



Informatica® Cloud Application Integration  
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# Synchronize Salesforce Contacts with Database Contacts

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# Preface

Use *Synchronize Salesforce Contacts with Database Contacts* to learn how to synchronize Salesforce contacts with Database contacts. This guide assumes that you have an understanding of the Salesforce Connector and JDBC Connector concepts.

## CHAPTER 1

# Synchronize Salesforce Contacts with Database Contacts recipe overview

The Synchronize Salesforce Contacts with Database Contacts recipe is a platform event-based recipe.

When a contact is created or updated in Salesforce, a Salesforce platform event triggers the process. The process searches for a contact in the database by ID and assigns a Salesforce contact. The process then searches for a matching contact in the database and creates or updates the contact based on the search results without manual intervention. You can use any database that JDBC Connector supports for synchronization.

With this recipe, you can synchronize Salesforce contacts with database contacts without any manual intervention.

## Prerequisites for configuring a Salesforce Platform Event to subscribe to Contact object creation or change

Salesforce connections in Application Integration support the Salesforce Streaming API. You can configure an event source in a Salesforce connection to subscribe to Salesforce platform events and PushTopic queries. You can use the event source in a process to consume changes in real-time.

For more information about setting up Salesforce platform events, see the Informatica Knowledge Base article [000181147](#).

To set up the Salesforce platform event to subscribe to Contact object creation or change, perform the following steps:

- Step 1: Create a platform event
- Step 2: Create a new connected app
- Step 3: Set object permissions
- Step 4: Create a trigger to generate an event

## Create a platform event

To create a platform event in Salesforce, perform the following steps:

1. Log in to the Salesforce organization.
2. Go to **Setup > Develop > Platform Events**, and then click **New Platform Event**.

The following image shows the **New Platform Event** button and the platform event name on the **Platform Events** page:

Item	Usage	Allocation
High-Volume Platform Event Hourly Publishing Allocation	0	50 000
High-Volume Platform Event and Change Event Daily Delivery Allocation	0	10 000

Action	Label	Deployed	Description
Edit   Del	ContactPE	✓	
Edit   Del	Subscription to incident	✓	
Edit   Del	Test_Case	✓	
Edit   Del	Test_Inc	✓	

3. In the **Platform Event Information** section, enter the details in the **Label**, **Plural Label**, and **Object Name** fields, and select **Publish Immediately** in the **Publish Behavior** field as shown in the following image:

Permissions for this object are disabled for all profiles by default. You can enable object permissions in permission sets or by editing custom profiles. [Don't show this message again](#)

**Platform Event Definition Edit** Save Save & New Cancel

**Platform Event Information**

Label

Plural Label

Starts with vowel sound

The object name is used when referencing the event via the API.

Object Name

Description

Event Type High Volume

Publish Behavior Publish Immediately

**Deployment Status**

In Development

Deployed

Save Save & New Cancel

4. Click **Save**.
- The Salesforce platform event is created successfully. Note the **API Name** field value. You will need to enter it in the **Event Consumer** field while configuring the Salesforce connection.
5. Open the Salesforce platform event that you just created.

- In the **Custom Field & Relationships** section, add the custom fields named **Email\_\_c**, **First\_Name\_\_c**, **Id\_\_c**, **Last\_Name\_\_c**, and **Phone\_\_c** with the **Text** data type.

The following image shows the API name and the fields that you created in the Salesforce platform event:

The screenshot displays the 'Platform Event Definition Detail' for 'ContactPE'. It includes sections for 'Standard Fields' and 'Custom Fields & Relationships'. The 'Custom Fields & Relationships' table is highlighted with a red border and contains the following data:

Action	Field Label	API Name	Data Type	Indexed	Controlling Field	Modified By
Edit   Del	Email__c	Email__c__c	Text(100)			[User], 25.03.2024, 13:10
Edit   Del	First_Name__c	First_Name__c__c	Text(20)			[User], 25.03.2024, 13:10
Edit   Del	Id__c	Id__c__c	Text(20)			[User], 25.03.2024, 13:11
Edit   Del	Last_Name__c	Last_Name__c__c	Text(20)			[User], 25.03.2024, 13:11
Edit   Del	Phone__c	Phone__c__c	Text(20)			[User], 25.03.2024, 13:09

## Create a new connected app

In the connected app, you provide the necessary permissions and consume the platform event. From this connected app, you will get the consumer key and consumer secret that you will need while configuring the Salesforce connection.

- Go to **Setup > Build > Create > Apps > Connected Apps**, and then click **New**.

The following image shows the **New** button in the **Connected Apps** section on the **Apps** page:

The screenshot shows the 'Apps' page in Salesforce. The 'Connected Apps' section is highlighted, and the 'New' button is clearly visible. The page also displays a list of existing apps and a 'Subtab Apps' section.

