BPA Platform

Technical Overview

Microsoft Dynamics 365 Business Central Connector v1.1

codeless PLATFORMS

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Contents

Introduction

Use the **Microsoft Dynamics 365 Business Central Connector** to send and retrieve data between BPA Platform and your Dynamics 365 Business Central installation. This allows for data to be synchronised between Dynamics 365 Business Central and third-party systems that it does not normally connect with.

All communication uses XML; BPA Platform recordsets cannot be used as data inputs unless converted to XML first (using the **Convert Recordset to XML** tool, for example). You use the **Connector** to map BPA Platform data to Dynamics 365 Business Central objects and operations. Standard operations of `READ`, `ADD`, `UPDATE`, and `DELETE` are supported as well as custom operations for specific objects. All objects available from the Dynamics 365 Business Central API are supported, including codeunits, pages, and queries — see *Supported Objects*.

XML responses received back from the Dynamics 365 Business Central API can be saved and used by other BPA Platform tools for further processing.

The Microsoft Dynamics 365 Business Central Connector Tool Pack

The tool pack consists of:

- **Microsoft Dynamics 365 Business Central Agent** — The **Agent** communicates directly with the Dynamics 365 Business Central API. It can be installed on any computer that has access to both the BPA Platform server and the Dynamics 365 Business Central company database, local to the BPA Platform server, or the on-premise server instance hosting the Dynamics 365 Business Central company database.
- **Microsoft Dynamics 365 Business Central Connector** — The **Connector** communicates with the **Microsoft Dynamics 365 Business Central Agent** instead of interacting directly with the Dynamics 365 Business Central company database. It must be installed on the BPA Platform server and any remote BPA Platform client machines which run **Microsoft Dynamics 365 Business Central Connector** tasks.

System Requirements

The following prerequisite software must be in place before installing the Microsoft Dynamics 365 Business Central Connector.

Minimum BPA Platform Version

The **Microsoft Dynamics 365 Business Central Connector** requires BPA Platform 2020 Update 1 or above.

Minimum Dynamics 365 Business Central Version

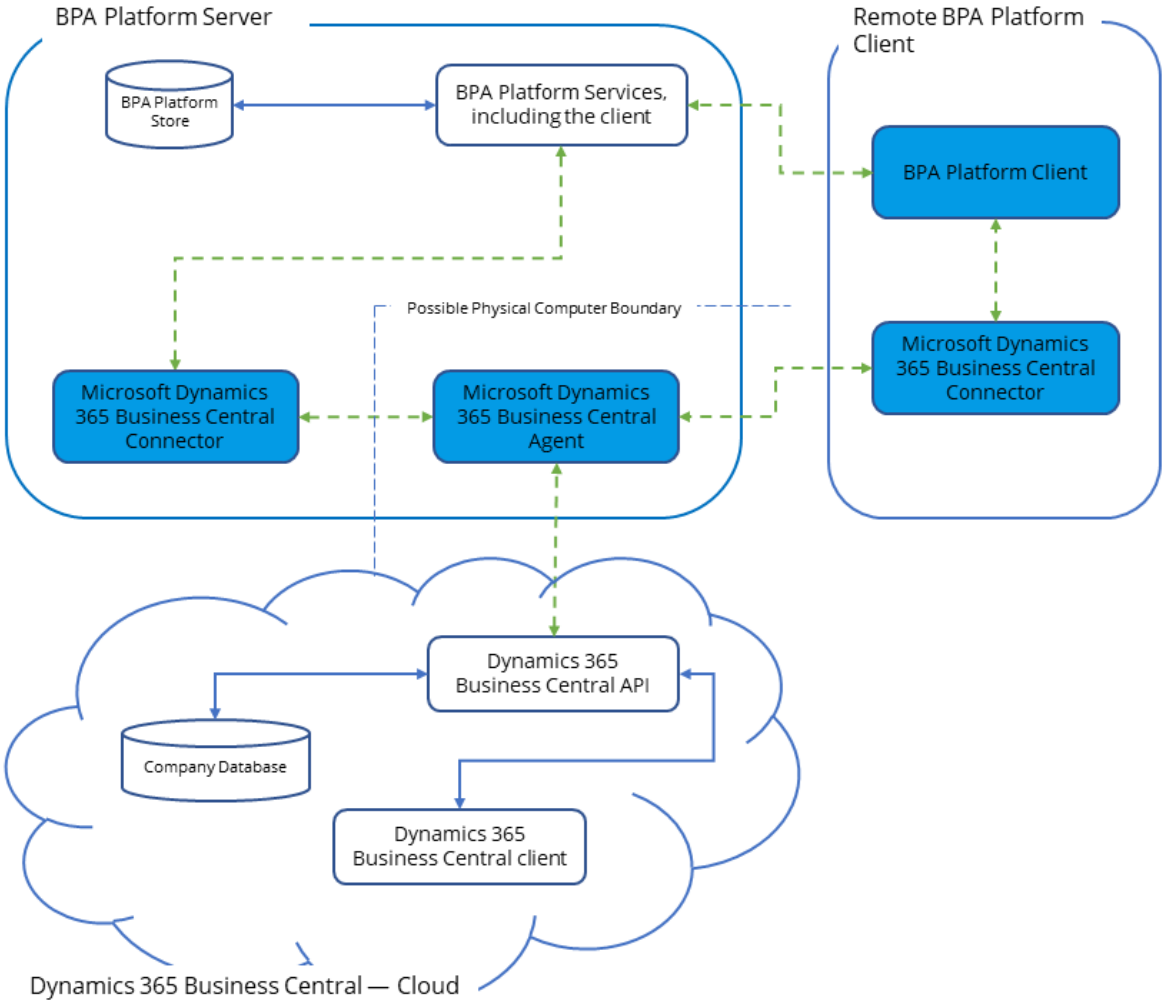
The **Microsoft Dynamics 365 Business Central Connector** supports Dynamics 365 Business Central 2018 or higher.

