



INTEGRATION PACK FOR MICROSOFT DYNAMICS 365

For Microsoft System Center Orchestrator

For System Center 2016 and 2019, you must use the 32-bit version of the integration pack, which has the name **Kelverion_Integration_Pack_for_Microsoft_Dynamics_365_3.01**

For System Center 2022 and later, you must use the 64-bit version of the integration pack, which has the name **Kelverion_IP_Microsoft_Dynamics_x64_3.01**

User Guide

Version 3.01

Kelverion Integration Pack for Microsoft Dynamics 365

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Getting Started

The Integration Pack for Microsoft Dynamics 365 is an add-on for System Center Orchestrator that enables integration with the Microsoft Dynamics platform.

System Requirements

The Keverion Integration Pack for Microsoft Dynamics 365 requires the following software to be installed and configured prior to implementing the integration. For more information about installing and configuring System Center Orchestrator refer to the respective product documentation.

Keverion_Integration_Pack_for_Microsoft_Dynamics_365 (32-bit)

- Microsoft System Center Orchestrator 2016, 2019
- Microsoft .NET Framework 4.7.2
- Microsoft Dynamics 365 Online Subscription

Keverion_IP_Microsoft_Dynamics_365_x64 (64-bit)

- Microsoft System Center Orchestrator 2022
- Microsoft .NET Framework 4.7.2
- Microsoft Dynamics 365 Online Subscription

Registering and Deploying the Integration Pack

After you download the integration pack, you register the integration pack file with the Orchestrator management server, and then deploy it to runbook servers and computers that have the Runbook Designer installed.

IMPORTANT: Ensure that you are deploying the correct version of the Integration Pack.

- For System Center 2016 and 2019, you must use the 32-bit version of the integration pack, which has the name **Keverion_Integration_Pack_for_Microsoft_Dynamics_365**
- For System Center 2022 and later, you must use the 64-bit version of the integration pack, which has the name **Keverion_IP_Microsoft_Dynamics_365_x64**

To register the integration pack:

1. On the management server, copy the **.OIP** file for the integration pack to a local hard drive or network share.
2. Confirm that the file is not set to **Read Only** to prevent unregistering the integration pack later.
3. Start the **Deployment Manager**.
4. In the navigation pane of the Deployment Manager, expand **Orchestrator Management Server**, right-click **Integration Packs** to select **Register IP with the Orchestrator Management Server**. The **Integration Pack Registration Wizard** opens.
5. Click **Next**.
6. In the **Select Integration Packs or Hotfixes** dialog box, click **Add**.

7. Locate the **.OIP** file that you copied locally from step 1, click **Open** and then click **Next**.
8. In the **Completing the Integration Pack Wizard** dialog box, click **Finish**.
9. On the **End User Agreement** dialog box, read the Keverion License Terms, and then click **Accept**.
10. The **Log Entries** pane displays a confirmation message when the integration pack is successfully registered.

To deploy the integration pack:

1. In the navigation pane of the **Deployment Manager**, right-click **Integration Packs**, click **Deploy IP to Runbook Server or Runbook Designer**.
2. Select the integration pack that you want to deploy, and then click **Next**.
3. Enter the name of the runbook server or computers with the Runbook Designer installed, on which you want to deploy the integration pack, click **Add**, and then click **Next**.
4. Continue to add additional runbook servers and computers running the Runbook Designer, on which you want to deploy the integration pack. Click **Next**.
5. In the **Installation Options** dialog box, configure the following settings.
6. To choose a time to deploy the integration pack, select the **Schedule installation** check box, and then select the time and date from the **Perform installation** list.
7. Click one of the following:
 - a. **Stop all running runbooks before installing the integration pack** to stop all running runbooks before deploying the integration pack.
 - b. **Install the Integration Packs without stopping the running Runbooks** to install the integration pack without stopping any running runbooks.
8. Click **Next**.
9. In the **Completing Integration Pack Deployment Wizard** dialog box, Click **Finish**.
10. When the integration pack is deployed, the **Log Entries** pane displays a confirmation message.
11. For more information about how to install integration packs, see the [How to Install an Integration Pack](https://technet.microsoft.com/en-us/library/hh420346.aspx) (https://technet.microsoft.com/en-us/library/hh420346.aspx).

Licensing the Integration Pack

After you register and deploy the integration pack you must provide a valid Keverion license before running any runbooks that contain activities from the integration pack.

To deploy the integration pack license file to System Center Orchestrator 2019 or earlier:

1. Copy the .KAL license file to %PROGRAMFILES(X86)%\Keverion Automation\Licenses
2. Repeat for each Orchestrator Runbook Server and Runbook Designer host system.

To deploy the integration pack license file to System Center Orchestrator 2022 or later:

1. Copy the .KAL license file to %PROGRAMFILES%\Keverion Automation\Licenses

2. Repeat for each Orchestrator Runbook Server and Runbook Designer host system.

Configuring The Keverion Integration Pack for Microsoft Dynamics 365

A configuration establishes a reusable link between Orchestrator and a Microsoft Dynamics 365 instance. You can create as many connections as you require specifying links to multiple instances. You can also create multiple connections to the same instance to allow for differences in security permissions for different user accounts.