- Enter the details in the **Connected App Name**, **API Name**, and **Contact Email** fields.
- Select the **Enable OAuth Settings** option.
- In the **Callback URL** field, enter the callback URL as shown in the following format:

`https://<pod name>.informaticacloud.com/login/callback`



5. Provide the necessary access in the **Selected OAuth Scopes** field. If you are not sure about the access, select all the options from the **Available OAuth Scopes** section, and click **Add**.

The selected options are displayed in the **Selected OAuth Scopes** section.

The following image shows the **Connected App Name** page:

The screenshot shows the configuration page for a Connected App. At the top, there are 'Save' and 'Cancel' buttons. The 'Basic Information' section includes fields for 'Connected App Name' (ContactPE), 'API Name' (ContactPE), 'Contact Email', 'Contact Phone', 'Logo image URL' (with a link to upload or choose logos), 'Icon URL' (with a link to choose logos), 'Info URL', and 'Description'. The 'API (Enable OAuth Settings)' section has 'Enable OAuth Settings' checked, 'Enable for Device Flow' unchecked, and 'Callback URL' set to 'https://pod1-cai.mel.infaqa.com/login/callback'. Below this are two lists: 'Available OAuth Scopes' (currently empty) and 'Selected OAuth Scopes' (containing various API access scopes like 'Access Analytics REST API Charts Geodata resources (clair\_api)', 'Access Analytics REST API resources (wave\_api)', 'Access Connect REST API resources (chatter\_api)', 'Access Einstein GPT services (einstein\_gpt\_api)', 'Access Headless Forgot Password API (forgot\_password)', 'Access Headless Passwordless Login API (pwdless\_login\_api)', 'Access Headless Registration API (user\_registration\_api)', 'Access Interaction API resources (interaction\_api)', 'Access Lightning applications (lightning)', and 'Access Visualforce applications (visualforce)').

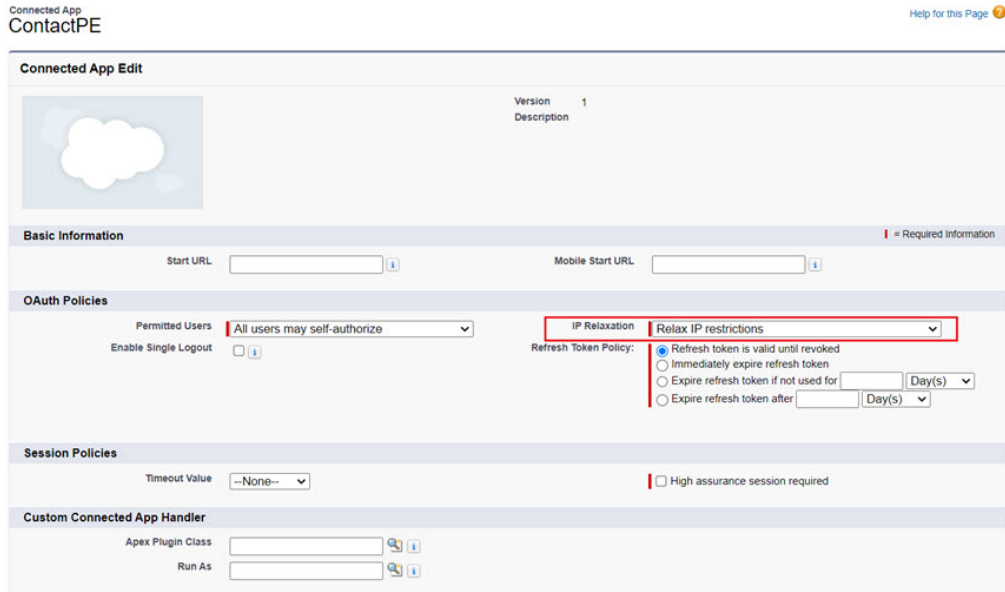
6. Click **Save**.
7. Go to the **API (Enable OAuth Settings)** section and click **Manage Consumer Details** as shown in the following image:



The **Consumer Key** and **Consumer Secret** fields are displayed.

8. Save the consumer key and consumer secret values for your future use.
9. Click **Manage > Edit policies > IP Relaxation**.

The following image shows the **IP Relaxation** field in the **Connected App Edit** page:



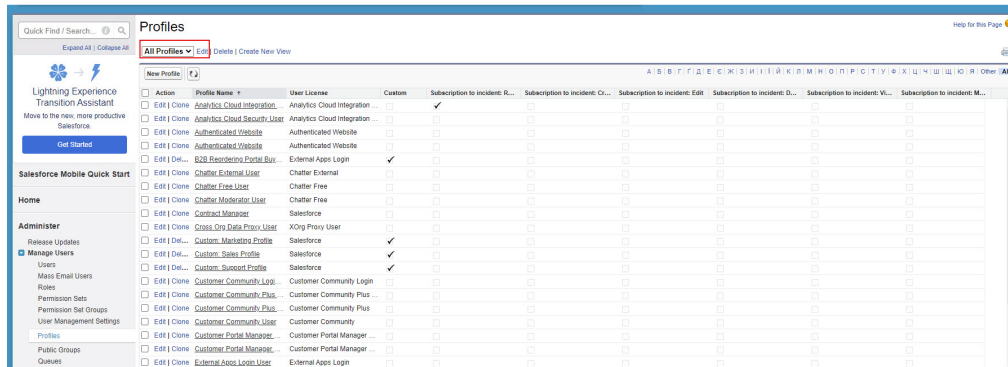
10. Select **Relax IP restrictions** in the **IP Relaxation** field.
11. Click **Save**.

