Informatica® Cloud Application Integration
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Synchronize ServiceNow Incidents with Dynamics 365 Cases

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Preface

Use *Synchronize ServiceNow Incidents with Dynamics 365 Cases* to learn how to synchronize ServiceNow incidents with Dynamics 365 cases. The recipe is based on REST and SOAP APIs and you use an HTTP request to call the process. This guide assumes that you have an understanding of the ServiceNow connector and Dynamics 365 connector concepts.

CHAPTER 1

Introduction to Synchronize ServiceNow Incidents with Dynamics 365 Cases recipe

The Synchronize ServiceNow Incidents with Dynamics 365 Cases recipe is a REST and SOAP-based API recipe.

You can run the process to synchronize ServiceNow incidents with Dynamics 365 cases. The process is called by an HTTP request with email as the incoming parameter and searches for all the incidents created or updated during the previous day in ServiceNow. The process searches for a matching case in Dynamics 365 based on the short description and case title. If the case does not exist, the process searches for the incident contact by email in ServiceNow with the email in Dynamics 365 and creates the case based on the contact details from ServiceNow without manual intervention.

After the process is initiated, the user receives a notification that the process is running in the background. After the process runs, the user receives an email notification with the number of successful synchronizations and a list of case numbers that failed to synchronize.

Example

Consider that the sales team in your organization uses ServiceNow to create or update incidents for new customer accounts. The support team uses Microsoft Dynamics 365 to manage and maintain cases reported by customers, partners, and employees. Every time the sales team creates or updates a customer incident and the customer account is eligible for support, they communicate the relevant incident details manually to the customer support team. The support team then verifies whether the incident exists as a case in their database. If the case does not exist, the team creates a case manually.

To improve the incident and case management and team collaboration, both teams need access to critical customer data about product issues and priorities.

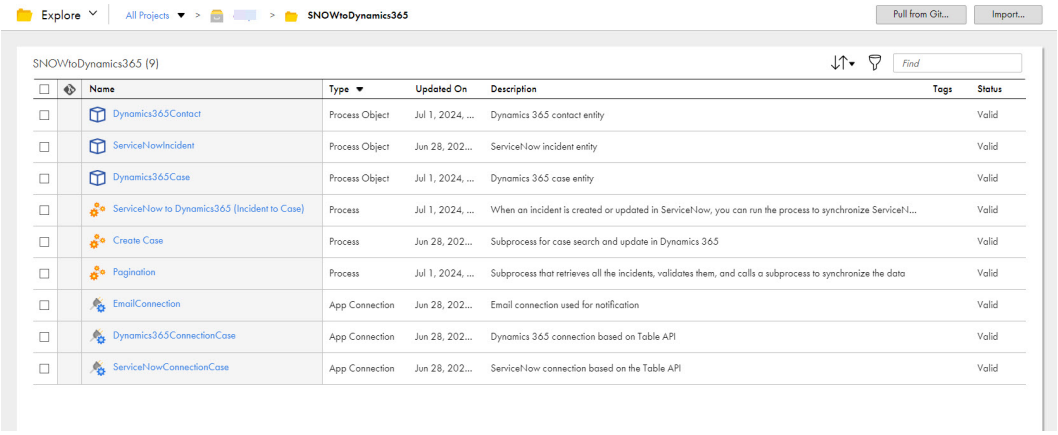
With this recipe, when the support team invokes the process, all the incidents that were created or updated during the previous day in ServiceNow get synchronized with Dynamics 365 cases.

CHAPTER 2

Synchronize ServiceNow Incidents with Dynamics 365 Cases recipe contents

The recipe contains multiple assets such as process objects, app connections, and processes.

The following image shows the assets that the Synchronize ServiceNow Incidents with Dynamics 365 Cases recipe package contains:



Recipe assets

The following table lists the assets that the Synchronize ServiceNow Incidents with Dynamics 365 Cases recipe package contains:

Asset Name	Asset Type	Description
Dynamics365Contact	Process object	Dynamics 365 contact entity.
ServiceNowIncident	Process object	ServiceNow incident entity.
Dynamics365Case	Process object	Dynamics 365 case entity.

