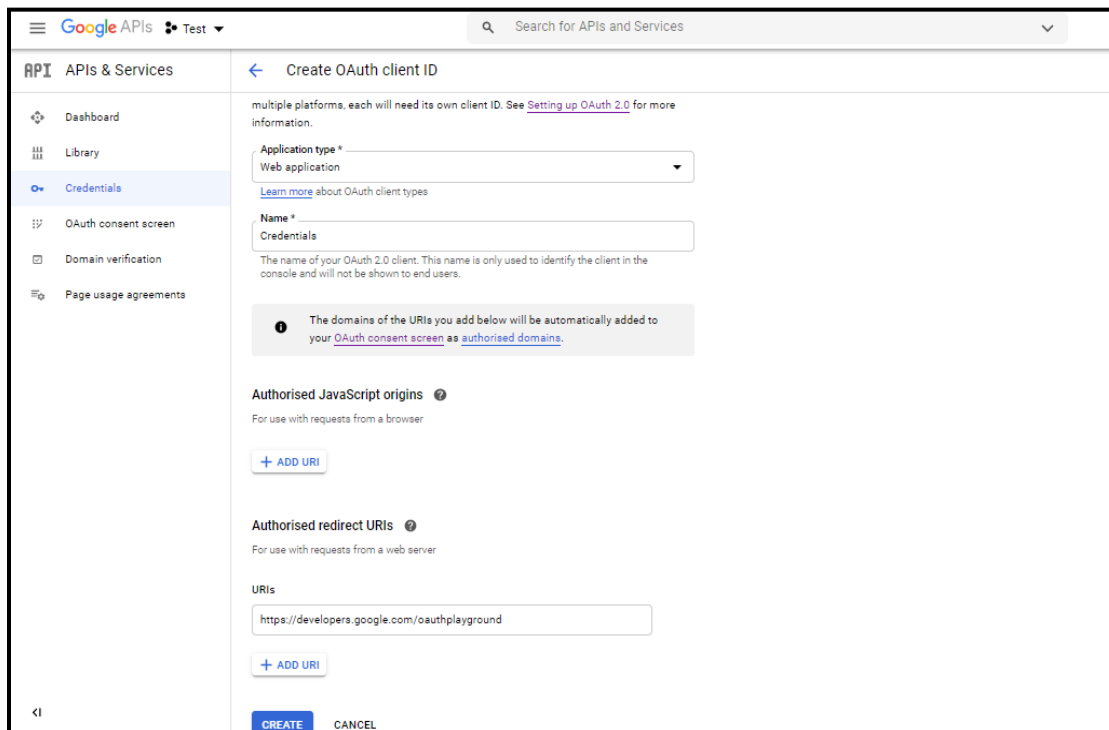
5. Copy **Client ID** and **Client Secret**. Click on the **OK** button.
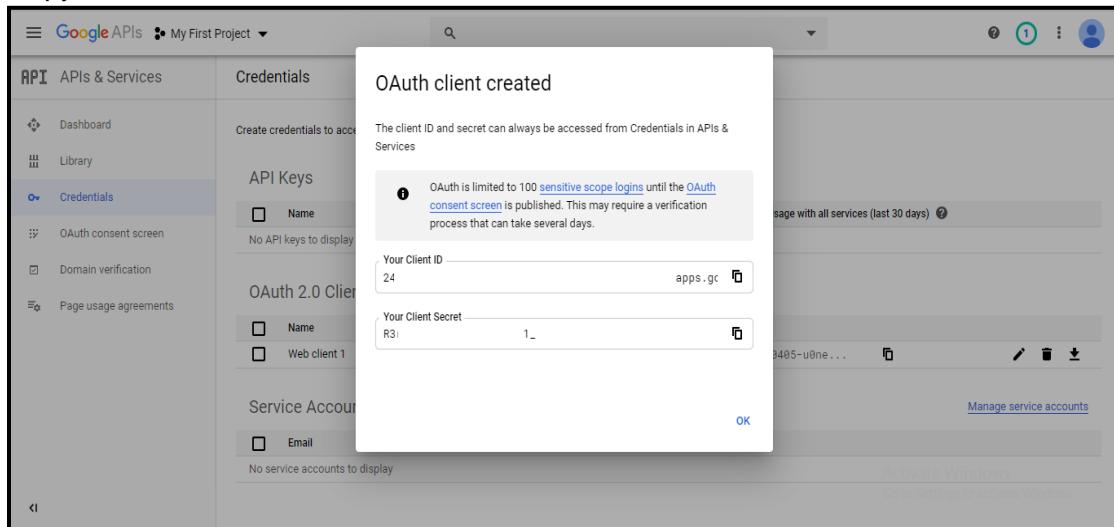
6. Get Client ID and Client Secret by clicking on the **OAuth 2.0 Client IDs**.
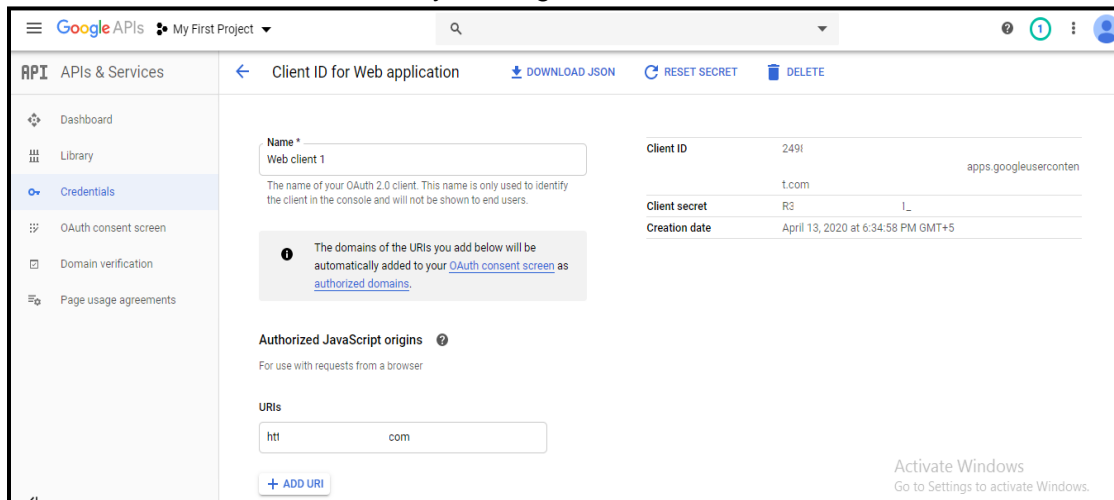
6.4   Generate Refresh Token

In this section we will generate Refresh Tokens using Client ID and Client Secret on Google OAuth 2.0 Playground.

1. Go to the [Google OAuth Playground (https://developers.google.com/oauthplayground/)](https://developers.google.com/oauthplayground/)
2. Click on the **Settings** icon.
3. Click on **Use your own OAuth credentials** and enter **OAuth Client ID** and **OAuth Client secret** generated from the previous step.
4. Copy the following URL '**https://developers.google.com/oauthplayground**'