## Set object permissions

To set up the platform event with the necessary permissions, perform the following steps:

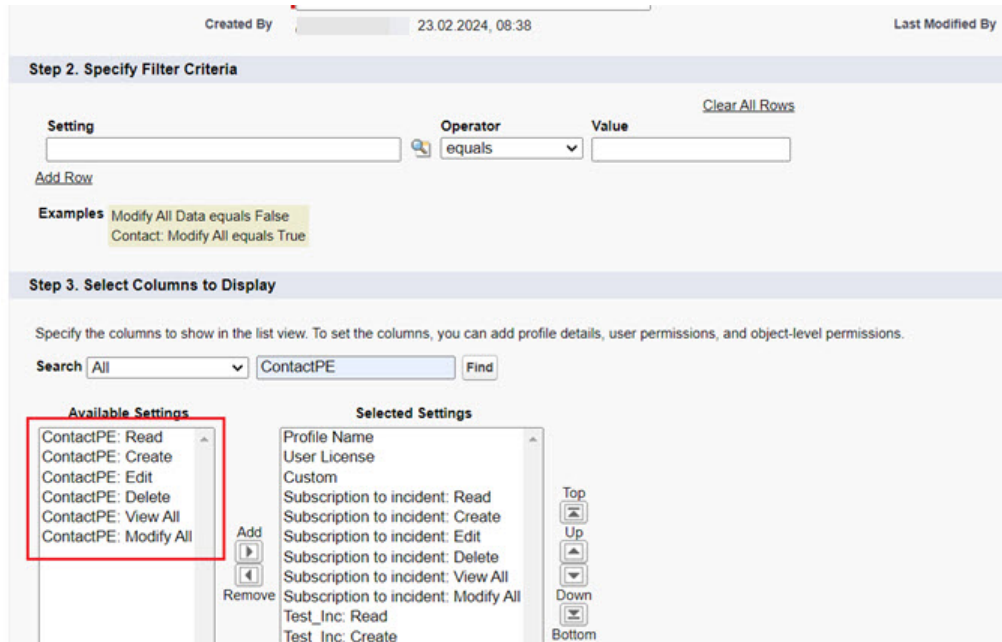
1. Go to **Setup > Manage Users > Profiles**, and then click **Edit** next to the profile name, or if you are not sure, click **Edit** next to **All Profiles**.

The following image shows the list of profiles on the **Profiles** page:



2. In the **Select Columns to Display** section, select **Object Permissions** in the **Search** field.
3. In the **Available Settings** section, select the platform event that you just created.
4. Add all the required permissions.

The following image shows the settings in the **Select Columns to Display** section:



5. Click **Save**.

You can use this platform event in the Salesforce connection in Application Integration, and the Salesforce connection can be used in a real-time process to consume Salesforce events.

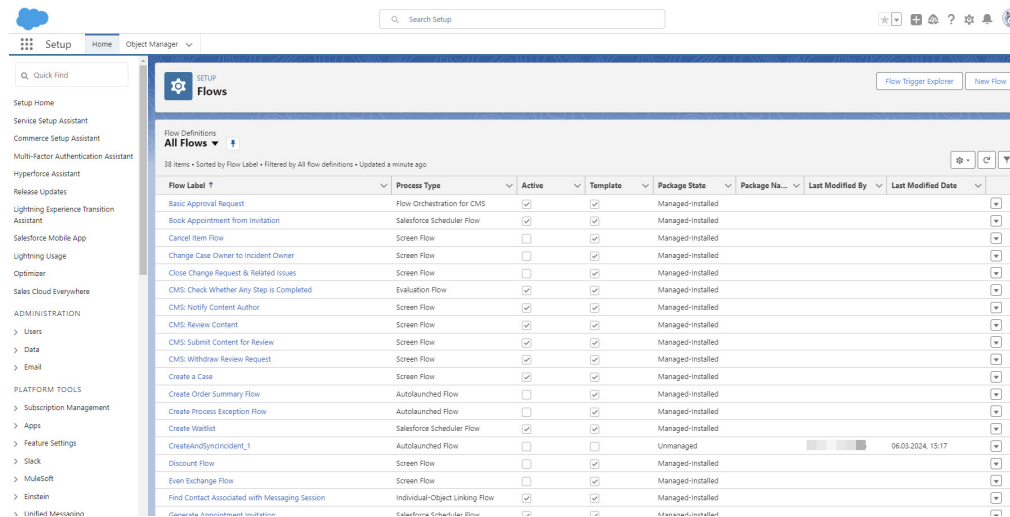
## Create a trigger to generate an event

To create a trigger to generate an event, perform the following steps:

**Note:** Informatica recommends that you use the Salesforce Lightning Experience as Salesforce plans to retire Process Builder and recommends building automation in Flow Builder.