Architecture

The following diagrams provide example architectural layouts of the **Connector** with Dynamics 365 Business Central deployed on-premise or in the cloud. Whether Dynamics 365 Business Central has been deployed in the cloud or on-premises, you can choose to locate the **Microsoft Dynamics 365 Business Central Agent** on any machine accessible by the BPA Platform server or on the server itself

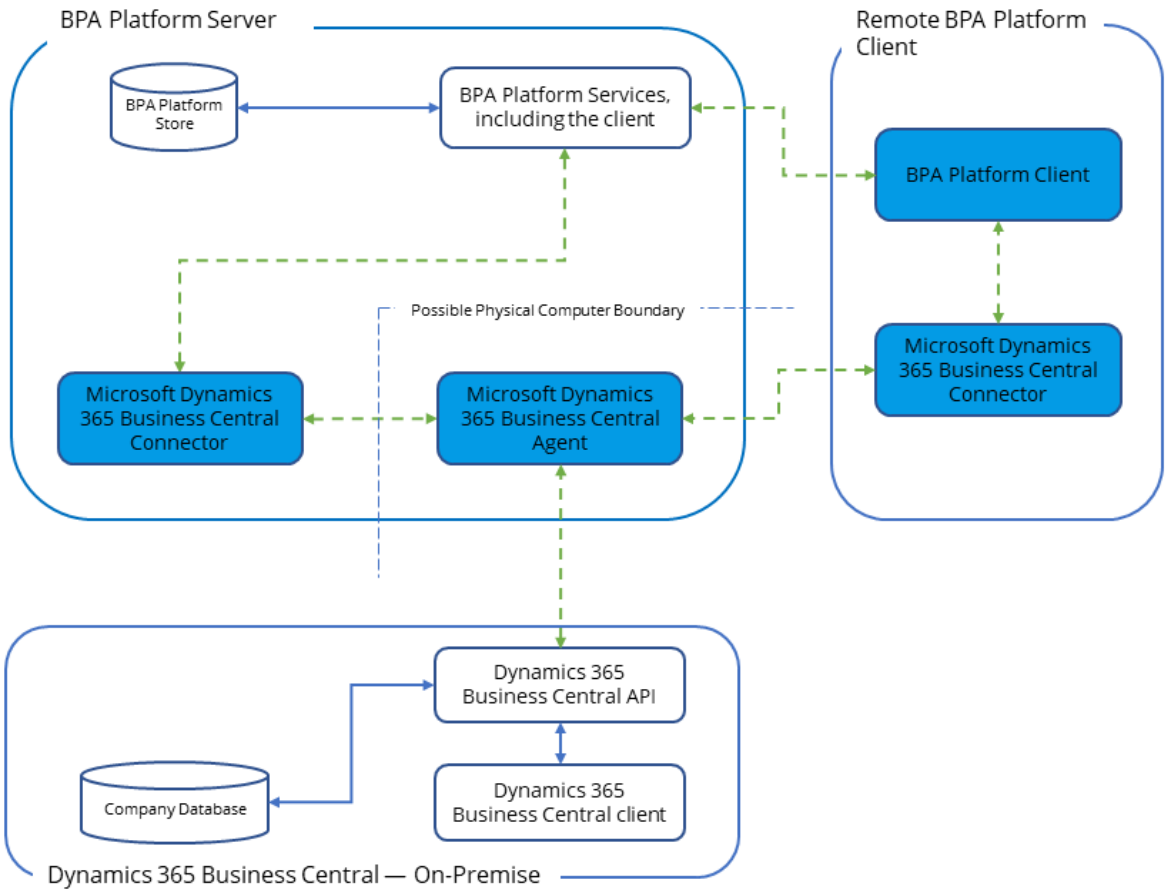
Cloud Architecture

Example architecture:



On-Premise Architecture

Example architecture:



Working with Other Tools

The **Microsoft Dynamics 365 Business Central Connector** tool can directly interact with the following tools:

Consuming from Other Tools

The **Microsoft Dynamics 365 Business Central Connector** can consume output from the following tools:

Icon	Tool Name	Tool Category
	Import XML Document	Input
	Retrieve Text Message	Input

Icon	Tool Name	Tool Category
	Convert Recordset to XML	Format
	Transform Data	Format
	Call Task	Execute
	Applications Platform Connector	Data Connectors
	Microsoft Dynamics 365 Business Central Connector	Data Connectors

Objects Consumed

The Microsoft Dynamics 365 Business Central Connector consumes the following objects exposed by other steps:

- **XML** — XML data from any BPA Platform tool capable of exposing such data (see above)

Exposing to Other Tools