5. Open the **Credentials** tab on [Google Developer Console](#), select created Client ID by clicking on the **Name.**

6. Paste the above copied URL in Authorised redirect URIs and click on Save button.
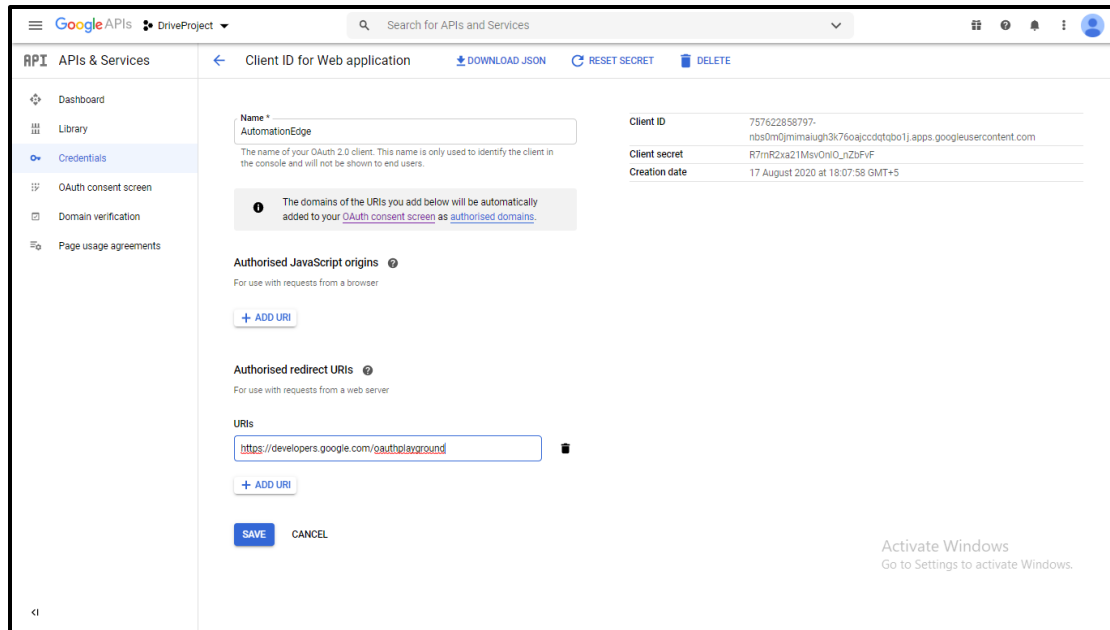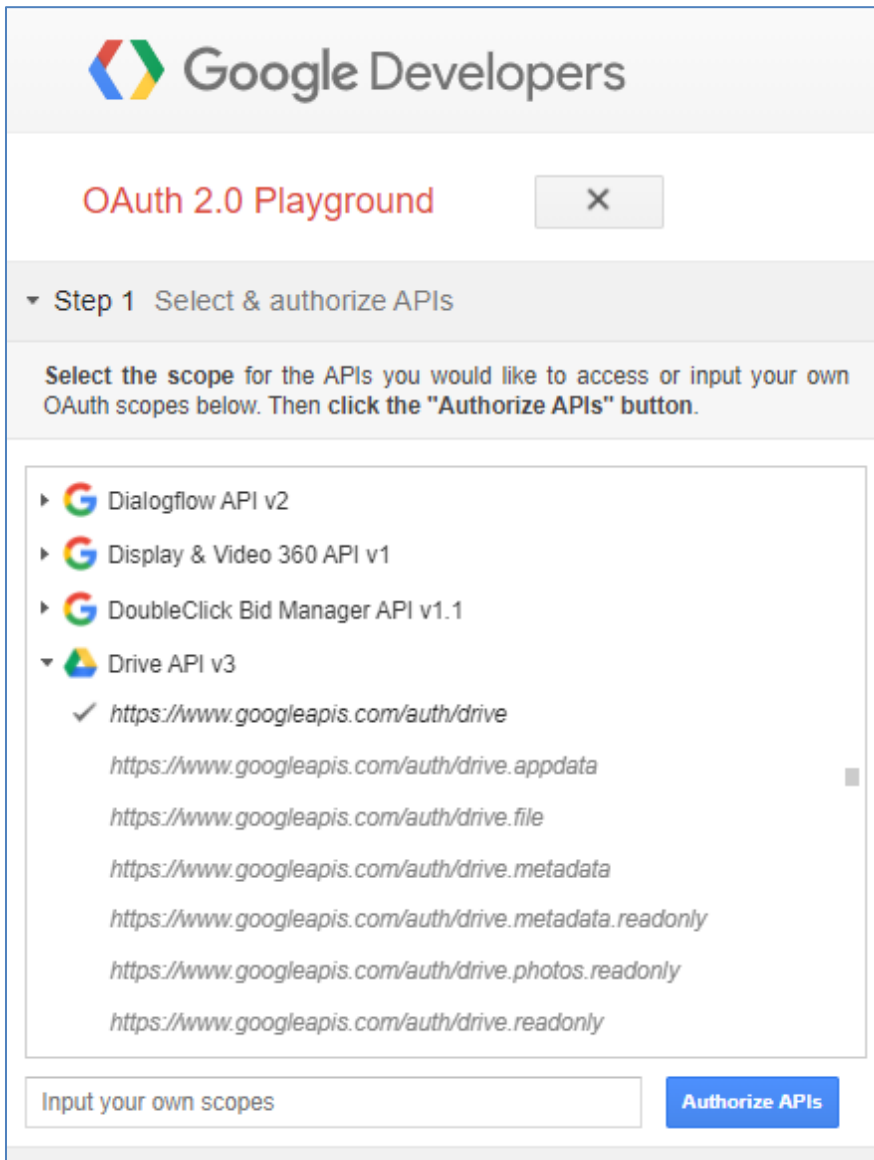
7. Navigate back to Google OAuth Playground and click on **Select & authorize APIs.**

8. Select the **Select & authorize APIs**. Select the desired scope you want for your application and click on **Authorize APIs**.
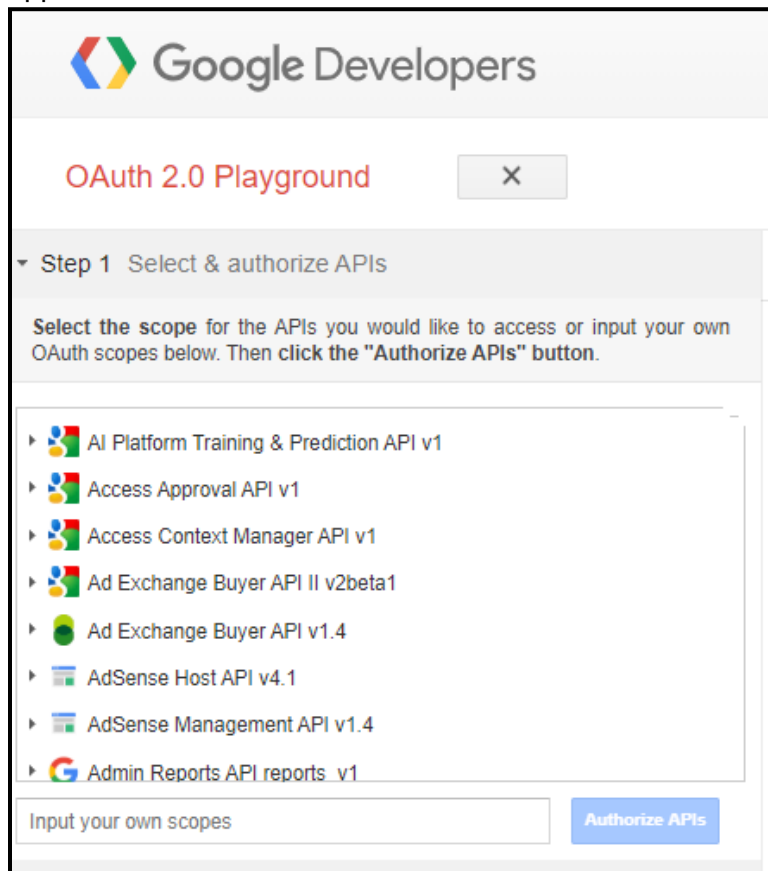
9. Select the following scope under tab Drive API v3 -

'https://www.googleapis.com/auth/drive'

10. Click on **Exchange authorization code for tokens**.

11. You'll get the Authorization code, Click on the **Exchange authorization code for tokens** button.
12. Copy **Refresh Token.**

This completes the process of Enabling APIs, getting Client ID and Client Secret and Generation of Refresh Token required for connecting to google Spreadsheet.

7   Appendix: Intune- Generate Client Credentials

In this Appendix we will see how to generate Client Credentials and provide necessary permissions.