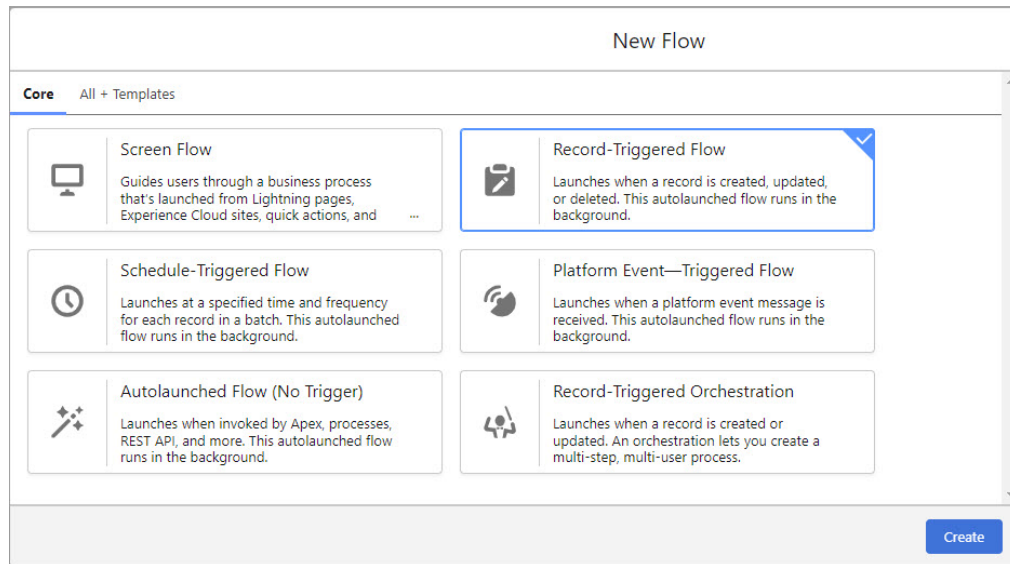
1. Go to **Setup > Process Automation > Flows**, and then click **New Flow**.

The following image shows the list of flows on the **Flows** page:



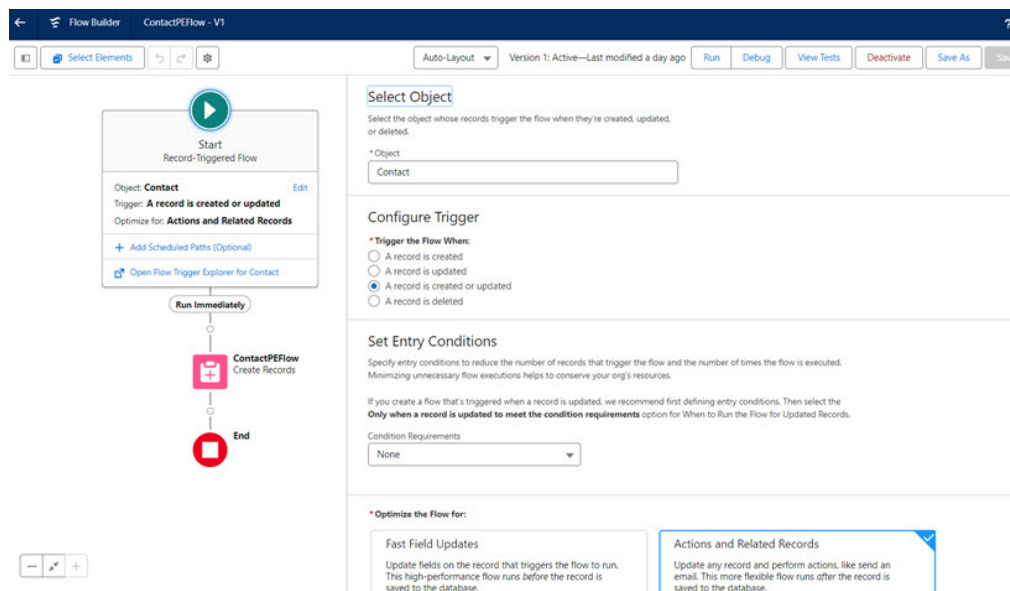
2. Select **Record-Triggered Flow**.

The following image shows the **Record-Triggered Flow** option on the **New Flow** dialog box:



3. Click **Create**.
4. In the **Object** field, select the object as **Contact**.
5. In the **Configure Trigger** section, select the **A record is created or updated** option.