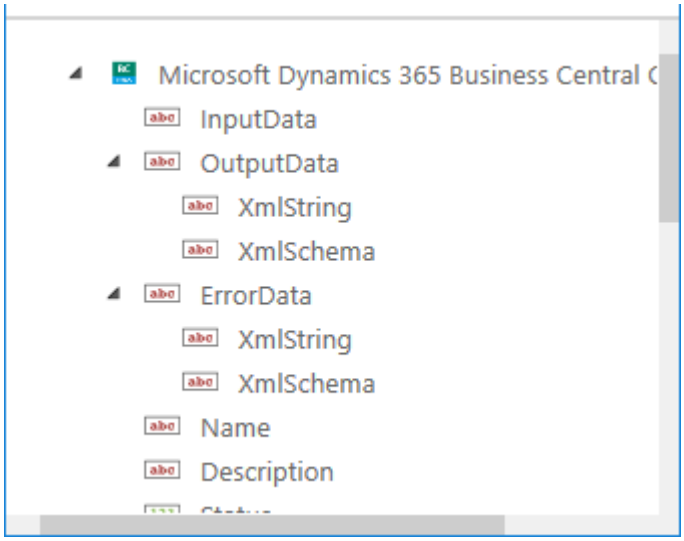
The following tools can directly consume output form the **Microsoft Dynamics 365 Business Central Connector**:

Icon	Tool Name	Tool Category
	Retrieve Text Message	Input
	Convert XML to Recordset	Format
	Run Microsoft Reporting Services	Format
	Transform Data	Format
	Save File	Output
	Call Task	Execute

Icon	Tool Name	Tool Category
	Applications Platform Connector	Data Connectors
	Web Service Connector	Data Connectors
	Microsoft Dynamics 365 Business Central Connector	Data Connectors

Objects Exposed

The **Microsoft Dynamics 365 Business Central Connector** tool outputs the following objects which can be consumed by other tools:



InputData

This document contains the input XML received by the **Microsoft Dynamics 365 Business Central Connector** tool. It is only available if a task step has been selected as the **Data Source** (see *About the General Tab*).

OutputData

The **OutputData** object contains two sub-objects:

- **XmlString** — This is the XML document produced by the tool, containing data returned from Dynamics 365 Business Central for all operations. Also included are the key fields for the mapped elements affected by the used operation — for example, if using an `ADD` operation, the key fields for the top-level object instances that are created are returned — and a `SupplementaryReference` field for task auditing purposes.