1. Login to **https://portal.azure.com** with email address and password.
2. Click on **Azure Active Directory** from a column on the left side as below.
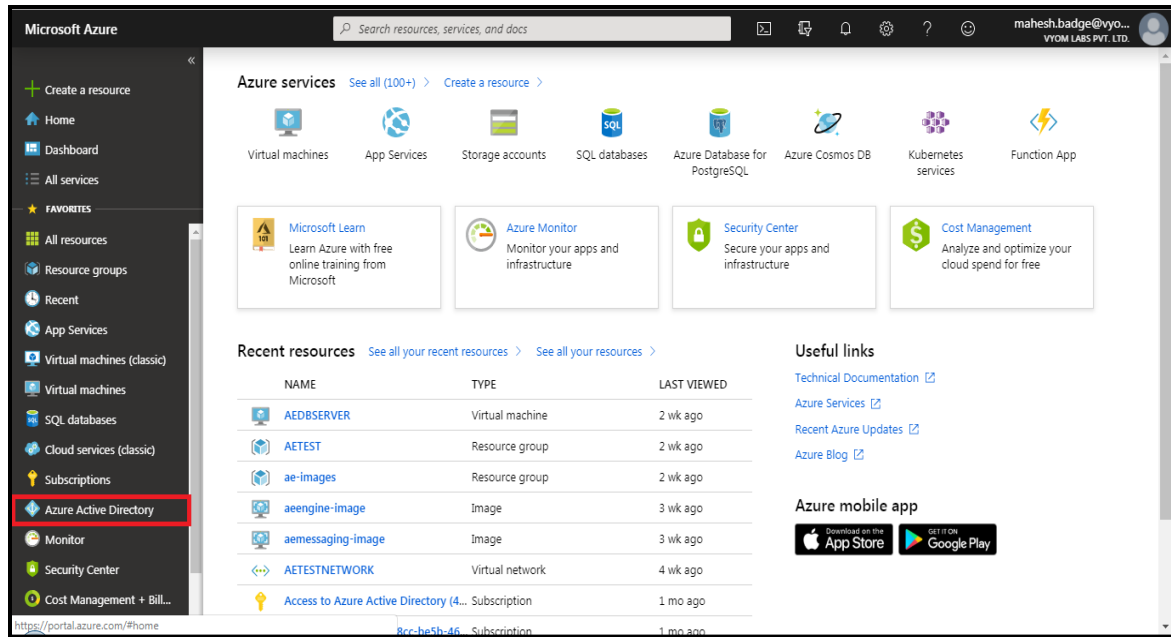
3. Search for Properties
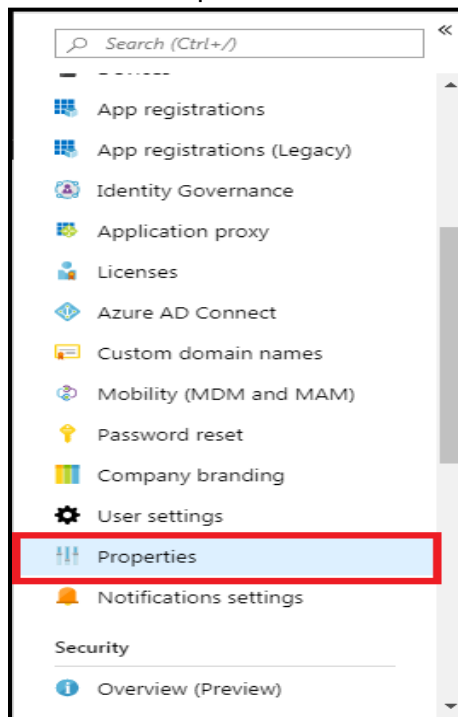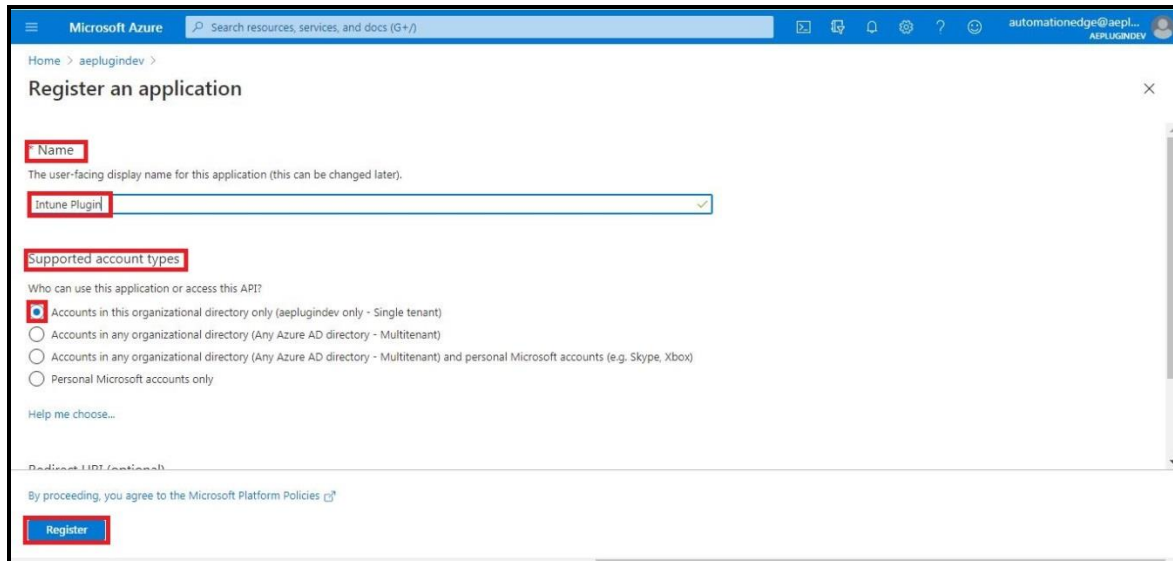
4. The **Tenant ID** required in the plugin is the ID mentioned under **Directory ID.** In case the ID is not available you may get Tenant ID as mentioned in step 8 below.
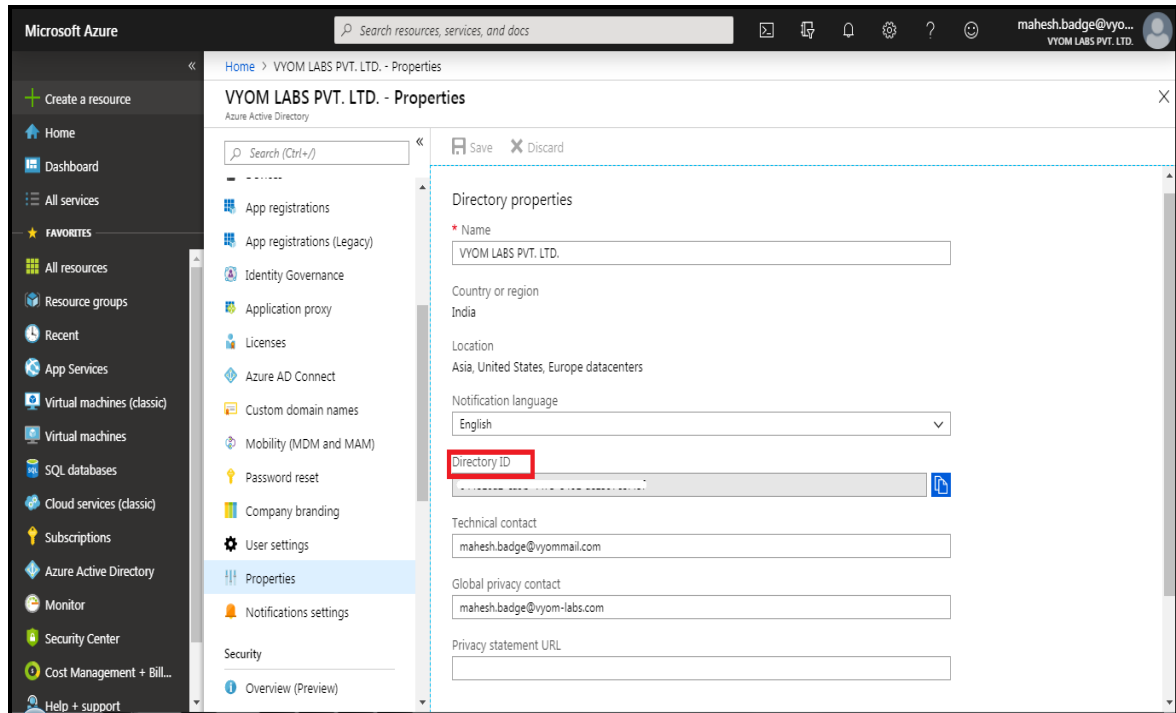
5. To get the **Client ID,** click on **App registrations** under **Azure Active Directory.**
6. Create a new App by clicking on **New Registration.**
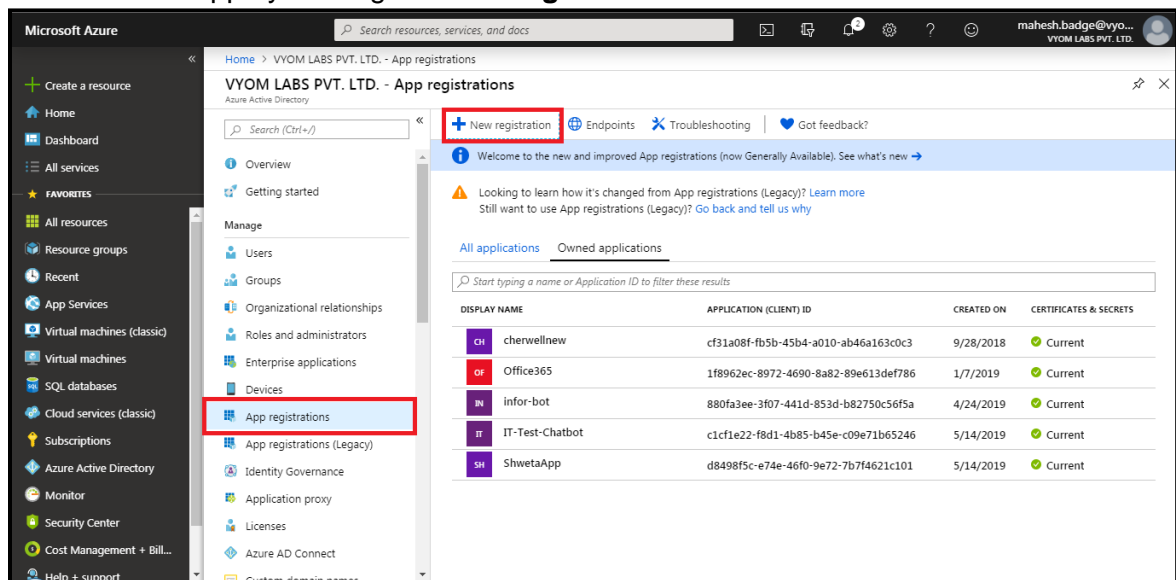
7. Enter the application name select account types and click on **Register**.

8. After clicking on **Register**, under **Overview** of the newly generated Application you can find the **Application (client) ID/ Client ID.** Also, you can find **Directory (tenant) ID/Tenant ID** below Client ID.