To set up a Microsoft Dynamics 365 configuration:

1. In Runbook Designer, click the **Options** menu, and select *KA Microsoft Dynamics 365*. The **KA Microsoft Dynamics 365** dialog box appears.
2. On the **Configurations** tab, click **Add** to begin the configuration setup. The **Add Configuration** dialog box appears.
3. In the **Name** box, enter a name for the configuration. This could be the name of the Microsoft Dynamics 365 instance or a descriptive name to distinguish the type of configuration.
4. Click the ellipsis button (...) next to the **Type** box and select *Microsoft Dynamics 365 Configuration*.
5. In the **Discovery Service URL** box, enter the URL for the Microsoft Dynamics 365 Discovery Service. The Integration Pack uses the Discovery service to find the Service URL specific for your organization. This is useful if the Service URL changes in case your online organization instance is moved to another location in a datacenter. ***If you specify the Discovery Service URL, you do not have to specify the Service URL.*** The Discovery Service URL is: <https://globaldisco.crm.dynamics.com/api/discovery/v2.0/Instances>
6. In the **Service URL** box, enter the Microsoft Dynamics 365 URL specific for your organization. ***If you specify the Service URL, you do not have to specify the Discovery Service URL, Organization Unique Name, User Name and Password.*** Specifying the **Service URL** can improve connectivity performance, since the discovery step will be bypassed. However, in case your organization instance is re-located, your activities may fail to connect until you specify a new Service URL. Example: <https://kelverionprod.crm4.dynamics.com>
7. In the **Organization Unique Name** box, enter the Unique Name of your Organization. To find this, in your Dynamics portal, go to **Settings > Customizations > Developer Resources**; the Unique Name can be found in the **Instance Reference Information** section. The Integration Pack uses the organization unique name to find the Service URL specific for your organization. ***The Organization Unique Name is only required when the Discovery Service URL is specified, you do not have to specify it when the Service URL is specified.***
8. In the **User Name** and **Password** boxes, enter the credentials of a Microsoft Dynamics user with sufficient privileges to administer your instance. The Integration Pack uses these credentials to connect to the Discovery service and find the Service URL specific for your

organization. ***The User Name and Password are only required when the Discovery Service URL is specified, you do not have to specify them when the Service URL is specified.***

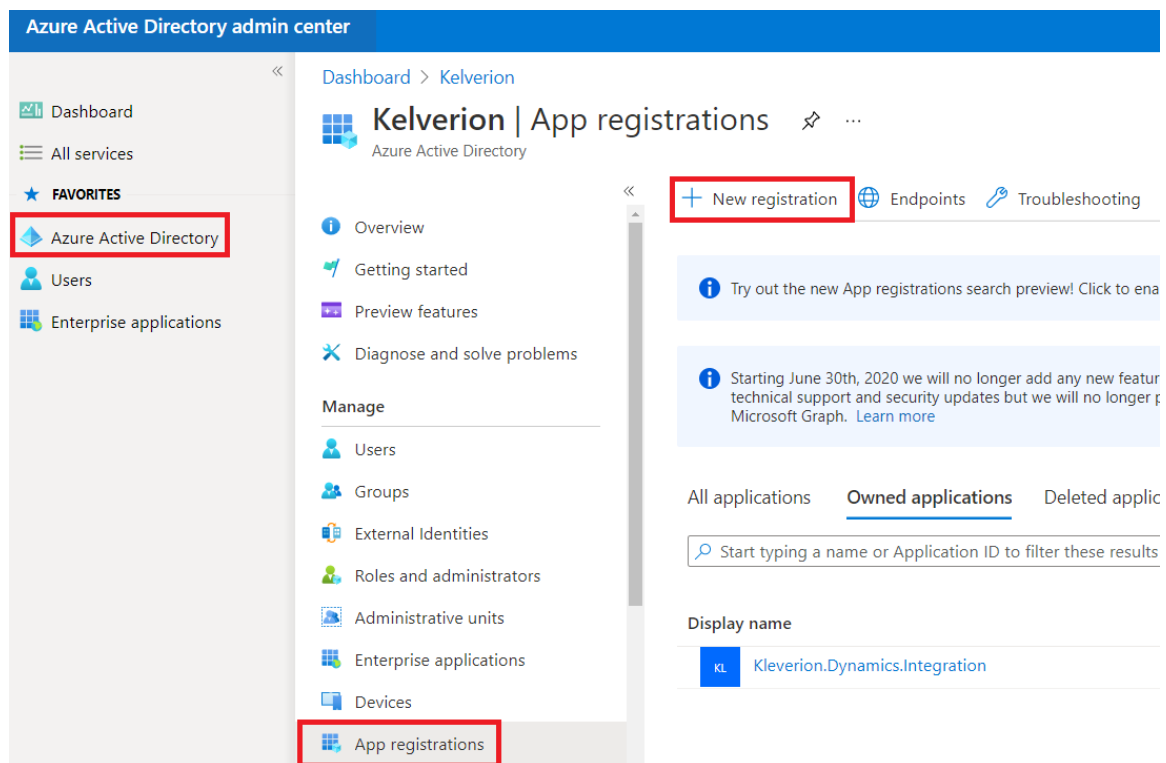
9. In the **Client ID** and **Client Secret** boxes, enter the app client ID and client secret for the Azure AD app configured to access your Microsoft Dynamics 365 instance. For details, please see [Connecting to Dynamics Using an Azure Entra ID App](#)
10. In the **Configuration File Path** box, enter the location of the Integration Pack configuration file. For more details, please see [Additional Configuration](#).
11. Add additional connections if applicable.
12. Click **OK** to close the configuration dialog box, and then click **Finish**.

Connecting To Dynamics Using an Azure Entra ID App

In order to connect to your Dynamics 365 Online instance, you will need to register and configure an App with Azure Entra ID. You will then have to associate the app with a Dynamics Application User which has the appropriate role and permissions to perform the desired integration tasks.