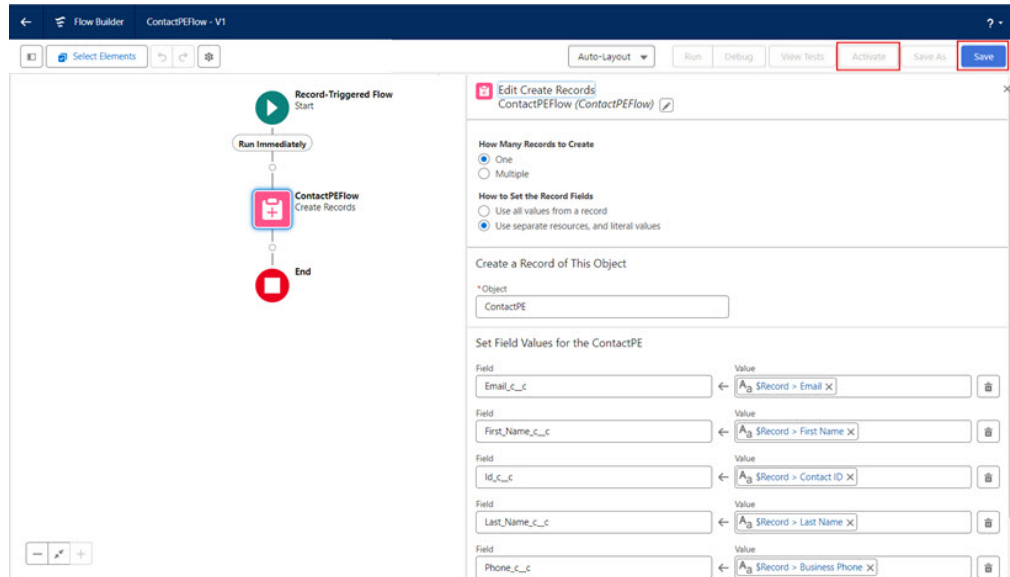
The following image shows the **Flow Builder** page:



6. Add a new element in the flow builder space, **Data > Create Records**.
7. Enter values in the **Label** and **API Name** fields.
8. In the **How Many Records to Create** field, select **One**.
9. In the **How to Set the Record Fields** field, select **Use separate resources, and literal values**.
10. In the **Create a Record of This Object** section, enter the name of the Salesforce platform event you created in the **Object** field.

11. In the **Set Field Values for the ContactPE** field, map the fields in the Salesforce platform event using the **{!\$Record}** in the **Value** field.

The following image shows the **Set Field Values for the ContactPE** field where you can map the fields in the Salesforce platform event using the **{!\$Record}** in the **Value** field:



12. Click **Save** and **Activate**.

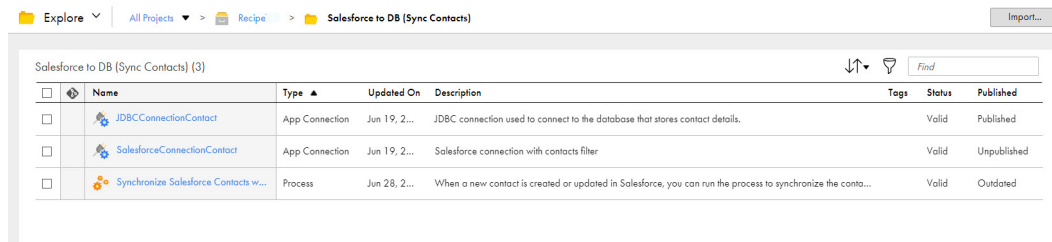
After completing these steps, you have the event consumer, consumer key, and consumer secret values for setting up the Salesforce connection in Application Integration.

## CHAPTER 2

# Synchronize Salesforce Contacts with Database Contacts recipe contents

The Synchronize Salesforce Contacts with Database Contacts recipe contains multiple assets such as app connections and process.

The following image shows the assets that the Synchronize Salesforce Contacts with Database Contacts recipe package contains:



The screenshot shows a software interface for exploring recipe packages. The breadcrumb path is 'Explore > All Projects > Recipe > Salesforce to DB (Sync Contacts)'. Below the breadcrumb is a table titled 'Salesforce to DB (Sync Contacts) (3)'. The table has columns for Name, Type, Updated On, Description, Tags, Status, and Published. There are three rows of assets listed.