9. To generate client secret, click on the **Certificates & Secrets** and then click on **+ New Client Secret**.
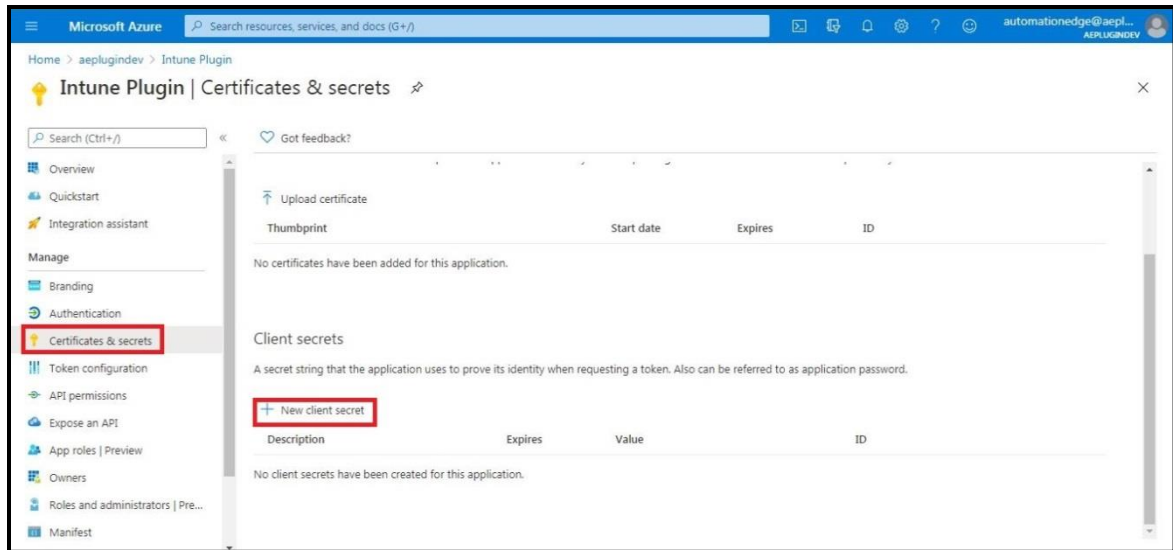
10. Now enter the **Description, Expiry**, and click on **Add**.
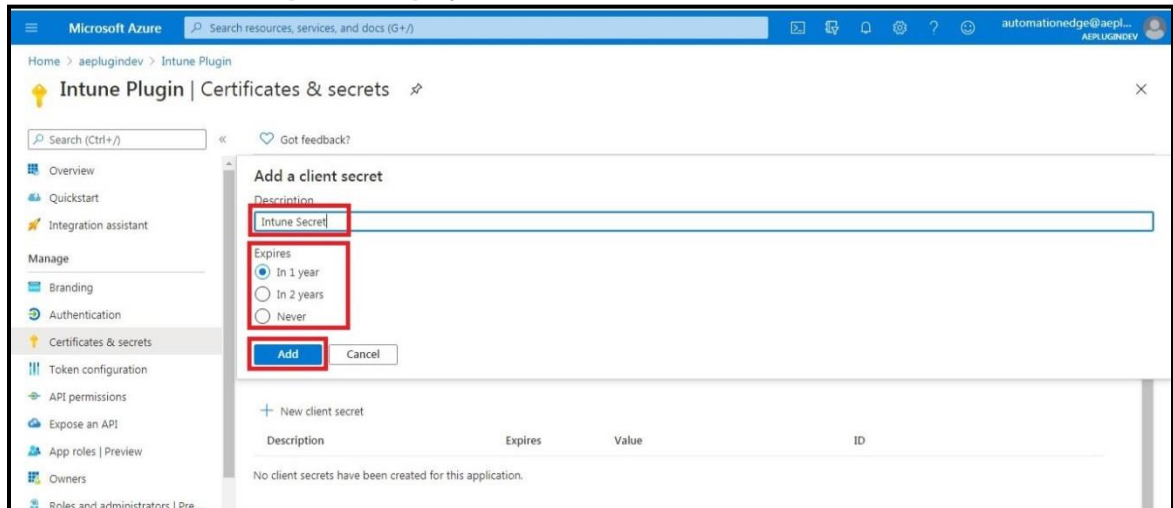
11. Copy the value of the client secret as it will be not visible the second time.
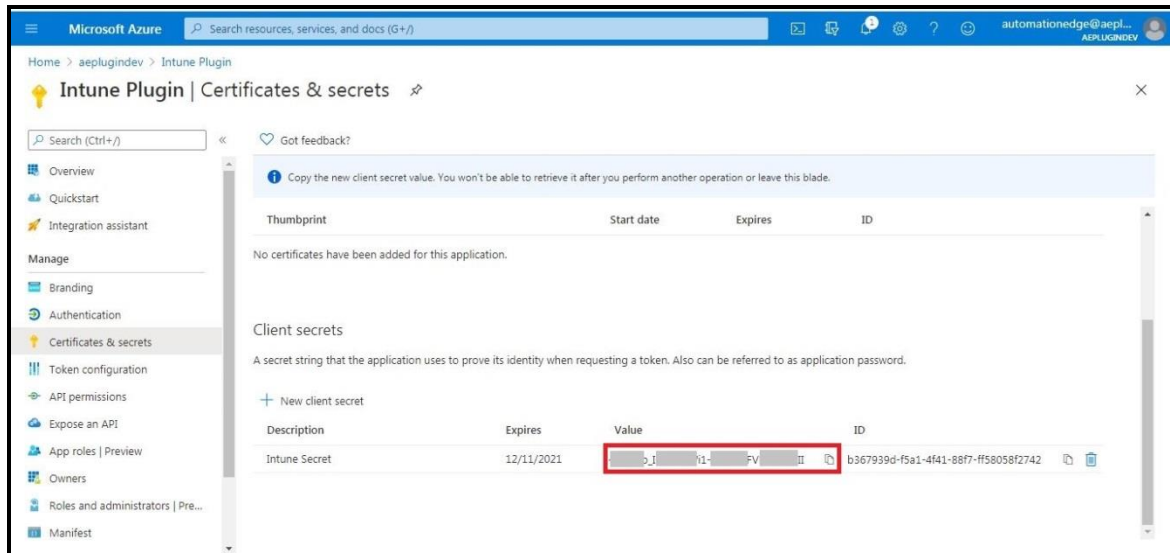
12. Click on **API Permission** and then click on **Add Permission.**
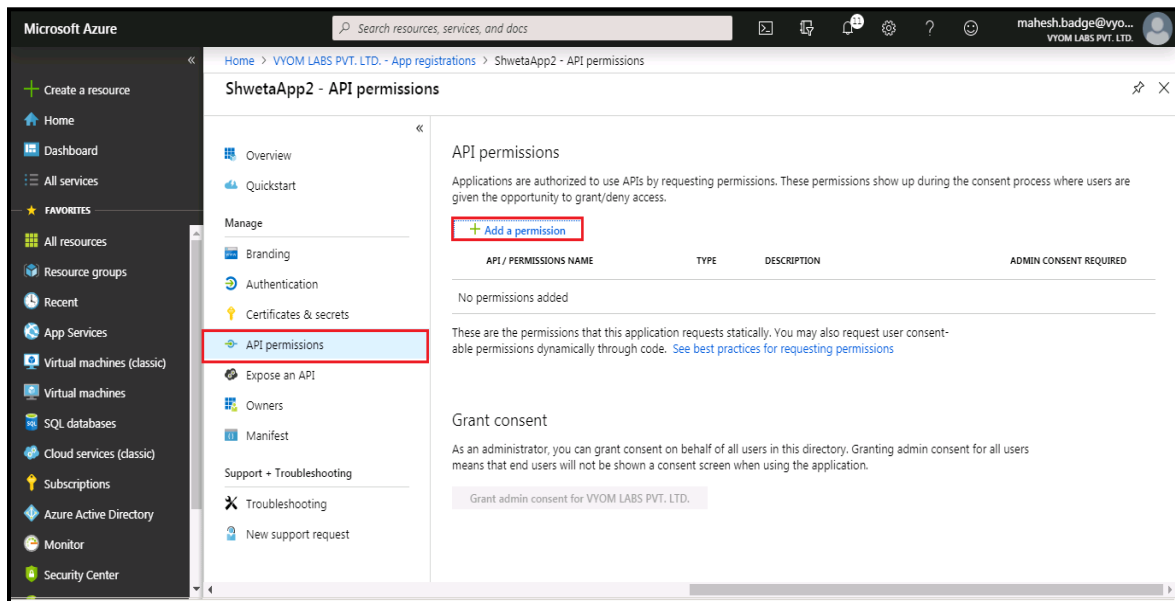
13. Click on **Microsoft Graph**, and then click on **Application permissions.**
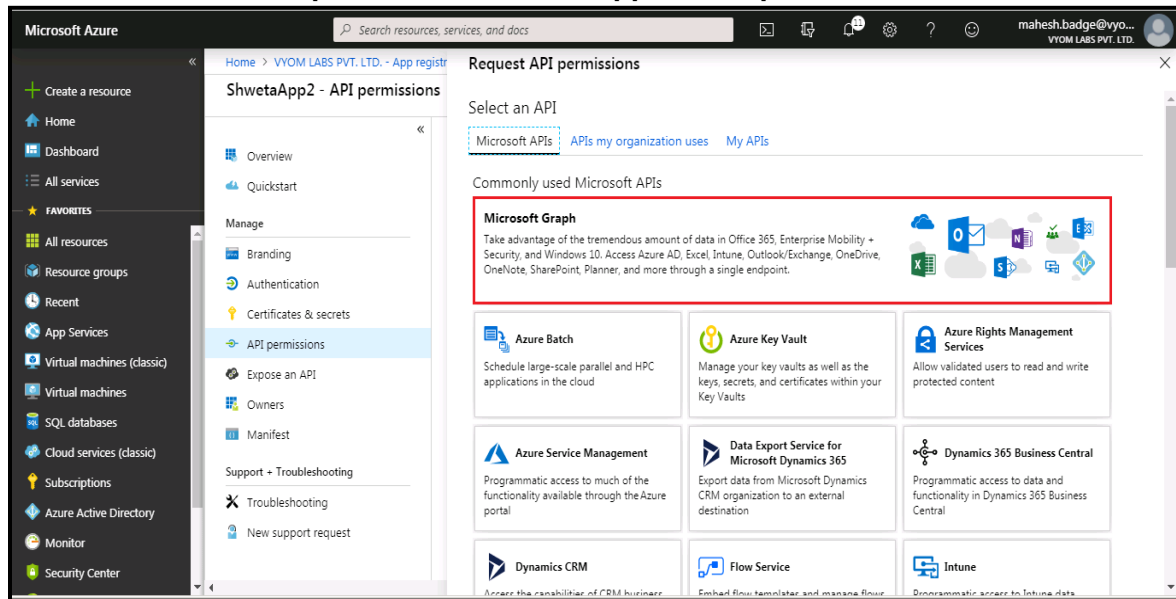
14. Select Application permission.
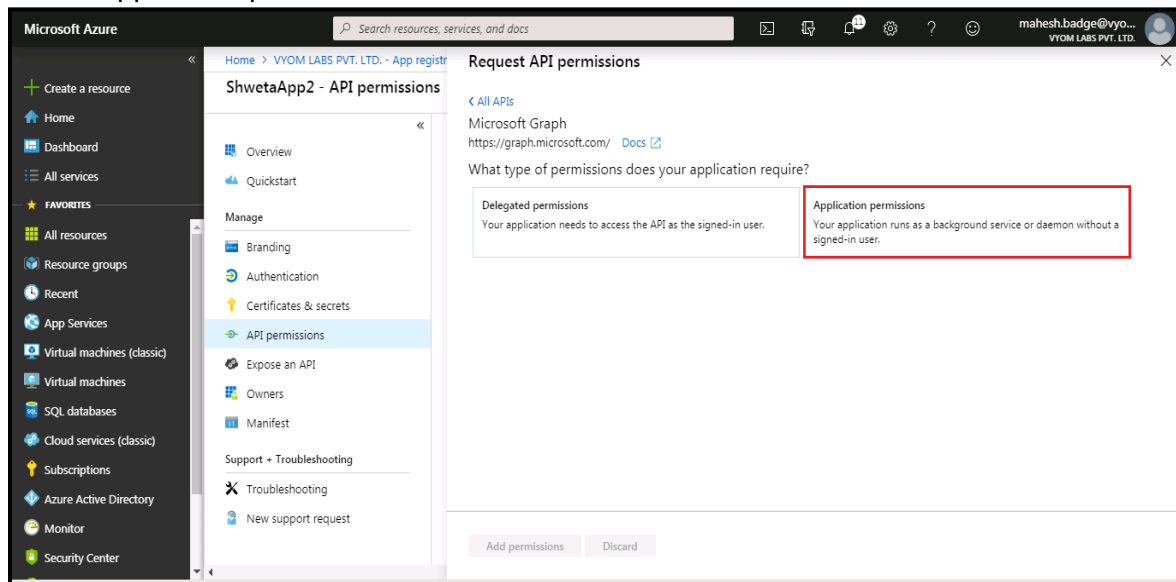
15. Search and select the required permission. Click on **Add Permission.**
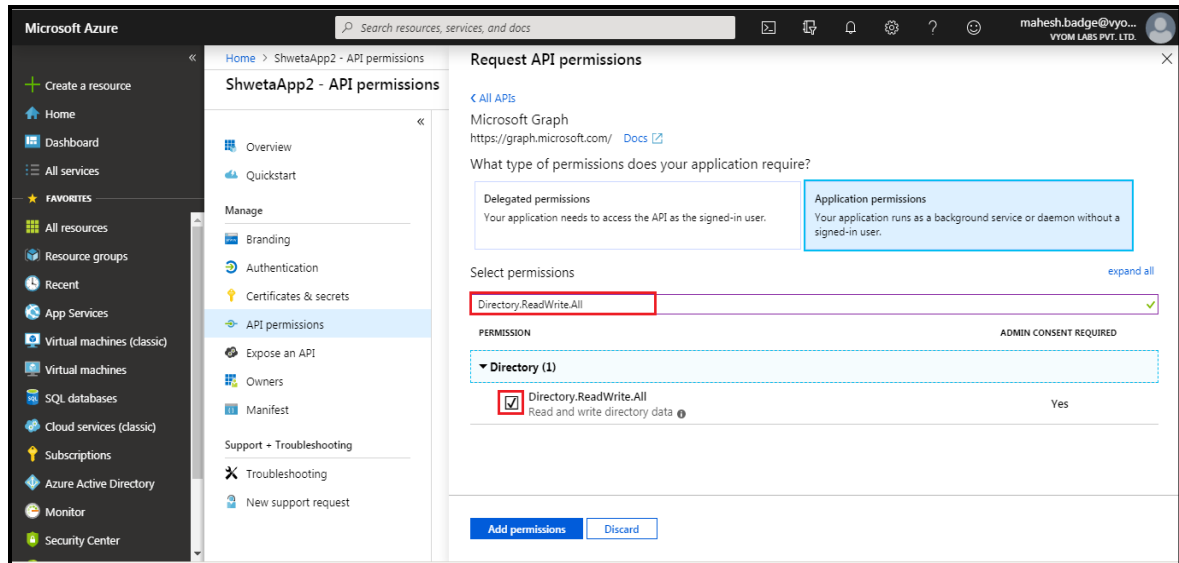
16. This will redirect back to API Permission. In the **Grant Consent** section click on **"Grant admin consent for…."**.
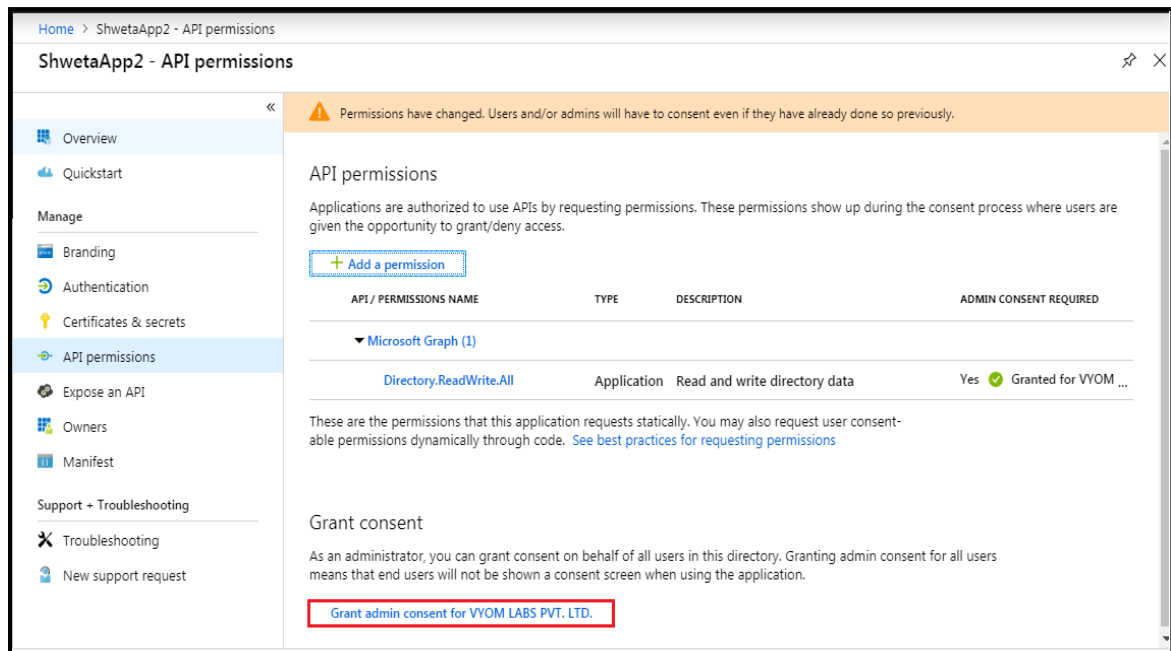
17. It will prompt for confirmation, click on **Yes.**
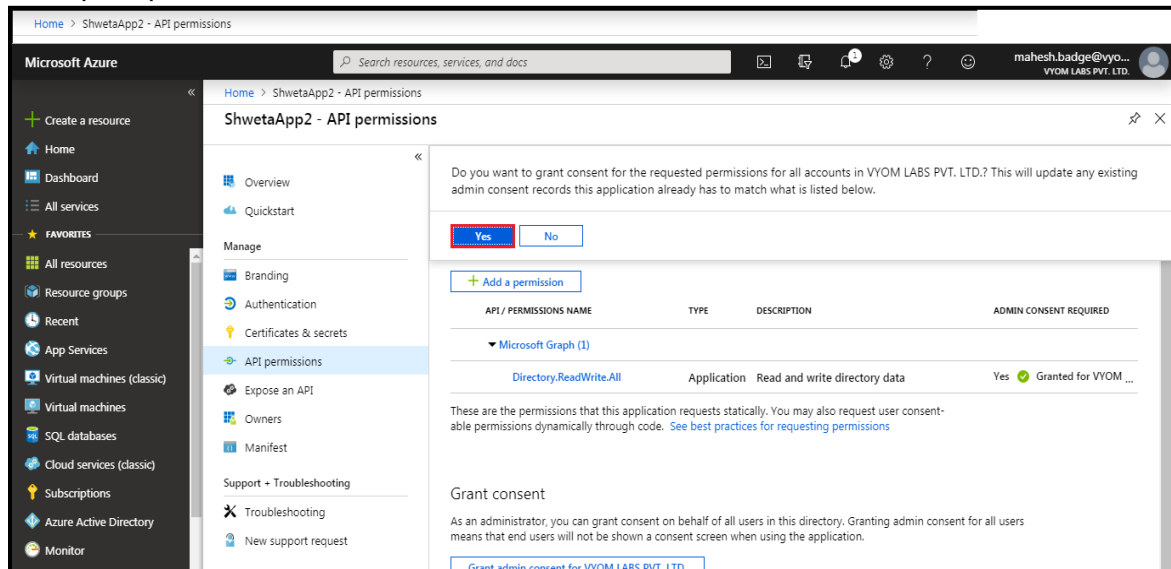
18. Similarly, we can assign the permissions required by Intune Plugins mentioned below,
   - DeviceManagementManagedDevices.PrivilegedOperations.All
   - DeviceManagementManagedDevices.ReadWrite.All