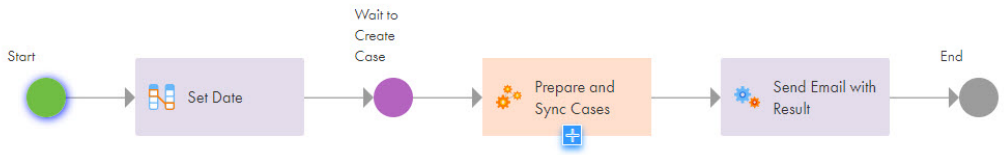
Asset Name	Asset Type	Description
EmailConnection	App connection	Email connection that is used to send email notifications.
Dynamics365ConnectionCase	App connection	Connects to Dynamics 365 based on the Table API. The Dynamics 365 connector works only with the Dynamics 365 API 9.2 version.
ServiceNowConnectionCase	App connection	Connects to ServiceNow based on the Table API.
Create Case	Process	Subprocess to search for cases and update them in Dynamics 365.
Pagination	Process	Subprocess to retrieve all the incidents, validate them, and call a subprocess to synchronize the data.
ServiceNow to Dynamics365 (Incident to Case)	Process	The REST and SOAP based API process that synchronizes data from the incidents that were created or updated during the previous day in ServiceNow with the Dynamics 365 cases.

ServiceNow to Dynamics 365 (Incident to Case) process

When an incident is created or updated in ServiceNow, you can run the process to synchronize ServiceNow incidents with Dynamics 365 cases.

The process is called by an HTTP request and searches for all the incidents created or updated during the previous day in ServiceNow. The process searches for a matching case in Dynamics 365 based on the short description and case title. If the case does not exist, the process searches for the incident contact by email in ServiceNow with the email in Dynamics 365 and creates a case based on the caller details from ServiceNow without manual intervention.

The following image shows the steps that the ServiceNow to Dynamics365 (Incident to Case) process contains:



The following table lists the steps that the ServiceNow to Dynamics365 (Incident to Case) process contains:

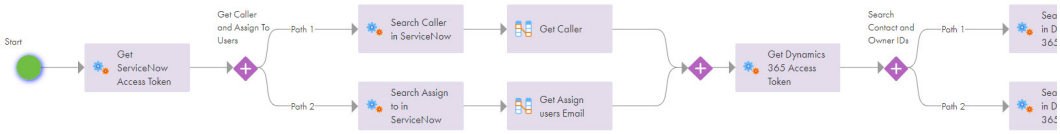
Step Name	Description
Start	The process searches for the case object in Dynamics 365.
Set Date	Gets all the incidents that were created or updated from the previous day. You can also modify the day from when you want to synchronize the data. For example, if you want to synchronize the incidents created or updated before 2 days in ServiceNow, you can update the **Before_Day** field value from `-1` to `-2` on the **Input Fields** tab.
Wait to Create Case	When you invoke the process, a message appears to notify the user that the background job has started.
Prepare and Sync Cases	The process performs the steps configured in the Pagination process and synchronizes the matching ServiceNow incidents with Dynamics cases.
Send Email with Result	Sends an email with the results.
End	Ends the process.

Create Case process

The Create Case process searches for the cases in Dynamics 365 and creates or updates the cases based on the search result in Dynamics 365.

The Create Case process is used as a subprocess in the Pagination process.

The following image shows the steps that the Create Case process contains:



The following table lists the steps that the Create Case process contains:

Step Name	Description
Start	The process searches for the incident object in ServiceNow.
Get ServiceNow Access Token	Gets an access token to authorize all the connection requests in ServiceNow.
Get Caller and Assign To Users	Searches users by the Caller and Assign To user fields simultaneously in ServiceNow. The process searches and gets the caller in ServiceNow and continues to the next step. The process simultaneously searches and gets the assigned user email ID in ServiceNow and continues to the next step.