	Name	Type	Updated On	Description	Tags	Status	Published
<input type="checkbox"/>	JDBCConnectionContact	App Connection	Jun 19, 2...	JDBC connection used to connect to the database that stores contact details.		Valid	Published
<input type="checkbox"/>	SalesforceConnectionContact	App Connection	Jun 19, 2...	Salesforce connection with contacts filter		Valid	Unpublished
<input type="checkbox"/>	Synchronize Salesforce Contacts w...	Process	Jun 28, 2...	When a new contact is created or updated in Salesforce, you can run the process to synchronize the conta...		Valid	Outdated

# Synchronize Salesforce Contacts with Database Contacts recipe assets

The following table lists the assets that the Synchronize Salesforce Contacts with Database Contacts recipe package contains:

Asset Name	Asset Type	Description
JDBCConnectionContact	App Connection	JDBC connection used to connect to the database that stores contact details.
SalesforceConnectionContact	App Connection	Salesforce connection with the contacts filter.
Synchronize Salesforce Contacts with Database Contacts	Process	When a contact is created or updated in Salesforce, a Salesforce platform event triggers the process. The process searches for a contact in the database by ID and assigns a Salesforce contact. The process then searches for a matching contact in the database and creates or updates the contact based on the search results.



## CHAPTER 3

# Using the Synchronize Salesforce Contacts with Database Contacts recipe

To use the Synchronize Salesforce Contacts with Database Contacts recipe, you must perform the following steps manually:

Step 1: Copy and access the recipe

Step 2: Configure and publish the SalesforceConnectionContact connection

Step 3: Configure and publish the JDBCConnectionContact connection

Step 4: Configure and publish the process

## Copying and accessing the recipe

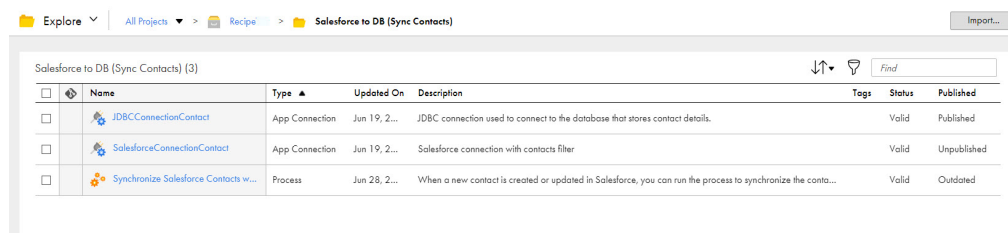
To copy and access the recipe content, perform the following steps:

1. Open the **Synchronize Salesforce Contacts with Database Contacts** 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:



<input type="checkbox"/>	Name	Type	Updated On	Description	Tags	Status	Published
<input type="checkbox"/>	JDBCConnectionContact	App Connection	Jun 19, 2...	JDBC connection used to connect to the database that stores contact details.		Valid	Published
<input type="checkbox"/>	SalesforceConnectionContact	App Connection	Jun 19, 2...	Salesforce connection with contacts filter		Valid	Unpublished
<input type="checkbox"/>	Synchronize Salesforce Contacts w...	Process	Jun 28, 2...	When a new contact is created or updated in Salesforce, you can run the process to synchronize the conta...		Valid	Outdated

# Configuring and publishing the Salesforce connection

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

1. Open the **SalesforceConnectionContact** connection.
2. In the **Type** field, select **Salesforce**.
3. In the **Run On** field, select the Secure Agent.
4. In the **Authentication Type** field, select **Password** or **OAuth** as required.

Based on the authentication type selected, perform one of the following steps:

- For **Password** authentication:
  1. Enter values for the following properties:
    - User Name: Salesforce developer account user name.
    - Password: Salesforce developer account password.
    - Security Token: Salesforce security token.
  2. In the **Event API Settings** section, enter values in the **Consumer Key** and **Customer Secret** fields. For information about generating the **Consumer Key** and **Customer Secret** values, see [“Create a new connected app” on page 8](#).

- In the **Connection Properties** section, in the **Object Filter** field, enter the API name of the Salesforce platform event prefixed with **Contact**. For example, **Contact,ContactPE\_\_e**. The following image shows the API name of the Salesforce platform event:

Platform Event  
ContactPE

Standard Fields (6) | Custom Fields & Relationships (5)

**Platform Event Definition Detail** Edit Delete

Singular Label	ContactPE	Description	
Plural Label	ContactPE	Deployment Status	Deployed
Object Name	ContactPE		
<b>API Name</b>	<b>ContactPE__e</b>		
Event Type	High Volume <span>1</span>		
Publish Behavior	Publish Immediately <span>1</span>		
Created By	[User], 21.03.2024, 17:52	Modified By	[User], 25.03.2024, 12:07

**Standard Fields**

Action	Field Label	Field Name	Data Type	Controlling Field	Indexed
	Created By	CreatedBy	Lookup(User)		
	Created Date	CreatedDate	Date/Time		
	Event UUID	EventUuid	Text(36)		
	Replay ID	ReplayId	External Lookup		