Register an App in Azure Entra ID

1. Sign in to the Azure portal using an account with administrator permission. You must use an account in the same Microsoft 365 subscription (tenant) as you intend to register the app with.
2. In the Azure Portal go to **App registrations** and click **New registration**.



3. In the **Register an application** page:
 - Enter the application name.
 - Select “Accounts in any organizational directory” as the supported account types.
 - Specify the Redirect URI as “Public client/native” and set the Redirect URI.
 - Click on Register to create the application.

Register an application ...

The user-facing display name for this application (this can be changed later).

Kleverion.Dynamics.Integration ✓

Supported account types

Who can use this application or access this API?

- ☐ Accounts in this organizational directory only (Kleverion only - Single tenant)
- ☒ Accounts in any organizational directory (Any Azure AD directory - Multitenant)
- ☐ Accounts in any organizational directory (Any Azure AD directory - Multitenant) and personal Microsoft accounts (e.g. Skype, Xbox)
- ☐ Personal Microsoft accounts only

[Help me choose...](#)

Redirect URI (optional)

We'll return the authentication response to this URI after successfully authenticating the user. Providing this now is optional and it can be changed later, but a value is required for most authentication scenarios.

Public client/native (mobile ... ▼

https://myapp.com ✓

Register an app you're working on here. Integrate gallery apps and other apps from outside your organization by adding from [Enterprise applications](#).

By proceeding, you agree to the [Microsoft Platform Policies](#)




Register


4. After the application is created, copy the **Application (client) ID**. You will specify this as the **Client ID** in the Integration Pack Configuration Options.


[Dashboard](#) > [Kleverion](#) >


Kleverion.Dynamics.Integration ⌘ ...

Search (Ctrl+ /)


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Manage


 Branding


 Authentication

 Certificates & secrets

 Token configuration

 API permissions

 Expose an API

 Got a second? We would love your feedback on Microsoft identity platform (previously

^ Essentials

Display name
[Kleverion.Dynamics.Integration](#)



Application (client) ID
6d0873ab-21a2-4092-8f83-e69095cce49d


Object ID
24238f16-2039-4ff1-a055-f54bbcdb36a6

Directory (tenant) ID
66cc279e-5a21-45a8-8e5d-4860197d4877

Supported account types
[Multiple organizations](#)

5. In the **Certificates & secrets** tab for your application add a new **Client Secret** and record the secret value after the secret has been created. You will specify this as the **Client Secret** in the Integration Pack Configuration Options.

 **Kelverion.Dynamics.Integration** | Certificates & secrets  ...

Search (Ctrl+/) <<  Got feedback?


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- Authentication
- Certificates & secrets**
- Token configuration
- API permissions
- Expose an API
- App roles
- Owners
- Roles and administrators | Prev...
- Manifest

Certificates


Certificates can be used as secrets to prove the application's identity when requesting a

 Upload certificate

Thumbprint	Start date
No certificates have been added for this application.	

Client secrets






A secret string that the application uses to prove its identity when requesting a token. A

 New client secret

Description	Expires	Value
Kelverion integration	12/25/2021	

6. In the **Manifest** tab for your application, in the manifest editor, set the **allowPublicClient** property to **true** and click on Save.

Kleverion.Dynamics.Integration | Manifest

 Save  Discard  Upload  Download  Got feedback?

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Manifest

The editor below allows you to update this application by directly modifying its JSON application manifest.

```
1 {
2   "id": "24238f16-2039-4ff1-a055-f54bbcd36a6",
3   "acceptMappedClaims": null,
4   "accessTokenAcceptedVersion": null,
5   "addIns": [],
6   "allowPublicClient": true,
7   "appId": "6d0873ab-21a2-4092-8f83-e69095c4e49d",
8   "appRoles": [],
9   "oauth2AllowUrlPathMatching": false,
10  "createdDateTime": "2021-06-18T18:28:32Z",
11  "disabledByMicrosoftStatus": null,
12  "groupMembershipClaims": null,
13  "identifierUris": [],
14  "informationalUrls": {
15    "termsOfService": null,
16    "support": null,
17    "privacy": null,
18    "marketing": null
19  },
20  "keyCredentials": [],
21  "knownClientApplications": [],
```

7. In the **API permissions** tab for your application add permissions for Dynamics CRM **user impersonation**. Make sure to also **Grant admin consent** after adding the permission.

Kleverion.Dynamics.Integration | API permissions

 Refresh  Got feedback?

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API permissions

Configured permissions

Applications are authorized to call APIs when they are granted permissions by users/admins as part of the configuration of all the permissions the application needs. [Learn more about permissions and consent](#)

 Add a permission

☒ Grant admin consent for Kleverion


API / Permissions name	Type	Description
▼ Dynamics CRM (1)		
user_impersonation	Delegated	Access Common Data Service as organization users
▼ Microsoft Graph (1)		
User.Read	Delegated	Sign in and read user profile


Request API permissions


Select an API


Microsoft APIs APIs my organization uses My APIs


Commonly used Microsoft APIs

**Microsoft Graph**
Take advantage of the tremendous amount of data in Office 365, Enterprise Access Azure AD, Excel, Intune, Outlook/Exchange, OneDrive, OneNote, Sha single endpoint.