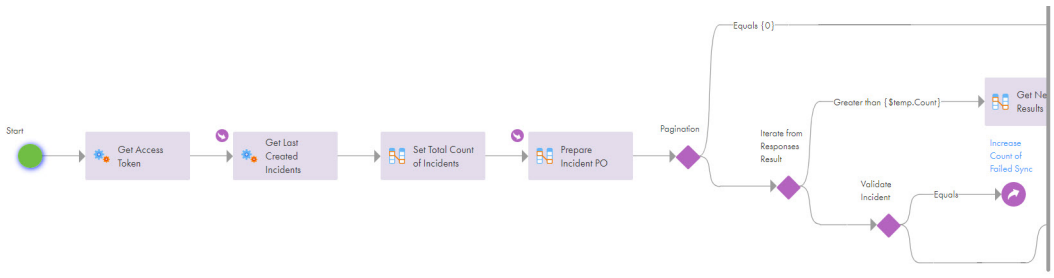
Step Name	Description
Get Dynamics 365 Access Token	Gets an access token to authorize all the connection requests in Dynamics 365.
Search Contact and Owner IDs	Searches users by the Contact and Owner IDs fields simultaneously in Dynamics 365. The process searches for the contact by email in Dynamics 365 and gets the contact ID. The process simultaneously searches for the owner in Dynamics 365 and gets the Owner ID, and continues to the next step.
Is User missing in Dynamics 365	Verifies whether the user is missing in Dynamics 365. If the incident ID exists, the process continues to the next step. Otherwise, the process creates a new contact and gets a contact ID. If the contact is successfully created, the process continues to the next step. Otherwise, an error occurs.
Search Case by Title	Searches for the case by title in Dynamics 365.
Get Case ID	Gets the case ID.
Is Case missing in Dynamics 365	Verifies whether the case ID is missing in Dynamics 365. If the case ID exists, updates the case. Otherwise, creates a new case.
End	Ends the process.

Pagination process

The Pagination process retrieves the incidents in ServiceNow, validates them, and calls a subprocess to synchronize the data in Dynamics 365.

The Pagination process is used as a subprocess in the ServiceNow to Dynamics365 (Incident to Case) process.

The following image shows the steps that the Pagination process contains:



The following table lists the steps that the Pagination process contains:

Step Name	Description
Start	The process searches for the date you want to retrieve the data and the email address to which the process execution result needs to be sent.
Get Access Token	Get an access token to authorize all the connection requests. After you generate the access token the first time, you can use it for multiple requests for the duration specified in the client credentials.
Get Last Created Incidents	Gets all the incidents that were created or updated from the previous day. You can also modify the date from when you want to synchronize the data.
Set Total Count of Incidents	Gets the total count of the incidents.
Prepare Incident PO	Parses the incidents and assigns values.
Pagination	The process iterates the response results for all incidents. The process contains a pagination of search results for incidents with a limit of 100 results per page. If the number of records is greater than the temporary count value, that is, 100 records per page, the process links the results to the next page. If the number of records does not cross the temporary count value, the process starts validating the incidents. The process performs the steps configured in the Create Case process and increases the count of successful and failed synchronizations based on the synchronization results. Otherwise, the process increases the count of failed synchronizations. If the case doesn't have a caller, the number of failed records increases.
Prepare Email with Result	Collects the result that contains the number of successful and failed synchronization incidents in the email.
End	Ends the process.

CHAPTER 3

Using the Synchronize ServiceNow Incidents with Dynamics 365 Cases recipe

To use the Synchronize ServiceNow incidents with Dynamics 365 cases recipe, you must perform the following steps manually:

Step 1: Copy and access the recipe

Step 2: Configure and publish the Dynamic365ConnectionCase connection

Step 3: Configure and publish the EmailConnection connection

Step 4: Configure and publish the ServiceNowConnectionCase connection

Step 5: Configure and publish the processes

Step 6: Invoke the process

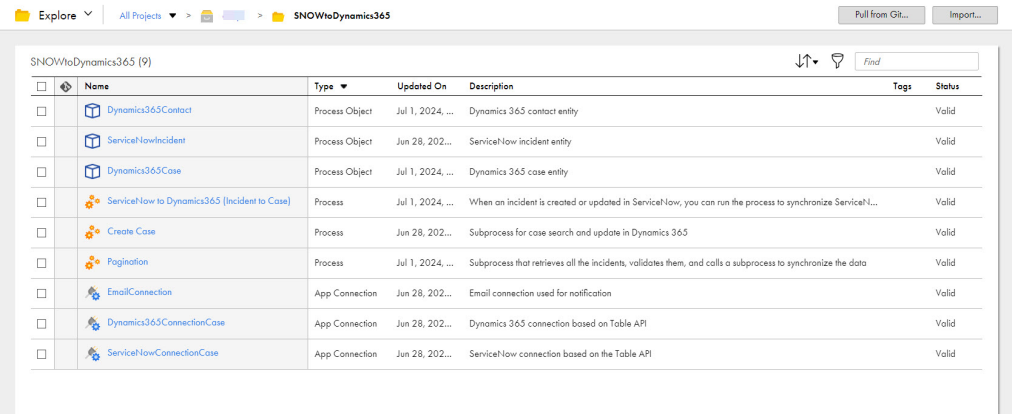
Step 7: Test data synchronization from ServiceNow incidents to Dynamics 365 cases

Copying and accessing the recipe

To copy and access the recipe content, perform the following steps:

1. Open the **Synchronize ServiceNow Incidents with Dynamics 365 Cases** recipe and click **Use**.
2. Select the location where you want to copy the recipe, and then click **Continue**.
3. In the **Copying the recipe** dialog box, click **OK**.
   It might take some time for the recipe to get copied. You will receive a notification when the recipe is ready for use.
4. After the recipe is copied, click **Explore** to access the recipe content.

5. Navigate to the project or folder where you copied the recipe or enter the recipe name in the **Find** box. All the assets in the recipe are displayed as shown in the following image:



Configuring and publishing the Dynamics 365 connection

To configure and publish the Dynamics 365 connection case, perform the following steps:

1. Open the **Dynamic365ConnectionCase** connection.
2. In the **Type** field, select **Dynamics365**.
3. In the **Run On** field, select **Cloud Server or any Secure Agent**.
4. In the **Connection Properties** section, enter values for the following properties:

Property	Description
Tenant_ID	Dynamics 365 tenant ID to get the access token. Enter the tenant ID that you generated under **Microsoft Entra ID** > **App registrations** in Dynamics 365 after creating the client credentials.
Client_ID	Dynamics 365 client ID to generate a valid access token. Enter the client ID that you generated under **Microsoft Entra ID** > **App registrations** in Dynamics 365.
Client_Secret	Dynamics 365 client secret that you generated under **Microsoft Entra ID** > **App registrations** in Dynamics 365.
Grant_type	Grant type that the Dynamics 365 case uses to get an access token for third-party client authorization. Enter the value as **client_credentials**.
Resource_URL	URL to access the Dynamics 365 case.

5. Save and publish the connection.

Configuring and publishing the ServiceNow connection

To configure and publish the ServiceNow connection case, perform the following steps:

1. Open the **ServiceNowConnectionCase** connection.
2. In the **Type** field, select **ServiceNow**.
3. In the **Run On** field, select **Cloud Server or any Secure Agent**.
4. In the **Connection Properties** section, enter values for the following properties:

Property	Description
Client ID	ServiceNow client ID to generate a valid access and refresh token. Enter the client ID that you generated under **System OAuth** > **Application Registry** in ServiceNow.
Client Secret	ServiceNow client secret that you generated under **System OAuth** > **Application Registry** in ServiceNow.
User Name	ServiceNow user name with the security_admin role to generate client credentials in the ServiceNow case.
Password	Password associated with the ServiceNow user account.
Service URL	URL to access the ServiceNow case.
Grant type	Grant type that the ServiceNow case uses to get an access token for third-party clients authorization. Enter the value as **password**.

5. Save and publish the connection.

Configuring and publishing the Email connection

To configure and publish the Email connection, perform the following steps:

1. Open the **EmailConnection** connection.
2. In the **Type** field, select **IICS Cloud Application Integration Email Service (Licensed for use)**.
3. In the **Run On** field, select **Cloud Server or any Secure Agent**.