**Custom Fields & Relationships** New

Action	Field Label	API Name	Data Type	Indexed	Controlling Field	Modified By	Modified
Edit   Del	Email_c	Email_c__c	Text(100)			[User]	25.03.2024, 13:10
Edit   Del	First Name_c	First_Name_c__c	Text(20)			[User]	25.03.2024, 13:10
Edit   Del	Id_c	Id_c__c	Text(20)			[User]	25.03.2024, 13:11
Edit   Del	Last Name_c	Last_Name_c__c	Text(20)			[User]	25.03.2024, 13:11
Edit   Del	Phone_c	Phone_c__c	Text(20)			[User]	25.03.2024, 13:09

**Triggers** New

The following image shows the **SalesforceConnectionContact** connection detail page with the authentication type set to **Password**:

**Authentication:**

Authentication Type:

Name	Value	Description
User Name *		Enter a Salesforce user name with API access for password authentication.
Password *		Enter the password associated with the user account.
Security Token *		Enter the security token associated with the user account for API access.
Service URL *	https://login.salesforce.com/services/Soap/c/56.0	Enter the Salesforce URL to use for login. Use the Soap/c form of the URL (the Enterprise WSDL) instead of Soap/u.

**Event API Settings**

Consumer Key		Enter the consumer key associated with the Salesforce user account for API access. Required only for Salesforce event sources and event targets.
Consumer Secret		Enter the consumer secret associated with the Salesforce user account for API access. Required only for Salesforce event sources and event targets.

**Connection Properties:**

Name	Value	Description
Object Filter	Contact,ContactPE__e	Enter a comma-separated list of object names.

- For **OAuth** authentication, enter values for the following properties:
  - Authentication URL: Endpoint used to make OAuth authorization requests to Salesforce.
  - Token Request URL: Endpoint used to make OAuth token requests to Salesforce.
  - Session Duration: Number of minutes after which the OAuth token expires.
  - Authorize access: Click **Authorize** > enter Salesforce developer account credentials > click **Allow**.

The OAuth authentication process starts. You can check the current authorization status in the **Authorization Status** property.

The following image shows the **SalesforceConnectionContact** connection detail page with the authentication type set to **OAuth**:

Authentication Type:

Name	Value	Description
Authorization URL *	https://login.salesforce.com/services/oauth2/authorize	Enter the Salesforce OAuth authorization URL. Default value for production is https://login.salesforce.com/services/oauth2/authorize. For Sandbox, use https://test.salesforce.com/services/oauth2/authorize.
Token Request URL *	https://login.salesforce.com/services/oauth2/token	Enter the OAuth token request URL. For production, use https://login.salesforce.com/services/oauth2/token. For sandbox, use https://test.salesforce.com/services/oauth2/token.
Session Duration	60	Enter the number of minutes to wait before refreshing the session. Default is 60 minutes.
Authorization Status	Authorized The last update was by recipe@bhim.org on 2024-06-19 21:52.	Indicates the current status and the last time that authorization was completed
Authorize Access	<input type="button" value="Authorize"/>	Click to initiate the authorization workflow using OAuth.

**Connection Properties:**

Name	Value	Description
Object Filter	Contact,ContactPE__e	Enter a comma-separated list of object names.

- On the **Event Sources** tab, enter the API name of the Salesforce platform event prefixed with **/event/** in the **Event Consumer** field. For example, **/event/ContactPE\_\_e**.

When the Salesforce platform event is called, the event refers to the value specified in this field.

**Note:** Ensure that the value in the **Event Consumer** field is the same as the event consumer you created for the platform event in the Salesforce organization.

- Save and publish the connection.

## Configuring and publishing the JDBC connection

Before configuring the JDBC connection, perform the following steps:

- Create a database to store contacts.

The following snippet is an example for creating database in MySQL:

```
CREATE DATABASE `ip1`;
CREATE TABLE `sfdc_contact_sync` (
  `First_Name` varchar(50) DEFAULT NULL,
  `Last_Name` varchar(45) NOT NULL,
  `Account_Name` varchar(100) DEFAULT NULL,
  `Contact_ID` varchar(45) NOT NULL,
  `Phone` varchar(20) DEFAULT NULL,
  `Home_Phone` varchar(20) DEFAULT NULL,
  `Mobile_Phone` varchar(20) DEFAULT NULL,
  `Other_Phone` varchar(20) DEFAULT NULL,
  `Fax` varchar(20) DEFAULT NULL,
  `Email` varchar(45) DEFAULT NULL,
  `Title` varchar(45) DEFAULT NULL,
  `Mailing_Street` varchar(100) DEFAULT NULL,
```

```

`Malling_City` varchar(45) DEFAULT NULL,
`Malling_State` varchar(45) DEFAULT NULL,
`Malling_Zip` varchar(20) DEFAULT NULL,
`Malling_Country` varchar(20) DEFAULT NULL,
`Description` varchar(5000) DEFAULT NULL,
PRIMARY KEY (`Contact_ID`),
UNIQUE KEY `CONTACT_ID_UNIQUE` (`Contact_ID`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

```

- To use a MySQL database, you can download the `mysql-connector-j-8.0.33.jar` driver or any other appropriate JDBC driver from <https://dev.mysql.com/downloads/connector/j/>.
- To use a Microsoft SQL Server database, you can download the `mssql-jdbc-6.4.0.jre8.jar` driver or any other appropriate JDBC driver from <https://mvnrepository.com/artifact/com.microsoft.sqlserver/mssql-jdbc/6.4.0.jre8>.