**Azure Service Management**
Programmatic access to much of the functionality available through the Azure portal


**Data Export Service for Microsoft Dynamics 365**
Export data from Microsoft Dynamics CRM organization to an external destination

**Dynamics CRM**
Access the capabilities of CRM business software and ERP systems

**Dynamics ERP**
Programmatic access to Dynamics ERP data

Request API permissions

< All APIs

 **Dynamics CRM**
<https://admin.services.crm.dynamics.com/> Docs

What type of permissions does your application require?

Delegated permissions
Your application needs to access the API as the signed-in user.

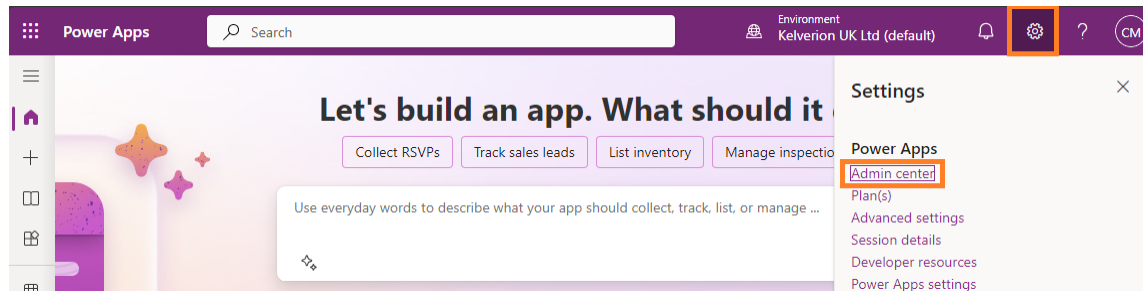
Select permissions

Permission
user_impersonation ⓘ Access Common Data Service as organization users

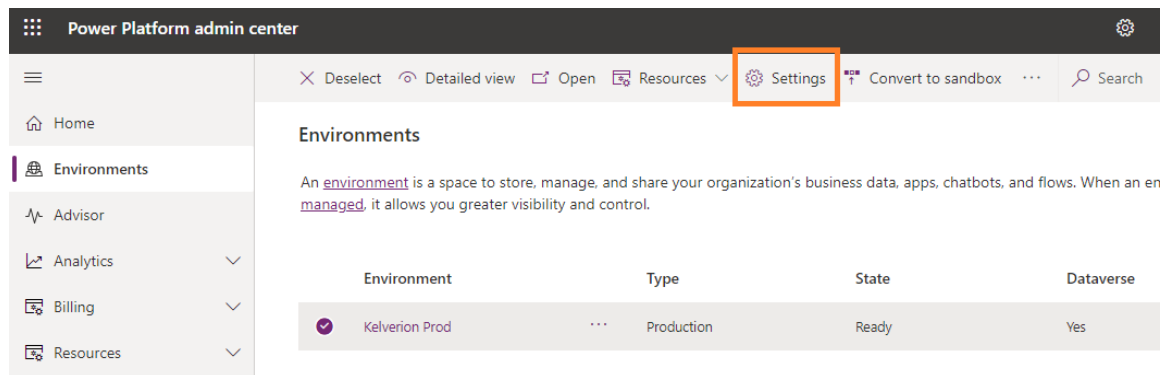
Create a Dynamics Application User

After the app is created and configured in Azure Entra ID, you must create an Application User in Dynamics 365 and associate it with the Entra ID app. The user should be configured with the appropriate role and permissions required for the integration scope.

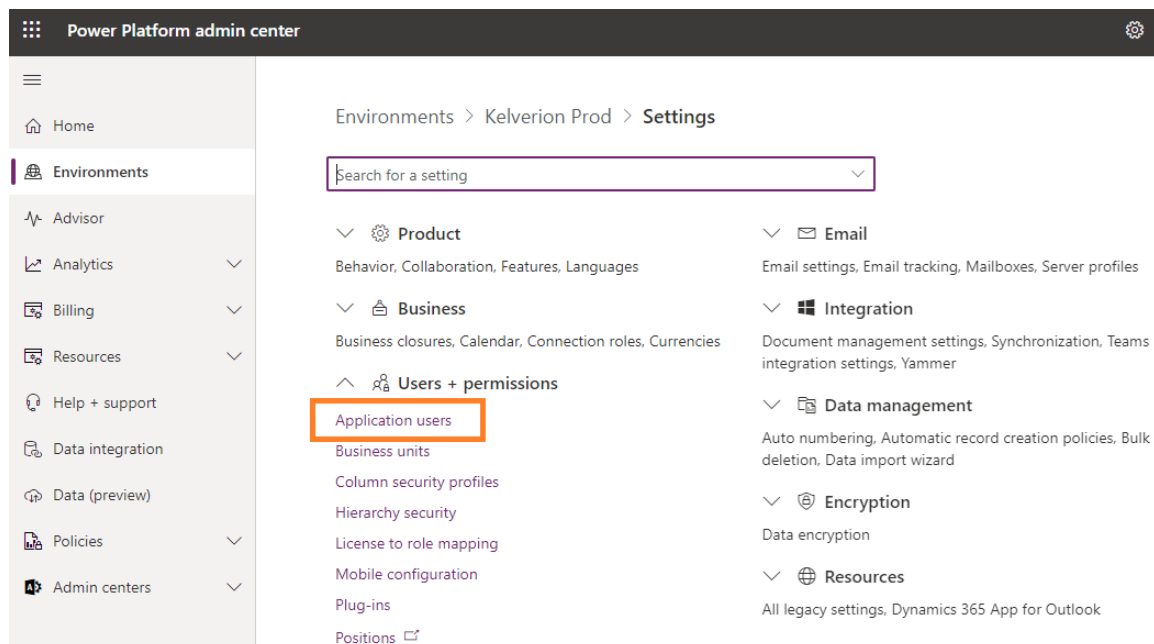
1. In your Microsoft 365 portal, open Power Apps and navigate to **Power Apps Admin center**.