4. In the **Connection Properties** section, enter values for the following properties:

Property	Description
User Name	User name to log in to the email server. The user name is either the account name or the email address that is used to send the email with the synchronization results. For example: `notifyme@mydomain.com`
Password	Password for the email address. Set an API key for your email account. For information about creating an API key, see Create API credentials.
Security	Select **SSL** for the Email connection to use the SSL protocol.

Configure the following common properties on the connection creation page:

Property	Description
Host	Email server's DNS name, such as `mail.mydomain.com`, or an IP address, such as `192.168.1.1`.
Port	Port for communication between the Process Server and the email server. Default is **25**.

5. Save and publish the connection.

Configuring and publishing the processes

To configure and publish the processes, perform the following steps:

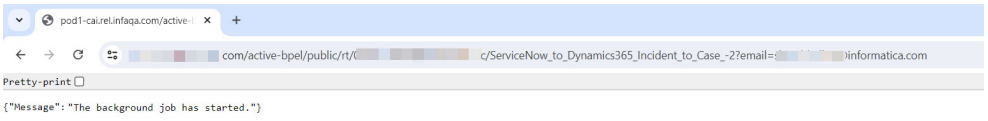
1. Open the **Create Case** process.
2. On the **Start** tab of the Start step, select **Cloud Server** in the **Run On** field.
3. Optionally, you can change the tracing level from **Verbose** to **None** on the **Advanced** tab.
4. Save and publish the process.
5. Open the **Pagination** process.
6. On the **Start** tab of the Start step, select **Cloud Server** in the **Run On** field.
7. Optionally, you can change the tracing level from **Verbose** to **None** on the **Advanced** tab.
8. Save and publish the process.
9. Open the **ServiceNow to Dynamics365 (Incident to Case)** process.
10. On the **Start** tab of the Start step, select **Cloud Server** in the **Run On** field.
11. Optionally, you can change the tracing level from **Verbose** to **None** on the **Advanced** tab.
12. Save and publish the process.

Invoking the process

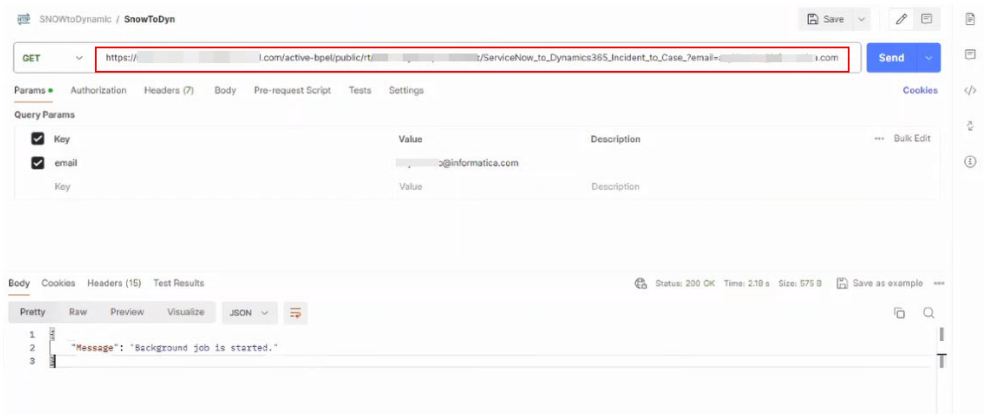
When you invoke the ServiceNow to Dynamics365 (Incident to Case) process, the user receives a notification stating that the process is running in the background. After the process runs, the user receives an email with the number of successful synchronizations and a list of case numbers that failed to synchronize.