  The mapped fields in the **Mapping** tab (see *About the Mapping Tab*) define the structure of this XML document.

- **XmlSchema** — This contains the output schema in XSD format.

- **ErrorData**

  The **ErrorData** object also contains two sub-objects:

  - **XmlString** — This contains any error data reported by Dynamics 365 Business Central

    `<Error>` — All errors are created as an `<Error>` node, with the following sub-nodes:

    `<Object />` — The name of the requested object

    `<CODE />` — The error code returned by Dynamics 365 Business Central

    `<MESSAGE />` — The corresponding error message

    `<EXTENDEDINFO />` — A string containing additional information about the error

    `<INPUTDATA />` — The header input data (excluding child nodes) mapped for the object, plus all data contained in `SupplementaryReference`

    `</Error>`

  - **XmlSchema** — This contains the output schema in XSD format.

- **Step Properties**

  Standard step properties are also available allowing you to use statistical data of the **Microsoft Dynamics 365 Business Central Connector** step.

Where Can the XML Output be Used?

The incoming XML is translated into the XML format for the object and operation selected in the configuration. The data for the linked fields is brought across into the output XML — only those fields that are linked are brought across. The XML is passed to the **Connector**, which then:

- Processes the data
- Performs the operation requested
- Recieves an XML document containing the response

Both the `OutputData` and `ErrorData` documents can be directly used by succeeding task steps that can consume XML data, as part of an application integration or synchronisation process. To use the documents in a non-XML consuming tool, use a **Convert XML to Recordset** step first to create a recordset copy of the XML data.

The XML documents are also available as consumable objects from the BPA Platform Browser (`XmlString`). When used in a task step, such as **Format as Text** or **Save File**, this exposes the actual XML string.

Error Handling

Errors are written to the BPA Platform Event Log (***Tasks*** toolbar **> *Event Log*** ). You define how errors are handled in the **Options** tab of the tool (see *About the Options Tab*).

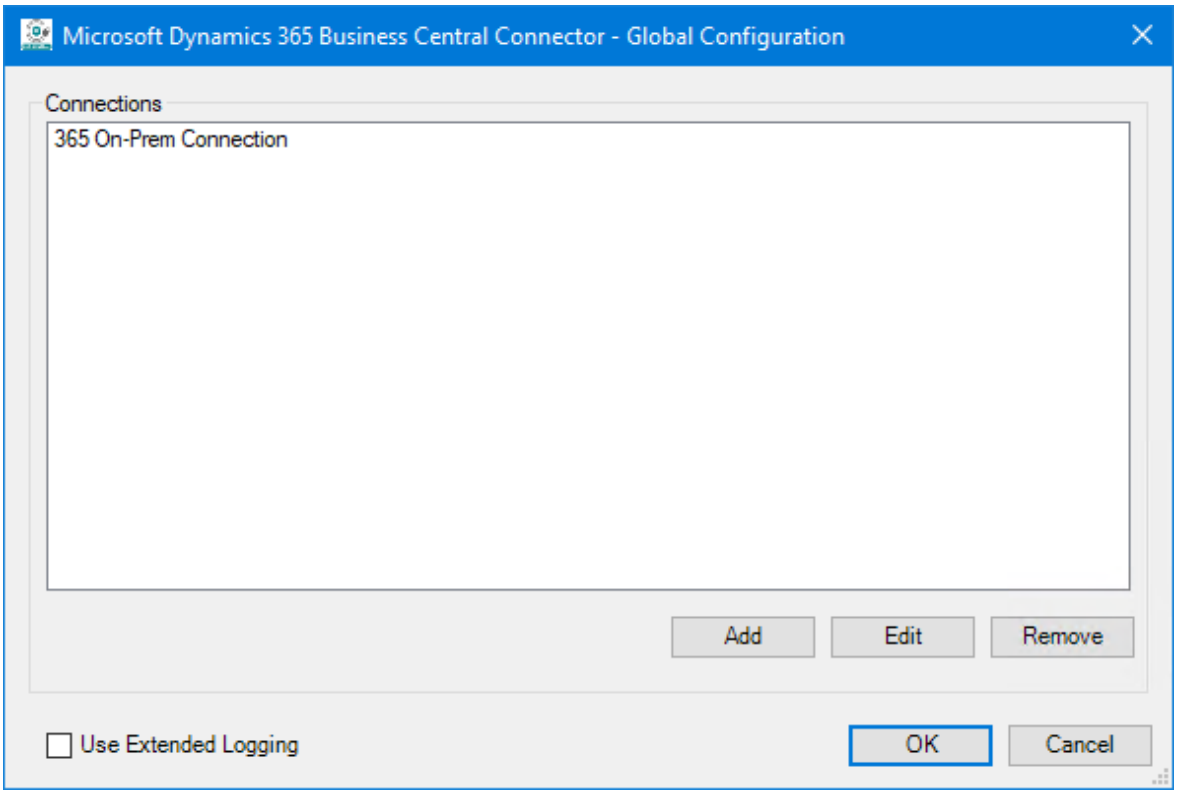
Reasons for the errors could include:

- Web service connection errors
- User privilege errors
- Errors from the API
- Warnings and messages from the API

Global Configuration

The global configuration for the **Microsoft Dynamics 365 Business Central Connector** is used to create connections to the **Dynamics 365 Business Central Agent**.

You open this interface from the resources tree — expand ***System > Tools > Data Connectors*** and double-click ***Microsoft Dynamics 365 Business Central Connector*** in the items list.



When a connection is created, the available objects and fields of your Dynamics 365 Business Central installation are retrieved.

Click **Add** to create a connection to Dynamics 365 Business Central.

> **NOTE:** You may be restricted as to the number of Dynamics 365 Business Central company database connections you can create. For more information, refer to the BPA Platform product help or consult your Codeless Platforms account manager or partner.

Using Extended Logging

Enabling this option exposes the XML parsed between the **Connector** and Dynamics 365 Business Central.

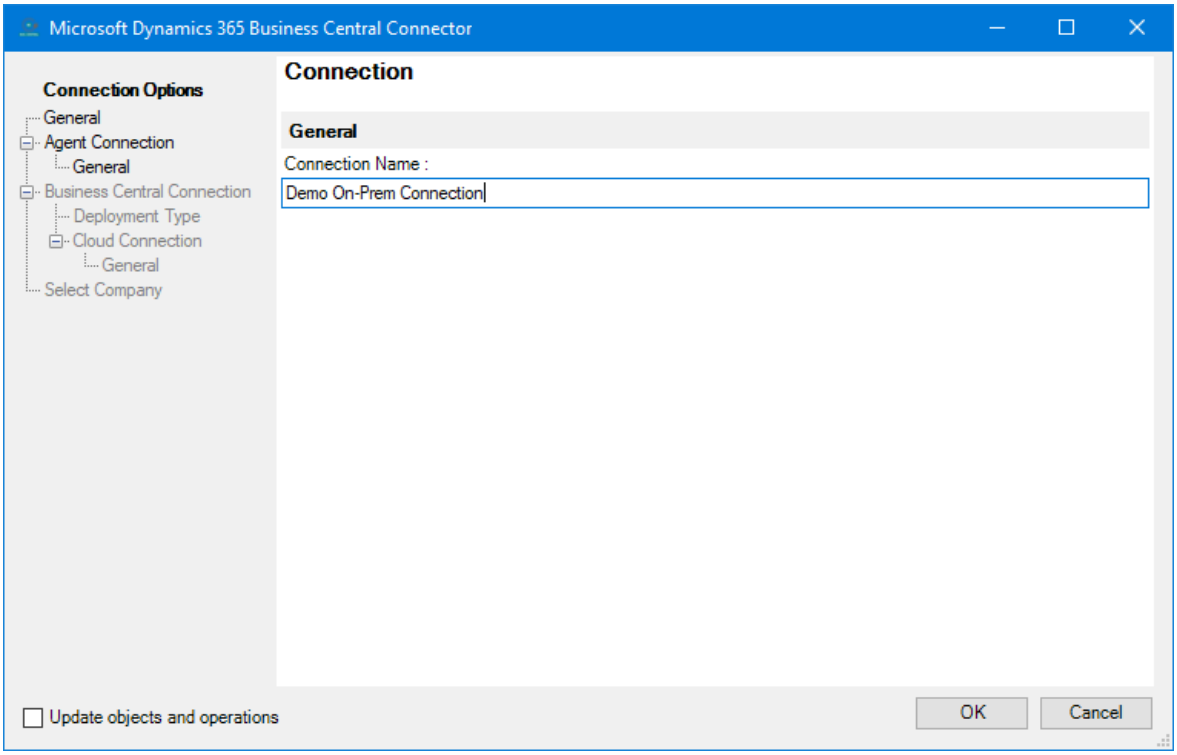
TIP: The Event Log database table may grow substantially large as extended logging adds additional rows for each call made to and from the **Connector**. To manage this, adjust the maintenance routine for the Event Log — refer to the BPA Platform product help.