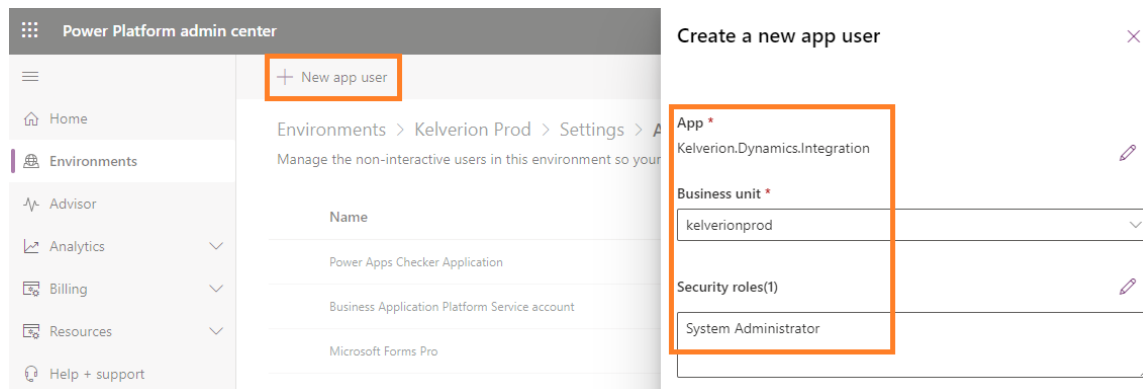
2. Select the Dynamics 365 environment that you want to configure and click Settings.



3. In Settings, click on the **Application users** link under **Users + permissions**.



4. Click **New app user** to create a new app user.
 - In the **App** field, select the app that you created in your Azure Entra ID. For details, see [Register an App in Azure Entra ID](#).
 - In the **Business unit** field, select your business unit.
 - Select the **Security role(s)** with the appropriate permissions required for your integration scope. It is recommended to create a new custom security role to define access and privileges for the app user within the Dynamics organization. For details please refer to [Create or configure a custom security role](#).



Additional Configuration

In addition to the typical IP configuration options, this integration pack provides a configuration file, which supports further customization control of the IP. Custom entity prefix and entity support are explained in the following sections.

The configuration file **Kelverion.IntegrationPack.Microsoft.Dynamics.Configuration.xml** by default is installed at the same location as the IP assemblies.

On System Center Orchestrator 2019 or earlier:

[Program Files (x86)]\Common Files\Microsoft System Center
2012\Orchestrator\Extensions\Support\Integration Toolkit\B3D9AF17-40AD-431D-8763-
CB86B66B4E74

On System Center Orchestrator 2022 or later:

[Program Files]\Common Files\Microsoft System Center
2012\Orchestrator\Extensions\Support\Integration Toolkit\B3D9AF17-40AD-431D-8763-
CB86B66B4E74

Make sure to back up the configuration file before making changes.

C:\Program Files\Common Files\Microsoft System Center
2012\Orchestrator\Extensions\Support\Integration Toolkit\B3D9AF17-40AD-431D-8763-
CB86B66B4E74\

Custom Entity Prefix

In the IP configuration file, you can configure one or more prefixes that the IP will use to recognize custom user created entities.

By default, in Microsoft Dynamics 365, entity logical names of custom entities are prefixed with “new_”, for example “new_my_custom_entity”. Microsoft Dynamics 365 allows users to change or define additional custom entity name prefixes. For details, please refer to Microsoft Dynamics 365 documentation. If you want the IP to recognize such custom defined prefixes, these prefixes must be listed in the configuration file.

To specify additional prefixes, you can add additional `<Prefix>` elements in the configuration file, under the `<CustomEntityPrefix>` element:

```
<Kolverion.IntegrationPack.Microsoft.Dynamics>
  <CustomEntityPrefix>
    <Prefix Value="new_" />
    <Prefix Value="myprefix1_" />
    <Prefix Value="myprefix2_" />
    ...
  </CustomEntityPrefix>
  ...
</Kolverion.IntegrationPack.Microsoft.Dynamics>
```

Entity Support

The `<EntitySupport>` section in the IP configuration file, specifies which entities are available in the integration pack activities Create Record, Get Record, Update Record, Delete Record and Monitor Record, respectively.

Note: Custom user defined entities are not required to be listed under `<EntitySupport>`. The IP will recognize custom entities, as long as the `<CustomEntityPrefix>` section is configured correctly. For details, please see [Custom Entity Prefix](#).

The Kolverion Integration Pack for Microsoft Dynamics 365 uses the Organization Service API to integrate with Microsoft Dynamics, which only supports a subset of all defined entities. The `<EntitySupport>/<Default>` element lists the entities which are supported for create, retrieve, update, delete and monitor operations, respectively, as documented by the Organization Service API.

Typically, you would not have to modify entities in the `<Default>` section of the configuration file. However, if you wish to specify other entities, in addition to the default list, you can do so by adding additional `<Entity>` elements in the `<Other>` section of the configuration file:

```
<Kolverion.IntegrationPack.Microsoft.Dynamics>
  ...
  <EntitySupport>
    ...
    <Other>
      <Entity
        LogicalName="anotherentity"
```

```

        CanCreate="true"
        CanUpdate="true"
        CanRetrieve="true"
        CanMonitor="false"
        CanDelete="false" />
        ...
    </Other>
</EntitySupport>
</Kolverion.IntegrationPack.Microsoft.Dynamics>

```

Note: The Kolverion Integration Pack for Microsoft Dynamics 365 is not guaranteed to work with entities which are not officially supported by the Organization Service API.