8   Appendix: Power Shell Remote Connection

8.1   Description

Perform the steps below to invoke PowerShell Script on Remote Machine (Enable WinRM Protocol and set trusted host list value to * on local as well as target system)

8.2   Parameters

Input Tab:

No.	Field Name	Description
1	Computer Name	IP Address of remote Machine.
2	Credentials	Username and Password of Remote Machine.

8.3   Prerequisites

8.3.1   Set Up Your Workgroup

For PowerShell Remoting to work in a workgroup environment, you must configure your network as a private or domain, not public network.

For guidance on this refer to below link
Guide on private and public networks.

Following exception occurs if the network is public.

```
Set-WSManQuickConfig: WinRM firewall exception will not work since one of the network
connection types on this machine   is set to Public. Change the network connection
type to either Domain or Private and try again.
```

8.3.2   Enable PowerShell Remoting on the PC You Want to Access Remotely

Your first step is to enable PowerShell Remoting on the PC to which you want to make remote connections. On that PC, you'll need to open PowerShell with administrative privileges.

Command-   **Enable-PSRemoting –Force**

Following error occurs if this command is not executed

```
 [<IP Address>] Connecting to remote server <IP Address>failed with the following
error message: Access is denied. For more information, see the
about_Remote_Troubleshooting
Help topic. + CategoryInfo : OpenError: (10.41.16.51:String) [],
PSRemotingTransportException+ FullyQualifiedErrorId :
AccessDenied,PSSessionStateBroken
```

8.3.3   Configure the Trusted Hosts setting.

You need to configure the TrustedHosts setting on PC you want to connect from, so the computers will trust each other.

If you want to go ahead and trust PC to connect remotely, you can type the following cmdlet in PowerShell (again, you'll need to run it as Administrator).