Without extended logging, the Event Log only contains start and end of transaction messages, plus any error messages encountered at runtime.

You can view the extended log in the BPA Platform Event Log (***Tasks*** toolbar ***> Event Log***).

About the General Node

You must name each connection you create to a Dynamics 365 Business Central database.



Provide a unique **Connection Name**. If your Dynamics 365 Business Central installation makes use of a number of separate databases, it is recommended you add such details to the name. This is useful later when creating task steps.

Updating Objects and Operations

Enabling **Update Objects and Operations** allows the Dynamics 365 Business Central schema in BPA Platform to be refreshed every time an update is made in the API itself.

Should you also upgrade Dynamics 365 Business Central to a newer, compatible version, all related schemas within BPA Platform must be refreshed. To do this, select this option and save the changes. You must repeat this for each existing connection you have defined.

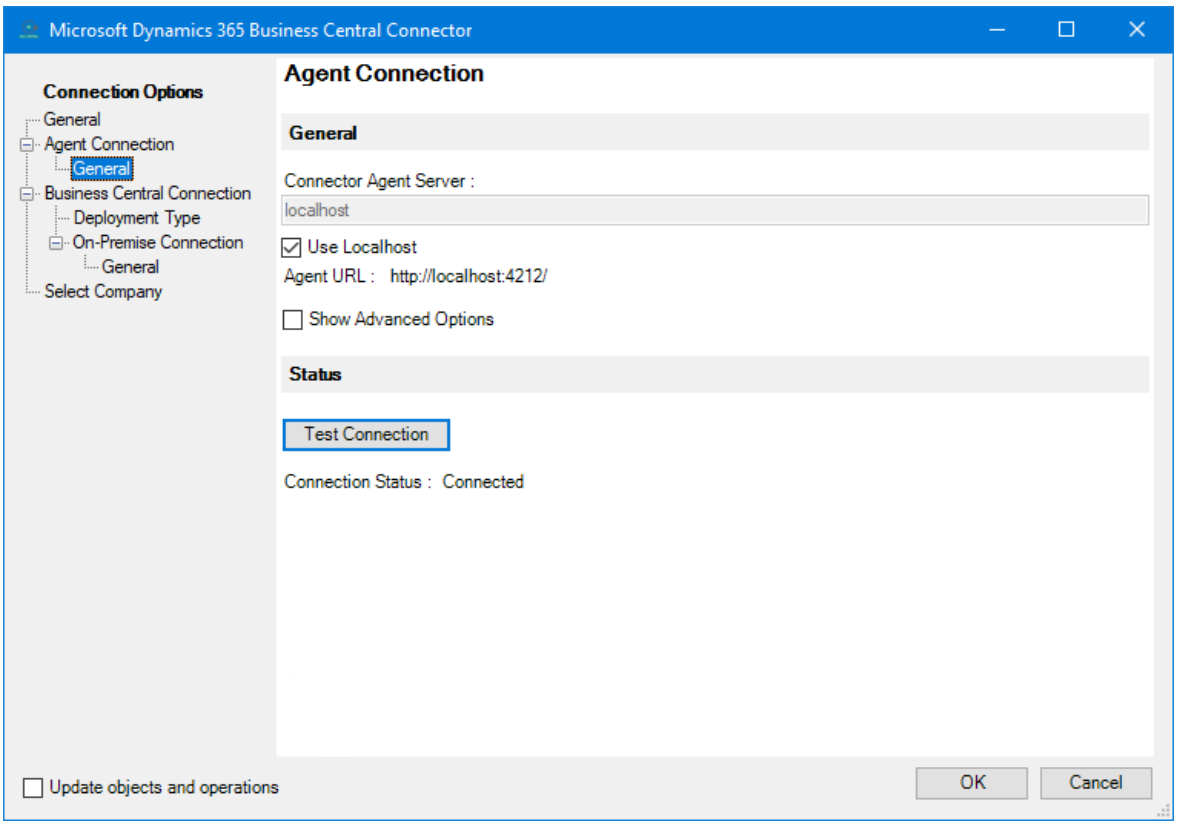
NOTE: After enabling **Update Objects and Operations**, you must refresh the schema in each **Microsoft Dynamics 365 Business Central Connector** task step. You do this in the **Mapping** tab (**Schema Refresh**) — see *About the Mapping Tab*.