<Entity> attributes:

- **LogicalName** – logical of the entity.
- **CanCreate** – specifies if the entity will be listed in the Create Record activity.
- **CanUpdate** – specifies if the entity will be listed in the Update Record activity.
- **CanRetrieve** – specifies if the entity will be listed in the Get Record activity.
- **CanDelete** – specifies if the entity will be listed in the Delete Record activity.
- **CanMonitor** – specifies if the entity will be listed in the Monitor Record activity.

Working With Entities and Attributes

When working with entities, for cases when you need more detailed information about a particular entity or its attributes, you can use the entity editor available in Microsoft Dynamics 365 under **Settings > Customizations > Customize the System**. Alternatively, you can use the [Entity Metadata Browser](#), which is a custom solution from Microsoft for viewing entities and attribute properties in Microsoft Dynamics 365.

Entity Reference Fields

Entity reference fields (or reference attributes) are fields in an entity which point to another entity.

When specifying reference fields input properties for Create Record or Update Record activities, you will be required to specify both the reference field value, which is a unique identifier of the record that is being referenced, and the referenced entity type.

For example, when creating a new Case record, in order to specify the case customer, you have to specify values for the Customer input property – this will identify the customer for the new case record, and the Customer <Type> input property – this will specify whether the case customer is an Account record or a Contact record.

When publishing reference fields in Get Record and Monitor Record activities, the IP will publish the unique identifier of the record that is being referenced and a “friendly value” for the referenced record, when available.

For example, when publishing Customers for Case records, the Get record activity will publish customer unique IDs in the Customer column and customer names in the Customer <Primary Name> column.

Microsoft Dynamics 365 Activities

This integration pack adds the **KA Microsoft Dynamics 365** category to the **Activities** pane in the Runbook Designer. This category contains the following activities:

- Create Attachment
- Create Record
- Delete Record
- Execute Request
- Get Attachment
- Get Record
- Monitor Record
- Update Record

Entity Type Property

Several of the activities in the Integration Pack Microsoft Dynamics 365 require you to specify an **Entity Type**. When referencing an entity type, you can use the entity's name or logical name. Form for information on configuring and working with entity types, see the [Entity Support](#) section.

Common Configuration Instructions for All Activities

The following configuration instructions apply to many of the activities in this integration pack. Links to this section are included in the configuration instructions for each activity.

Activity Properties

Each activity has a set of required or optional properties that define the configuration of that activity. This includes how it connects to other activities or how the activity performs its actions. You can view or modify activity properties in the Orchestrator Designer.

To configure the properties for an activity

1. Double-click the activity. Alternatively, you can right-click the activity, and then click **Properties**.
2. To save your configuration entries, click **Finish**.

In the activity properties dialog box, several tabs along the left side provide access to general and specific settings for the activity. Although the number of available tabs for activity properties differs from activity to activity, all activities will have a **General** tab, a **Properties** tab, and a **Run Behavior** tab. Some activities may have a **Filters** tabs.

General Tab

This tab contains the **Name** and **Description** properties for the activity. By default, the **Name** of the object is the same as its object type, and the **Description** is blank. You can modify these properties to create more descriptive names or provide detailed descriptions of the activity.

Filters Tab

Monitor and Get activities provide filters which can be used to control data set retrieval in the activity. Field values of potential candidate records are compared to the values specified in filters to determine if they meet the filtering criteria. When matching against values, you select one of the available methods of comparison. An option is provided to either match or not match the filter using each method. For example, the "Does not" version of a method causes alerts that do not match the filter to trigger the runbook.

- **Equals:** the record field value exactly matches the text or number specified in the filter.
- **Does not equal:** the record field value does not exactly match the text or number specified in the filter.
- **Is less than:** the record field value is less than the number specified in the filter.
- **Is less than or equal to:** the record field value is less than or equal to the number specified in the filter.
- **Is greater than:** the record field value is greater than the number specified in the filter.
- **Is greater than or equal to:** the record field value is greater than or equal to the number specified in the filter.
- **Contains:** the record field value contains the exact text specified in the filter. Unlike the Equals behavior, there can be other text surrounding the matching text.
- **Does not contain:** the record field value does not contain the exact text specified in the filter. Unlike the Equals behavior, there can be other text surrounding the matching text.
- **Starts with:** the record field value starts with the exact text specified in the filter. Unlike the Equals behavior, there can be other text following the matching text.
- **Ends with:** the record field value ends with the exact text specified in the filter. Unlike the Equals behavior, there can be other text preceding the matching text.
- **Matches:** the record field value matches the specified pattern expression. You can use wildcard expression characters % (percent) and _ (underscore) to define pattern expressions.
- **Does not Match:** the record field value does not match the specified pattern expression. You can use wildcard expression characters % (percent) and _ (underscore) to define pattern expressions.

Run Behavior Tab

This tab contains the properties that determine how the activity handles multi-value published data and what notifications will be sent if the activity fails or runs for an excessive period of time.

Multi-Value Published Data Behavior

The Get Records and Monitor Records activities retrieve information from another activity or outside source and can return one or more values in the published data. For example, when you use the Get Record activity, the data output from that activity might be a list of incident requests that belong to the specified support team.