Set-Item WSMan:\localhost\Client\TrustedHosts -Value $IPAddress -Force

To add more than one machine to the trusted hosts list using winrm
winrm set winrm/config/client '@{TrustedHosts=" IPAddress1, IPAddress2,… "}'

Following error occurs if this command is not executed

```
Connecting to remote server <IP Address>failed with the following error message: The
WinRM client cannot process the request. If the authentication scheme is

different from Kerberos, or if the client computer is not joined to a domain, then
HTTPS transport must be used or the destination machine must be added to the
TrustedHosts configuration setting. Use winrm.cmd to configure TrustedHosts. Note that
computers in the TrustedHosts list might not be authenticated. You can get more
information about that by running the following command: winrm help config. For more
information, see the about_Remote_Troubleshooting Help topic.

+ CategoryInfo: OpenError: (10.41.11.5:String) [], PSRemotingTransportException

+ FullyQualifiedErrorId : ServerNotTrusted,PSSessionStateBroken
```

8.3.4   Test Connection

On the PC you want to access the remote system from, type the following cmdlet into PowerShell (replacing "COMPUTER" with the name or IP address of the remote PC),

Test-WsMan COMPUTER

This simple command tests whether the WinRM service is running on the remote PC. If it completes successfully, you'll see information about the remote computer's WinRM service in the window—signifying that WinRM is enabled and your PC can communicate. If the command fails, you'll see an error message instead.

8.3.5 Set-ExecutionPolicy

Change the user preference for the execution policy of the shell.

Syntax:

    Set-ExecutionPolicy [-executionPolicy] Policy
    {Unrestricted | RemoteSigned | AllSigned | Restricted | Default | Bypass | Undefined}
    [[-Scope] ExecutionPolicyScope] [-Force]

Example:
Set-ExecutionPolicy -Scope CurrentUser -ExecutionPolicy Unrestricted

Valid values:
1. Restricted
   Do not load configuration files or run scripts.
   This is the default.
2. AllSigned
   Require that all scripts and configuration files be signed
   by a trusted publisher, including scripts that you write on the
   local computer.
3. RemoteSigned
   Require that all scripts and configuration files downloaded from the Internet be signed by
   a trusted publisher.
4. Unrestricted
   Load all configuration files and run all scripts.
   If you run an unsigned script that was downloaded from the internet, you are prompted
   for permission before it runs.
5. Bypass
   Nothing is blocked and there are no warnings or prompts.
6. Undefined
   Remove the currently assigned execution policy from the current scope. This parameter
   will not remove an execution policy that is set in a Group Policy scope.

The following is a description of the flags
1. -Force:
   Suppress all prompts.
   By default, Set-ExecutionPolicy displays a warning whenever the execution policy is
   changed.

2. -Scope ExecutionPolicyScope
   This flag sets the scope of the execution policy.

Valid values are:

- Process: Affects only the current PowerShell process.
- CurrentUser: Affects only the current user.
- LocalMachine: Affects all users of the computer.
- To remove an execution policy from a particular scope, set the execution policy for that scope to Undefined.

8.3.6 Execute a single Remote command

To run a command on the remote system, use the Invoke-Command cmdlet using the following syntax:

Invoke-Command -ComputerName COMPUTER -ScriptBlock { COMMAND} -credential

"COMPUTER" represents the remote PC's name or IP address. "COMMAND" is the command you want to run.

Using Invoke-Command -ScriptBlock on a local function with arguments:

Invoke-Command -Credential $c -ComputerName COMPUTER –ScriptBlock ${function: Functionname} -ArgumentList $x, $y,

8.3.7 Parse output of Remote Command

$variablename=Invoke-Command -ComputerName COMPUTER -ScriptBlock {COMMAND} -credential
foreach ($xyz in $variablename)
{
$xyz
}

9 Appendix: OMi Condition Parameters

Custom Date type value not supported in condition parameters. Refer following table for condition parameters.

Property	Supported functions	Supports Order by	Supported Values
Application	EQUAL TO, NOT EQUAL TO, LIKE, IS NULL, IN		
assigned_group	EQUAL TO, NOT EQUAL TO, IN		
assigned_group[id]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, IN		assigned_group IN SQUARE BRACKET id%20EQ%20**id** **Note**: if this value type is string then provide value in single quote.
assigned_group[name]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, IN		assigned_group IN SQUARE BRACKET name%20EQ%20**'name'** **Note**: if this value type is string then provide value in single quote.

Property	Supported functions	Supports Order by	Supported Values
assigned_user	EQUAL TO, NOT EQUAL TO, IN		
assigned_user[id]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, IN		assigned_user IN SQUARE BRACKET id%20EQ%20**id** **Note**: if this value type is string then provide value in single quote.
assigned_user[login_name]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, IS NULL, IN, LIKE		assigned_user IN SQUARE BRACKET login_name%20EQ%20**login_name** **Note**: if this value type is string then provide value in single quote.
Category	EQUAL TO, NOT EQUAL TO, LIKE, IS NULL, IN		
cause[target_id]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, IS NULL, IN		cause IN SQUARE BRACKET target_id%20EQ%20**target_id** **Note**: if this value type is string then provide value in single quote.
ci_resolution_info[hint_count]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ: EQ, LT, GT, LTE, GTE, NE, IN		ci_resolution_info IN SQUARE BRACKET hint_count%20EQ%20**hint_count** **Note**: if this value type is string then provide value in single quote.
ci_resolution_info[matched_hint_count]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ: EQ, LT, GT, LTE, GTE, NE, IN		ci_resolution_info IN SQUARE BRACKET matched_hint_count%20EQ%20**matched_hint_count** **Note**: if this value type is string then provide value in single quote.
ci_resolution_info[quality_metric]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ: EQ, LT, GT, LTE, GTE, NE, IN		ci_resolution_info IN SQUARE BRACKET quality_matric%20EQ%20**quality_matric** **Note**: if this value type is string then provide value in single quote.
ci_resolution_info[status]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, IS NULL, IN, LIKE		ci_resolution_info IN SQUARE BRACKET status%20EQ%20**'status'**

Property	Supported functions	Supports Order by	Supported Values
			Note: if this value type is string then provide value in single quote.
close_key_pattern	EQUAL TO, NOT EQUAL TO, LIKE, IS NULL, IN		
control_transferred_to[dns_name]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, LIKE		control_transferred_to IN SQUARE BRACKET dns_name%20EQ%20'**dns_name**' **Note**: if this value type is string then provide value in single quote.
control_transferred_to[external_id]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, IS NULL, IN, LIKE		control_transferred_to IN SQUARE BRACKET external_id%20EQ%20**external_idvalue** **Note**: if this value type is string then provide value in single quote.
control_transferred_to[id]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, IS NULL, IN, LIKE		control_transferred_to IN SQUARE BRACKET id%20EQ%20**idvalue** **Note**: if this value type is string then provide value in single quote.
control_transferred_to[state]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, IS NULL, IN		control_transferred_to IN SQUARE BRACKET state%20EQ%20'**state**' **Note**: if this value type is string then provide value in single quote.
correlation_rule[target_id]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, IS NULL, IN		correlation_rule IN SQUARE BRACKET target_id%20EQ%20**target_idvalue** **Note**: if this value type is string then provide value in single quote.
ca[<*CA name*>]	EQUAL TO, NOT EQUAL TO, LIKE,IN, IN SQUARE BRACKET		ca IN SQUARE BRACKET CA_name%20EQ%20'**CA_name**' **Note**: if this value type is string then provide value in single quote.

Property	Supported functions	Supports Order by	Supported Values
custom_attribute_list[< *CA_name*>]	EQUAL TO, NOT EQUAL TO, LIKE, IN, IN SQUARE BRACKET		custom_attribute_list IN SQUARE BRACKET CA_name%20EQ%20'**CA_name'** **Note**: if this value type is string then provide value in single quote.
description	EQUAL TO, NOT EQUAL TO, LIKE, IS NULL, IN	Yes	
duplicate_count	EQUAL TO, LESS THAN, GREATER THAN, LESS THAN EQUAL TO, GREATER THAN EQUAL TO, NE, IN	Yes	
eti_hint	EQUAL TO, NOT EQUAL TO, LIKE, IS NULL, IN		
eti_value_id	EQUAL TO, NOT EQUAL TO, LIKE, IS NULL, IN		
id	EQUAL TO, NOT EQUAL TO, IN		
instruction_available	EQUAL TO		
key	EQUAL TO, NOT EQUAL TO, LIKE, IS NULL, IN		
log_only	EQUAL TO		
match_info[policy_name]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, IS NULL, IN, LIKE		match_info IN SQUARE BRACKET policy_name%20EQ%20**policy_name** **Note**: if this value type is string then provide value in single quote.
match_info[condition_id]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, IS NULL, IN, LIKE		match_info IN SQUARE BRACKET condition_id%20EQ%20**condition_idvalue** **Note**: if this value type is string then provide value in single quote.
match_info[condition_name]	IN SQUARE BRACKET Inside value parameter can use these parameters instead		match_info IN SQUARE BRACKET condition_name%20EQ%20'**condition_name'**

Property	Supported functions	Supports Order by	Supported Values
	of EQ : EQ, NE, IS NULL, IN, LIKE		**Note**: if this value type is string then provide value in single quote.
node[target_global_id]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, IS NULL, IN		node IN SQUARE BRACKET target_global_id%20EQ%20**target_global_idvalue** **Note**: if this value type is string then provide value in single quote.
node[target_id]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, IS NULL, IN		node IN SQUARE BRACKET target_id%20EQ%20**target_idvalue** **Note**: if this value type is string then provide value in single quote.
node_hints[hint]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, IS NULL, IN, LIKE		node_hints IN SQUARE BRACKET hint%20EQ%20**hint** **Note**: if this value type is string then provide value in single quote.
node_hints[node_core_id]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, IS NULL, IN, LIKE		node_hints IN SQUARE BRACKET node_core_id%20EQ%20**node_core_id** **Note**: if this value type is string then provide value in single quote.
node_hints[node_dns_name]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, IS NULL, IN, LIKE		node_hints IN SQUARE BRACKET node_dns_name%20EQ%20'**node_dns_name**' **Note**: if this value type is string then provide value in single quote.
node_hints[node_ip_address]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, IS NULL, IN, LIKE		node_hints IN SQUARE BRACKET node_ip_address%20IS%20NULL%20**node_ip_addressvalue** **Note**: if this value type is string then provide value in single quote.