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

1. Open the **JDBCConnectionContact** connection.
2. In the **Type** field, select **JDBC Generic Cloud Adapter**.
3. In the **Run On** field, select the Secure Agent.
4. In the **OData-Enabled** field, select **Yes**.
5. In the **OData Cloud Access Enabled** field, select **Yes**.
6. In the **Connection Properties** section, enter values for the following properties:

Property	Description
JDBC Connection URL	<p>The URL schema for the database. Use the corresponding schema for the following databases:</p> <ul style="list-style-type: none"> <li>- IBM DB2: <code>jdbc:db2://&lt;server&gt;:&lt;port&gt;/&lt;database&gt;</code></li> <li>- Microsoft SQL Server: <code>jdbc:sqlserver://&lt;Host&gt;:&lt;Port&gt;;databaseName=&lt;Database&gt;</code></li> <li>- MySQL: <code>jdbc:mysql://&lt;Host&gt;:&lt;Port&gt;/&lt;Database&gt;</code></li> </ul> <p>If you encounter an issue, append <code>?useSSL=false&amp;allowPublicKeyRetrieval=true</code> to the JDBC Connection URL. For example, <code>jdbc:mysql://&lt;Host&gt;:&lt;Port&gt;/?useSSL=false&amp;allowPublicKeyRetrieval=true</code></p> <ul style="list-style-type: none"> <li>- Oracle: <code>jdbc:oracle:thin:@//&lt;Host&gt;:&lt;Port&gt;/&lt;Service&gt;</code></li> <li>- PostgreSQL: <code>jdbc:postgresql://&lt;Host&gt;:&lt;Port&gt;/&lt;Database&gt;</code></li> </ul>
JDBC Jar Directory	<p>The path to the JDBC driver .jar file. For example, you can enter the following directory: <code>C:/jdbc</code></p> <p>If you do not specify a directory path, the Secure Agent gets the .jar file from the <code>process-engine/ext</code> directory.</p> <p>You must specify one of the following values for the JDBC connection to work successfully:</p> <ul style="list-style-type: none"> <li>- JDBC JAR directory. If you choose to specify the JDBC JAR directory, you can place the .jar file in any directory and specify the directory in the <b>JDBC Jar Directory</b> field.</li> <li>- JDBC driver class name. If you choose to specify the JDBC driver class name, you must place the JDBC driver .jar file in the following directory:</li> </ul> <p><code>process-engine/ext</code></p>

Property	Description
JDBC Driver Class Name	<p>The name of the JDBC driver class.</p> <p>Based on the database, you can specify one of the following driver class names:</p> <ul style="list-style-type: none"> <li>- IBM DB2: <code>com.ibm.db2.jcc.DB2Driver</code></li> <li>- Microsoft SQL Server: <code>com.microsoft.sqlserver.jdbc.SQLServerDriver</code></li> <li>- MySQL: <code>com.mysql.jdbc.Driver</code></li> <li>- Oracle: <code>oracle.jdbc.OracleDriver</code></li> <li>- PostgreSQL: <code>org.postgresql.Driver</code></li> </ul> <p>You must specify one of the following values for the JDBC connection to work successfully:</p> <ul style="list-style-type: none"> <li>- JDBC JAR directory. If you choose to specify the JDBC JAR directory, you can place the .jar file in any directory and specify the directory in the <b>JDBC Jar Directory</b> field.</li> <li>- JDBC driver class name. If you choose to specify the JDBC driver class name, you must place the JDBC driver .jar file in the following directory: <code>process-engine/ext</code></li> </ul>
Schema	<p>The schema name, which varies by database. Use the following guidelines for the schema name:</p> <ul style="list-style-type: none"> <li>- IBM DB2: Use the schema name to specify the correct object.</li> <li>- Microsoft SQL Server: Use the schema name to specify the correct object.</li> <li>- MySQL: Optional. The schema name is the database name.</li> <li>- Oracle: Optional. The schema name is the user name.</li> <li>- PostgreSQL: Use the schema name to specify the correct object.</li> </ul> <p>If the JDBC connection URL does not provide enough context, you must enter a schema name to fetch the metadata.</p>
User name	User name to connect to the database.
Password	Password to connect to the database.

7. Save and publish the connection.

## Configuring and publishing the process

1. Open the **Synchronize Salesforce Contacts with Database Contacts** process.
2. On the **Start** tab of the Start step, select the Secure Agent from the **Run On** list.
3. Optionally, you can change the tracing level from **Verbose** to **None** on the **Advanced** tab.
4. Save and publish the process.