By default, the data from the Get activity will be passed on as multiple individual outputs. This invokes the next activity as many times as there are items in the output. Alternatively, you can provide a single output for the activity by enabling the **Flatten** option. When you enable this option, you also choose a formatting option:

- **Separate with line breaks:** Each item is on a new line. This format is useful for creating human-readable text files for the output.
- **Separate with _:** Each item is separated by one or more characters of your choice.
- **Use CSV format:** All items are in CSV (comma-separated value) format. This format is useful for importing data into spreadsheets or other applications.

The activity will produce a new set of data every time it runs. The **Flatten** feature does not flatten data across multiple instances of the same activity.

Event Notifications

Some activities are expected to take a limited amount of time to complete. If they do not complete within that time they may be stalled or there may be another issue preventing them from completing. You can define the number of seconds to wait for completion of the action. After this period, a platform event will be sent, and the issue will be reported. You can also choose whether to generate a platform event if the activity returns a failure.

To be notified when the activity takes longer than a specified time to run or fails to run:

1. In the **Event Notifications** box, enter the **number of seconds** of run time before a notification is generated.
2. Select **Report if activity fails to run** to generate run failure notifications.

For more information about Orchestrator events, see the "Event Notifications " topics in the [Runbook Properties](https://technet.microsoft.com/en-us/library/hh489610.aspx#EventNotifications) (https://technet.microsoft.com/en-us/library/hh489610.aspx#EventNotifications).

Published Data

Returned data is the foundation of a working Runbook. It is the data produced as a result of the actions of an activity. This data is published to an internal data bus that is unique for each Runbook. Subsequent activities in the Runbook can subscribe to this data and use it in their configuration. Link conditions also use this information to add decision-making capabilities to Runbooks.

An activity can only subscribe to data from the activities that are linked before it in the Runbook. You can use published data to automatically populate the property values needed by the activity.

To use published data:

1. Right-click the property value box, click **Subscribe**, and then click **Published Data**.
2. Click the **Activity** drop-down box and select the activity from which you want to obtain the data.

3. To view additional data elements common to all activities, select **Show Common Published Data**.
4. Click the published data element that you want to use, and then click **OK**.

For a list of the data elements published by each activity, see the Published Data tables in the activity topic. For information about the common published data items, see the [Published Data](http://technet.microsoft.com/en-us/library/hh403821.aspx) (<http://technet.microsoft.com/en-us/library/hh403821.aspx>).

Create Attachment Activity

The **Create Attachment** activity can be used in a runbook to create a new Note entity record and attach a document to it. The note record itself can be associated with another entity record by specifying the **Regarding** and **Regarding <Type>** properties.

Required Properties

You must configure the following properties.

File Path	Specifies the location of the file, which is to be attached to the new Note entity record.
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Optional Properties

You can configure the following properties as required.

Description	Specifies the note description.
Mime Type	Specifies the file attachment mime type.
Regarding	Specifies the unique identifier of an entity record that the newly created note will be associated with.
Regarding <Type>	Specifies the entity type that the newly created note will be associated with.
Title	Specifies the note title.

Published Data

This activity publishes the following activity-specific data items.

Note	Unique identifier of the newly created note record.
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Create Record Activity

The **Create Record** activity can be used in a runbook to insert a new entity record for the specified entity type. Depending on the selected entity type, the activity will present different required and optional input properties, specific for the entity.

Required Properties

You must configure the following properties.

Entity Type	Specifies the type of entity that will be created.
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Published Data

This activity publishes the following activity-specific data items.

<Record ID>	Unique identifier of the created entity record. The exact published data name varies depending on the selected entity type.
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Delete Record Activity

The **Delete Record** activity can be used in a runbook to delete an entity record of the specified entity type. The following tables list the input properties for this activity.

Required Properties

You must configure the following properties.

Entity Type	Specifies the type of entity that will be deleted.
<Record ID>	Specifies the unique ID of the record that is to be deleted.

Published Data

This activity does not publish any activity-specific data items.

Execute Request Activity

The **Execute Request** activity can be used in a runbook to perform specific entity operations, such as Cancel Case or Resolve Case, for example, which normally cannot be accomplished by using the CRUD activities.

The following requests can be executed by this activity:

Cancel Case	Cancel an active case
Check State Transaction	Check the current state of a case
Get Total Time	Get the total time, in minutes, that have been spent on the case.
Reactive Case	Reactive a closed case
Resolve Case	Resolve an active case

Cancel Case Request

The Cancel Case request can be used in a runbook to cancel a case (incident) which is in the Active state. The following table lists the required properties for this request.

Required Properties

You must configure the following properties.

Entity Type	Specifies the entity on which the request will be executed.
Case	Specifies the ID of the case (incident) that is to be canceled.

Check State Transition Request

The Check State Transition request can be used in a runbook to find out if the current state of a Case (Incident) allows for it to be resolved. The following tables list the required properties and published data for this request.

Required Properties

You must configure the following properties.

Entity Type	Specifies the entity on which the request will be executed.
Case	Specifies the ID of the case (incident) to check.
New Status	Specifies the new proposed resolved status for the case. Options include Information Required and Problem Solved .
Case	Specifies the ID of the case (incident) that is to be canceled.

Check State Transition Published Data

Element	Description	Valid Values
Valid State	Indicates if the proposed state transition to the specified	True

Element	Description	Valid Values
Transition	new status is valid or not.	False

Get Total Time Request

The Get Total Time request can be used in a runbook to calculate the total time, in minutes, worked on a case (incident). The following tables list the required properties and published data for this request.