To invoke a process, you can use one of the following options:

- Passing input through a browser
  1. Open the ServiceNow to Dynamics365 (Incident to Case) process and click **Actions** > **Properties Detail** > **Copy Service URL**.
  2. Open a text editor and add the input field and value to the service URL as shown in the following format:
     `<Cloud Application Integration POD URL>/active-bpel/public/rt/<API_name>?email=<Email_ID>`
  3. Open a browser and paste the service URL as shown in the following sample image:

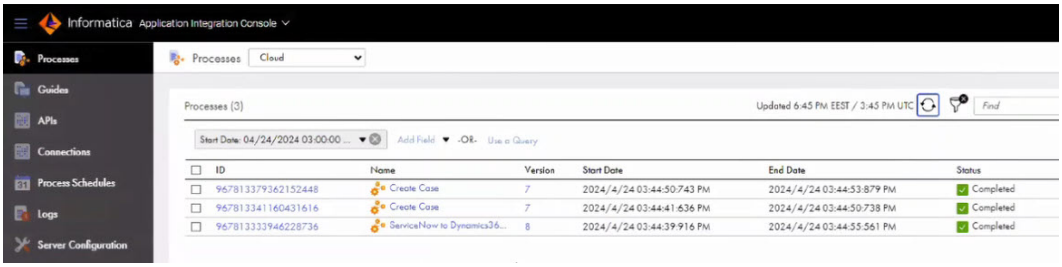
     A message appears stating that the background job has started.
- Passing input through a REST client
  You can use a REST client such as Postman.
  1. Open Postman.
  2. Select the HTTP verb as GET and specify the generated REST service URL followed by the input field and value `?email=<Email_ID>` as shown in the following sample image:

  3. Enter the user account details on the **Authorization** tab.
  4. Click **Send**.

In Application Integration Console, you can verify whether the process execution was successful or faulted.

The following image shows a successful process execution:



Test data synchronization from ServiceNow incidents to Dynamics 365 cases

When you invoke the process, the HTTP request searches for all the incidents that were created or updated during the previous day in ServiceNow, and the details are synchronized with the Dynamics 365 cases without manual intervention.

The following table shows the fields that are synchronized between the ServiceNow incident and the Dynamics 365 case:

ServiceNow - Incident	**Dynamics 365 - Case**
Caller	Customer
Assign to	Owner
Short Description	Case Title
Description	Description
Channel	Origin - Chat, Self-Service, Virtual Agent, and Walk-in - Web - Email - Email - Phone - Phone
State	Status - New - In progress - In progress - In progress - On hold - On hold
Urgency	Priority
Create Date/Last Modify Date	Last Modify Date

Rules and guidelines for using the Synchronize ServiceNow Incidents to Dynamics 365 Cases recipe

Consider the following rules and guidelines when working with the Synchronize ServiceNow Incidents with Dynamics 365 Cases recipe:

- You must first configure the connections in the recipe and publish them before opening or updating the process. Otherwise, the process will contain empty fields from the connections and will become invalid.
- Informatica recommends that you use the same names configured for the assets in the recipe. If you use the same asset names, you can publish all the assets and synchronize the data from ServiceNow incidents with Dynamics 365 cases without any issue. However, if you change the names, you must ensure that you update the names in the related fields in other assets.
- If the tenant already contains connections with the same name as the connections added from the package, the process in the recipe becomes invalid. This is because the newly added connection name contains the suffix `-2`. For example, `<connection_name>-2`.
  In this case, you must manually reselect the connections with the new name and the event values in the next steps of the process wherever applicable.
- The caller from ServiceNow searches for contacts in Dynamics 365. If the contact is not found, a contact is created even though an account with the same name exists.
- The owner is searched by email ID. If the email ID is not found, the process assigns the default API owner. For example, `MSDynamicsAPI`.
- The owner in Dynamics 365 can only be a system user. Otherwise, the process assigns the default owner.
- To handle Integer and Double data types correctly and ensure proper behavior in the Dynamics 365 connection, you must specify annotation attributes or additional parameters in the request as shown in the following sample:

```
<account xmlns:m="urn:informatica:ae:xquery:json2xml:meta-data">
<name>test name</name>
<telephone>000-111-22-33</telephone>
<emailaddress>account@test.com</emailaddress>
<fax>123-456</fax>
<revenue m:type="xs:double">1000.50
</revenue>
</account>

<account xmlns:m="urn:informatica:ae:xquery:json2xml:meta-data">
<name>test name</name>
<telephone1>000-257-35-89</telephone1>
<fax>547-890</fax>
<versionnumber m:type="xs:int">1</versionnumber>
</account>
```