Property	Supported functions	Supports Order by	Supported Values
object	EQUAL TO, NOT EQUAL TO, LIKE, IS NULL, IN	Yes	
om_service_id	EQUAL TO, NOT EQUAL TO, LIKE, IS NULL, IN		
om_user	EQUAL TO, NOT EQUAL TO, LIKE, IS NULL, IN	yes	
original_data	EQUAL TO, NOT EQUAL TO, LIKE, IS NULL, IN		
original_id	EQUAL TO, NOT EQUAL TO, LIKE, IS NULL, IN		
originating_server [dns_name]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, IS NULL, IN, LIKE		originating_server IN SQUARE BRACKET dns_name%20EQ%20'**dns_name**' **Note**: if this value type is string then provide value in single quote.
originating_server [ip_address]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, IS NULL, IN, LIKE		originating_server IN SQUARE BRACKET ip_address%20EQ%20**ip_addressvalue** **Note**: if this value type is string then provide value in single quote.
priority	EQUAL TO, NOT EQUAL TO, LIKE, IS NULL, IN	yes	
received_as_notify	EQUAL TO		
received_on_ci_downtime	EQUAL TO		
related_ci[sub_component]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, IS NULL, IN, LIKE		related_ci IN SQUARE BRACKET sub_component%20EQ%20'**sub_component**' **Note**: if this value type is string then provide value in single quote.
related_ci[target_global_id]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, IS NULL, IN		related_ci IN SQUARE BRACKET target_global_id%20EQ%20**target_global_idvalue** **Note**: if this value type is string then provide value in single quote.

Property	Supported functions	Supports Order by	Supported Values
related_ci[target_id]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, IS NULL, IN, LIKE		related_ci IN SQUARE BRACKET target_id%20EQ%20**taget_idvalue** **Note**: if this value type is string then provide value in single quote.
related_ci_hints[hint]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, IS NULL, IN, LIKE		related_ci_hints IN SQUARE BRACKET hint%20EQ%20'**hint'** **Note**: if this value type is string then provide value in single quote.
sending_server [dns_name]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, IS NULL, IN, LIKE		sending_server IN SQUARE BRACKET dns_name%20EQ%20'**dns_name'** **Note**: if this value type is string then provide value in single quote.
sending_server [ip_address]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, IS NULL, IN, LIKE		sending_server IN SQUARE BRACKET ip_address%20EQ%20**ip_addressvalue** **Note**: if this value type is string then provide value in single quote.
sequence_number	EQUAL TO, NOT EQUAL TO, LESS THAN, GREATER THAN, LESS THAN EQUAL TO, GREATER THAN EQUAL TO, IN	yes	
severity	EQUAL TO, NOT EQUAL TO, IS NULL, IN	yes	major, minor, critical, warning, normal, unknown
skip_duplicate_suppression	EQUAL TO		
solution	EQUAL TO, NOT EQUAL TO, LIKE, IS NULL, IN	yes	
source_ci[target_global _id]	IN SQUARE BRACKET		source_ci IN SQUARE BRACKET target_global_id%20EQ%20**target_global_idvalue**

Property	Supported functions	Supports Order by	Supported Values
	Inside value parameter can use these parameters instead of EQ : EQ, NE, IS NULL, IN		**Note**: if this value type is string then provide value in single quote.
source_ci[target_id]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, IS NULL, IN,LIKE		source_ci IN SQUARE BRACKET target_id%20EQ%20**target_id value** **Note**: if this value type is string then provide value in single quote.
source_ci_hints[hint]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, IS NULL, IN,LIKE		source_ci_hints IN SQUARE BRACKET hint%20EQ%20'**hintValue'** **Note**: if this value type is string then provide value in single quote.
source_ci_hints[node[core_id]]	EQUAL TO, NOT EQUAL TO, LIKE, IS NULL, IN, IN SQUARE BRACKET		source_ci_hints IN SQUARE BRACKET node%5Bcore_id%20EQ%20**core_idvalue**%5D **Note**: if this value type is string then provide value in single quote.
source_ci_hints[node[dns_name]]	EQUAL TO, NOT EQUAL TO, LIKE, IS NULL, IN, IN SQUARE BRACKET		source_ci_hints IN SQUARE BRACKET node%5Bdns_name%20EQ%20'**dns_name'**%5D **Note**: if this value type is string then provide value in single quote
source_ci_hints[node[ip_address]]	EQUAL TO, NOT EQUAL TO, LIKE, IS NULL, IN, IN SQUARE BRACKET		source_ci_hints IN SQUARE BRACKET node%5Bip_address%20EQ%20'**ip_addressvalue'**%5D **Note**: if this value type is string then provide value in single quote
sourced_from[dns_name]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, IS NULL, IN,LIKE		sourced_from IN SQUARE BRACKET dns_name%20EQ%20'**dns_name'**

Property	Supported functions	Supports Order by	Supported Values
			Note: if this value type is string then provide value in single quote.
sourced_from[external_id]	IN SQUARE BRACKET Inside value parameter can use these parameters: EQ, NE, IS NULL, IN, LIKE		sourced_from IN SQUARE BRACKET external_id%20EQ%20'**external_idValue**' **Note**: if this value type is string then provide value in single quote.
sourced_from[id]	IN SQUARE BRACKET Inside value parameter can use these parameters instead of EQ : EQ, NE, IS NULL, IN,		sourced_from IN SQUARE BRACKET id%20EQ%20'**idValue**' **Note**: if this value type is string then provide value in single quote.
state	EQUAL TO, NOT EQUAL TO, IS NULL, IN	yes	closed, in_progress, open, resolved
sub_category	EQUAL TO, NOT EQUAL TO, LIKE, IS NULL, IN	yes	
time_changed	LESS THAN, GREATER THAN, LESS THAN EQUAL TO, GREATER THAN EQUAL TO	yes	Format: yyyy-MM-ddTHH:mm:ss.SSSZ EX: 2021-01-15T17:06:54.453Z OR Format: yyyy-MM-ddTHH:mm:ss.SSSXXX EX: 2021-01-15T17:06:54.453%2B02:00 Note: %2B used for '+' sign
time_created	LESS THAN, GREATER THAN, LESS THAN EQUAL TO, GREATER THAN EQUAL TO	yes	Format: yyyy-MM-ddTHH:mm:ss.SSSZ EX: 2021-01-15T17:06:54.453Z OR Format: yyyy-MM-ddTHH:mm:ss.SSSXXX EX: 2021-01-15T17:06:54.453%2B02:00

Property	Supported functions	Supports Order by	Supported Values
			Note: %2B used for '+' sign
time_first_received	LESS THAN, GREATER THAN, LESS THAN EQUAL TO, GREATER THAN EQUAL TO	yes	Format: yyyy-MM-ddTHH:mm:ss.SSSZ EX: 2021-01-15T17:06:54.453Z OR Format: yyyy-MM-ddTHH:mm:ss.SSSXXX EX: 2021-01-15T17:06:54.453%2B02:00 Note: %2B used for '+' sign
time_received	LESS THAN, GREATER THAN, LESS THAN EQUAL TO, GREATER THAN EQUAL TO	yes	Format: yyyy-MM-ddTHH:mm:ss.SSSZ EX: 2021-01-15T17:06:54.453Z OR Format: yyyy-MM-ddTHH:mm:ss.SSSXXX EX: 2021-01-15T17:06:54.453%2B02:00 Note: %2B user for '+' sign
time_state_changed	LESS THAN, GREATER THAN, LESS THAN EQUAL TO, GREATER THAN EQUAL TO	yes	Format: yyyy-MM-ddTHH:mm:ss.SSSZ EX: 2021-01-15T17:06:54.453Z OR Format: yyyy-MM-ddTHH:mm:ss.SSSXXX EX: 2021-01-15T17:06:54.453%2B02:00 Note: %2B user for '+' sign
title	EQUAL TO, NOT EQUAL TO, LIKE, IS NULL, IN	yes	
type	EQUAL TO, NOT EQUAL TO, LIKE, IS NULL, IN	yes	

10 Appendix: SharePoint Online: App Registration & Refresh Token Generation

10.1 Register App

Following are the steps to register App,

1. Sign in to your Azure Account through the **Azure portal**.
2. Select the **Azure Active Directory**.
3. Select **App Registrations**.
4. Select **New Registration**.
5. Name the application. Select a supported account type, which determines who can use the application.
6. Under **Redirect URI**, select **Public Client/native (mobile & desktop)** for the type of application you want to create and provide valid URL. For example, https://automationedge.com.

   For more information about redirect URI setup, see
   https://docs.microsoft.com/en-us/azure/active-directory/develop/reply-url