About the Agent Connection Node

The **Agent Connection** node provides a brief summary of any configured **Dynamics 365 Business Central Agents**.

About the General Node

Use the **General** node to determine which **Dynamics 365 Business Central Agent** this global connection is for.



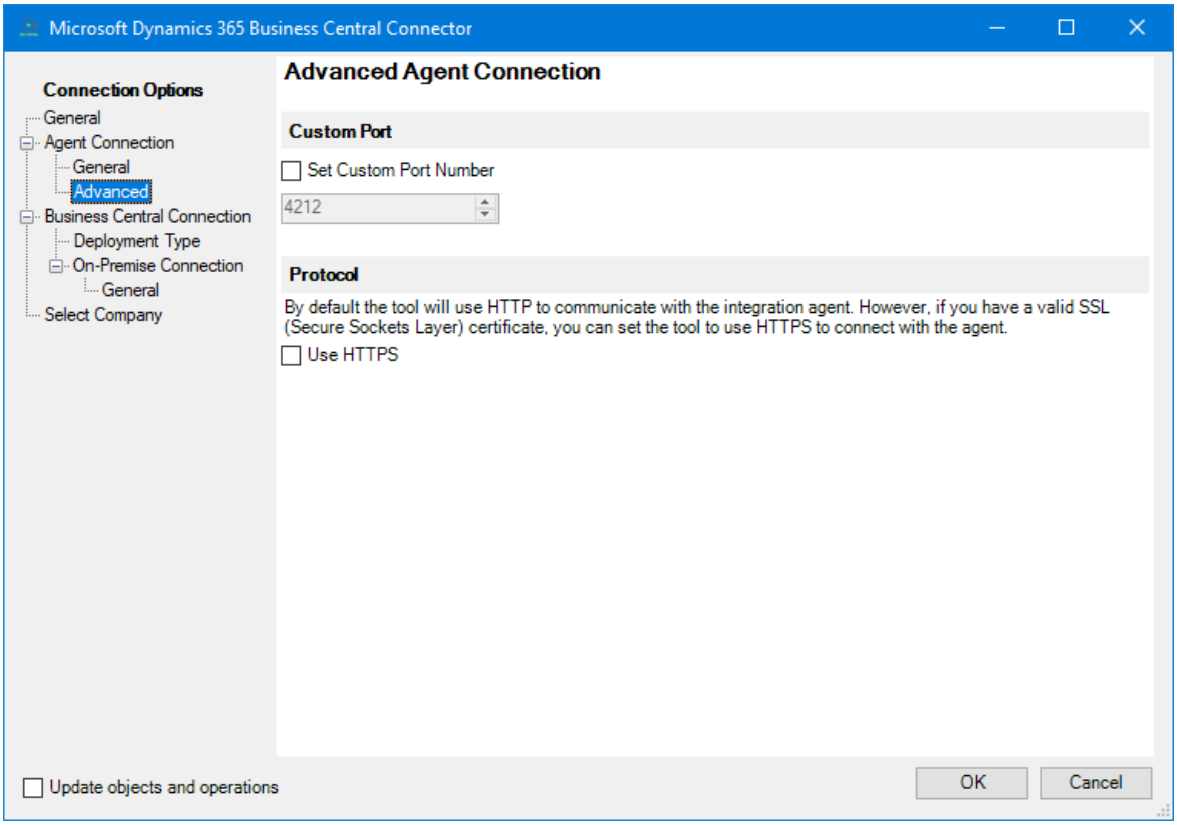
In **Connection Agent Server**, enter the IP address or hostname of the machine where the **Dynamics 365 Business Central Agent** is installed. If the **Agent** is on the same machine as this instance of BPA Platform, enable **Use Localhost**.