Required Properties

You must configure the following properties.

Case	Specifies the ID of the case (incident).
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Get Total Time Published Data

Element	Description	Valid Values
Total Time (minutes)	The number of minutes worked on the case.	Integer

Reactivate Case Request

The Reactivate Case request can be used in a runbook to reactivate a previously canceled case. The following tables list the required properties for this request.

Required Properties

You must configure the following properties.

Entity Type	Specifies the entity on which the request will be executed.
Case	Specifies the ID of the case (incident) to be reactivated.
Status	Specifies the case status after it has been reactivated.

Resolve Case Request

The Resolve Case request can be used in a runbook to resolve an active case. The following tables list the required properties for this request.

Required Properties

You must configure the following properties.

Entity Type	Specifies the entity on which the request will be executed.
Case	Specifies the ID of the case (incident) to be resolved.
Resolution Status	Specifies the resolved case status. Options include Information Provided and Problem Solved .
Resolution	Specifies case resolution subject.
Billable Time (minutes)	Specifies the billable time in minutes for the case.

Optional Properties

You can configure the following properties as required.

Element	Description	Valid Values
Remarks	Specifies case resolution description.	Case [Incident]

Get Attachment Activity

The **Get Attachment** activity can be used in a runbook to retrieve an attachment for the specified Note entity record. To use this activity, typically you would first retrieve and filter Note entity records using the Get Record activity, and then you would retrieve attachment(s) for each note. The following tables list the required and optional properties and published data for this activity.

Required Properties

You must configure the following properties.

Note	Uniquely identifies the note record that the attachment will be retrieved from. The note record must have the <i>Is Document</i> field value set to True.
Download Folder	Specifies the folder where the attachment file will be downloaded.

Optional Properties

You can configure the following properties as required.

If Attachment Exists	<p>Specifies what action the activity should take if the specified folder already contains an existing file with the same name as the attachment file.</p> <p>Overwrite – The existing file is replaced with the attachment.</p> <p>Rename – The attachment will be saved with a new name.</p> <p>Ignore – The attachment will not be saved.</p>
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Published Data

This activity publishes the following activity-specific data items.

Attachment Path	The file path where the attachment file was saved
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Get Record Activity

The **Get Record** activity can be used in a runbook to retrieve existing entity records according to the specified filter criteria. Depending on the selected entity type, the activity will present different filters, specific for the entity. The

Required Properties

You must configure the following properties.

Entity Type	Specifies the type of entity that will be retrieved.
Publish All Fields	<p>Specifies whether the activity will publish all record fields (entity attributes), or just a subset of “summary” fields. Summary fields typically include record identifier fields, name fields, date, and time when the record was created and date and time when the record was last modified.</p> <p>Choosing not to publish all record fields can improve activity performance for cases when specific details for an entity are not needed, for example, when only the Record ID for a specific entity record is required.</p> <p>Note that regardless whether you chose to publish all record fields or not, the activity will provide all available filters for the specified entity.</p>

Optional Properties

You can configure the following properties as required.

Descending	When Order By is specified, this property specifies whether the returned records will be ordered in ascending or descending order.
Order By	Specifies a field used for ordering the returned records. When not specified, there is no guarantee of the records order.
Record Limit	Specifies the maximum number of records to be returned by the activity.

Filters

This activity provides an appropriate set of filter options depending on the **Entity Type** selection. You can configure one or more filters to which records the activity will retrieve.

Published Data

This activity publishes the following activity-specific data items. Additional data items will be included depending on the **Entity Type** selection.

Number of Records	The number of records retrieved by the activity.
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Monitor Record Activity

The **Monitor Record** activity can be used in a runbook to detect when new records are created and/or existing records are updated in your Microsoft Dynamics 365 environment.

Required Properties

You must configure the following properties.

Entity Type	Specifies the type of entity that will be monitored.
Publish All Fields	<p>Specifies whether the activity will publish all record fields (entity attributes), or just a subset of “summary” fields. Summary fields typically include record identifier fields, name fields, date, and time when the record was created and date and time when the record was last modified.</p> <p>Choosing not to publish all record fields can improve activity performance for cases when specific details for an entity are not needed, for example, when only the Record ID for a specific entity record is required.</p> <p>Note that regardless whether you chose to publish all record fields or not, the activity will provide all available filters for the specified entity.</p>
Monitor New Records	Specifies whether the activity will detect newly created entity records.
Monitor Updated Records	Specifies whether the activity will detect updates to existing entity records.
Monitor Interval (seconds)	Specifies the number of seconds the activity waits between server requests. Minimum is 15 seconds.

Optional Properties

You can configure the following properties as required.

Descending	When Order By is specified, this property specifies whether the returned records will be ordered in ascending or descending order.
Order By	Specifies a field used for ordering the returned records. When not specified, there is no guarantee of the records order.
Record Limit	Specifies the maximum number of records to be returned by the activity.

Filters

This activity provides an appropriate set of filter options depending on the **Entity Type** selection. You can configure one or more filters to which records will trigger the monitor.

Published Data

This activity publishes the following activity-specific data items. Additional data items will be provided depending on the **Entity Type** selection.

Number of Records	The number of records detected by the monitor.
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Update Record Activity

The **Update Record** activity can be used in a runbook to update existing entity records.

Required Properties

You must configure the following properties.

Entity Type	Specifies the type of entity that will be updated.
<Record ID>	Identifies the entity record that will be updated.

Published Data

This activity does not publish any activity-specific data items.