7. Select **Register**.

10.2 Provide API Permission

1. Copy **Client**.
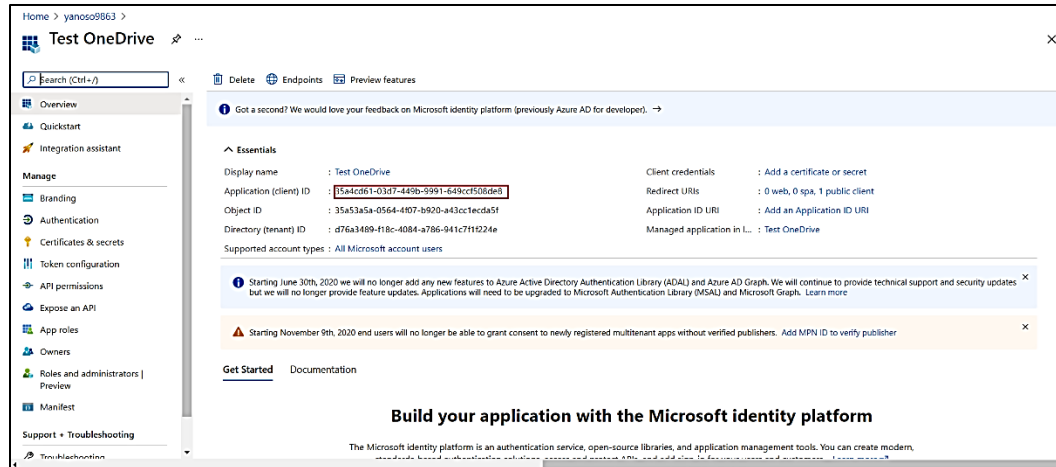
2. Click on **API Permission**.
3. Click on **Add Permission**.
4. Click on **Microsoft Graph**.
5. Provide all required permissions.
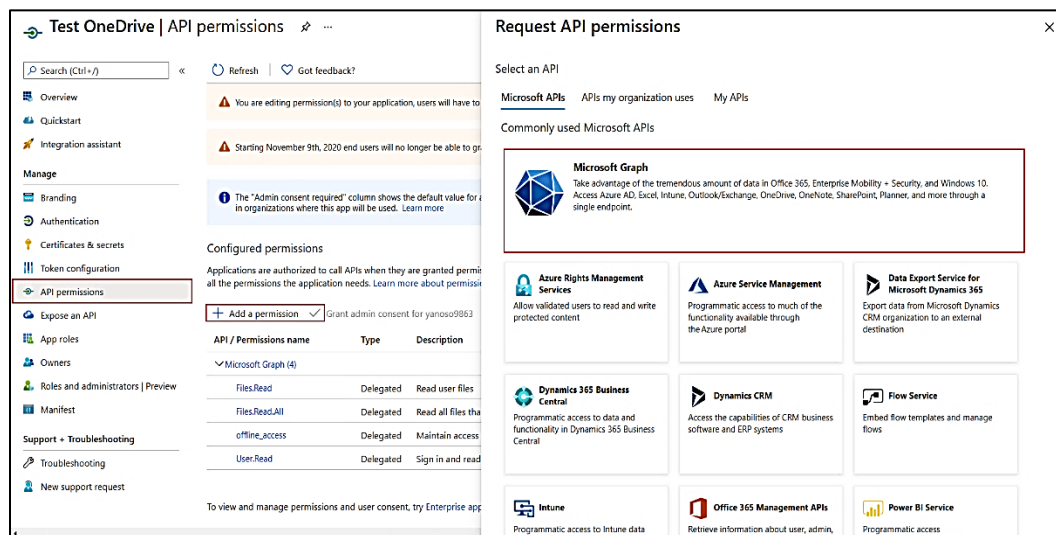
NOTE: Delegated offline_access permission is mandatory to generate the refresh token.

For more information, see https://docs.microsoft.com/en-us/azure/active-directory/develop/quickstart-register-app#register-an-application
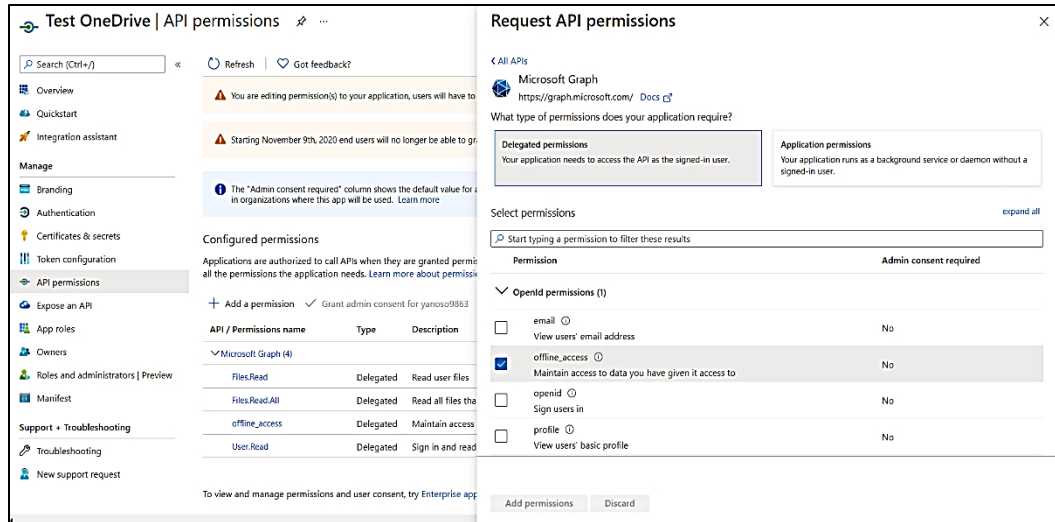
10.3 How to generate Refresh Token URL and Run in Browser

1. Get an authorization code
2. To start the sign-in process with the code flow, use a web browser to load the following URL request:

GET

```
https://login.microsoftonline.com/common/oauth2/v2.0/authorize?client_id={client_id}&scope={scope} &response_type=code
```

Example:

```
https://login.microsoftonline.com/common/oauth2/v2.0/authorize?client_id=bc096046-323f-4f98-91e6-fc1f28canks&scope=Files.Read Files.Read.All offline_access User.Read Sites.Read.All &response_type=code
```

3. After running in the browser the below login screen will appear, log in with the user who has created the app.
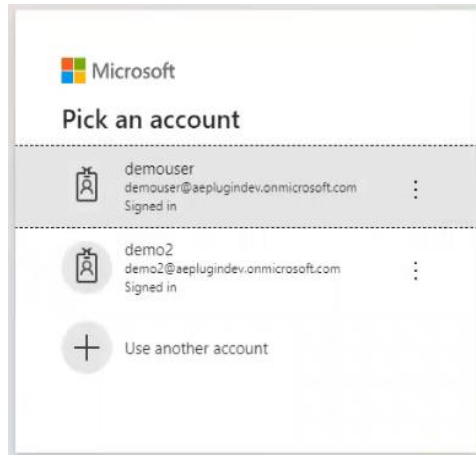
4. After login below screen will appear, on below screen click on **Accept** button.
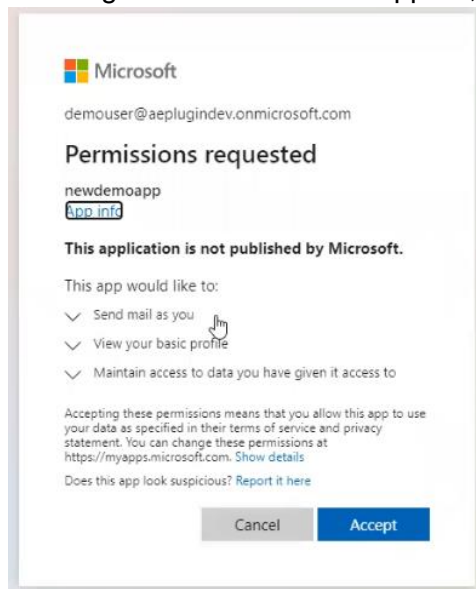
5. After clicking on accept button you will redirect to URI provided during app creation, once you are redirected, you will get the code in address bar as shown in below screen shot.
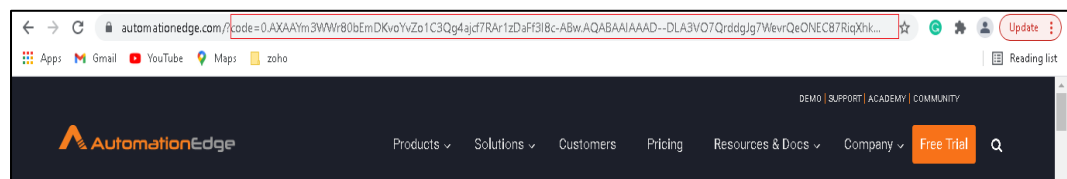
6. Redeem the code for access tokens and refresh token.

After you have received the code value, you can redeem this code for a set of tokens that allow you to authenticate with the SharePoint API. To redeem the code, make the following request:

POST
`https://login.microsoftonline.com/common/oauth2/v2.0/token`

Headers:
`Content-Type: application/x-www-form-urlencoded`
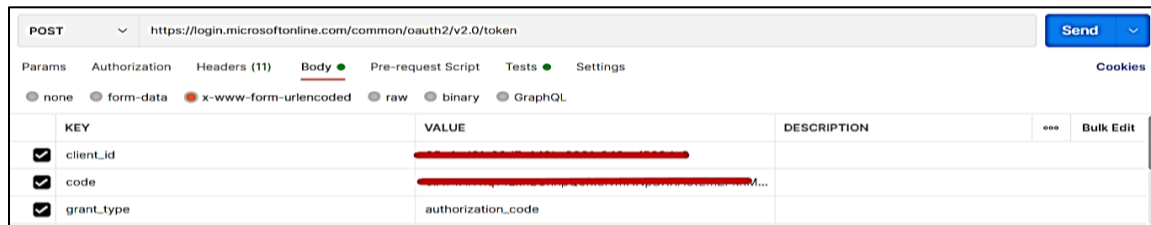
Body: x-www-form-urlencoded `(key value pair)`
`client_id={client_id}`
`code={code}`
`grant_type=authorization_code`
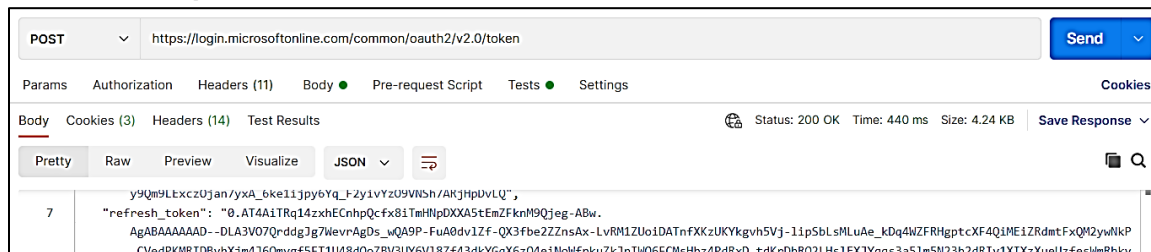
For more information, see https://docs.microsoft.com/en-us/onedrive/developer/rest-api/getting-started/graph-oauth?view=odsp-graph-online#code-flow

Example:
Postman Request:

Postman Response:

Contact

AutomationEdge Technologies Inc

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