By default, the connection is over HTTP and port `4212`. If the **Agent** has been set up to use HTTPS or a different port, enable **Show Advanced Options**.

Use **Test Connection** to ensure the **Microsoft Dynamics 365 Business Central Connector** can communicate to the **Agent** successfully.

About the Advanced Node

Use the **Advanced** node to change the communication defaults for the **Dynamics 365 Business Central Agent** this global connection is for. This node is hidden until **Show Advanced Options** in the ***Agent Connection > General*** node is selected.



By default, the connection is over HTTP and port `4212`.

To change the port used to communicate over, enable **Set Custom Port Number** and enter the required number in the box provided.

To use HTTPS communication, enable **Use HTTPS**.

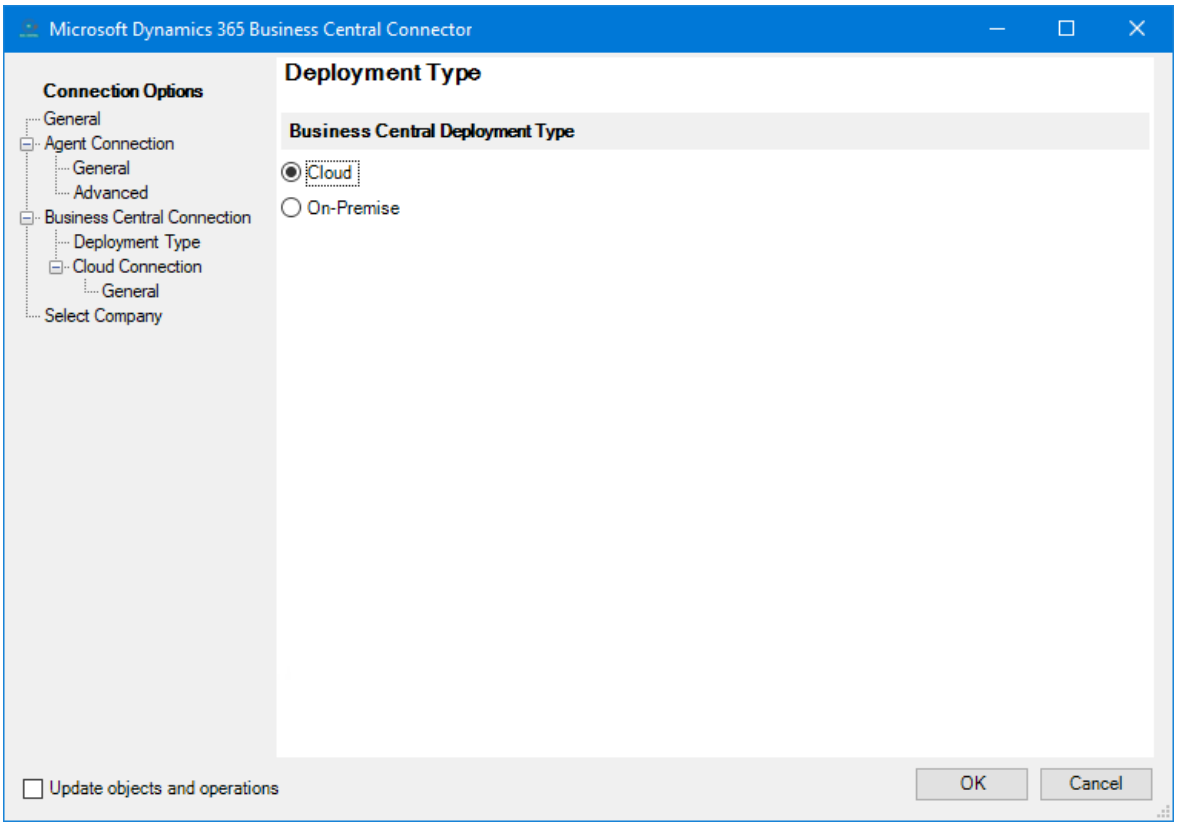
> **TIP:** After changing any parameter on this page, use **Test Connection** in the **General** node to ensure successful communication is maintained.

About the Business Central Connection Node

The **Business Central Connection** node provides a brief summary of the configured connection to Dynamics 365 Business Central.

About the Deployment Type Node

Use the **Deployment Type** node to determine whether this connection is for Dynamics 365 Business Central in the **Cloud** or **On-Premise**.

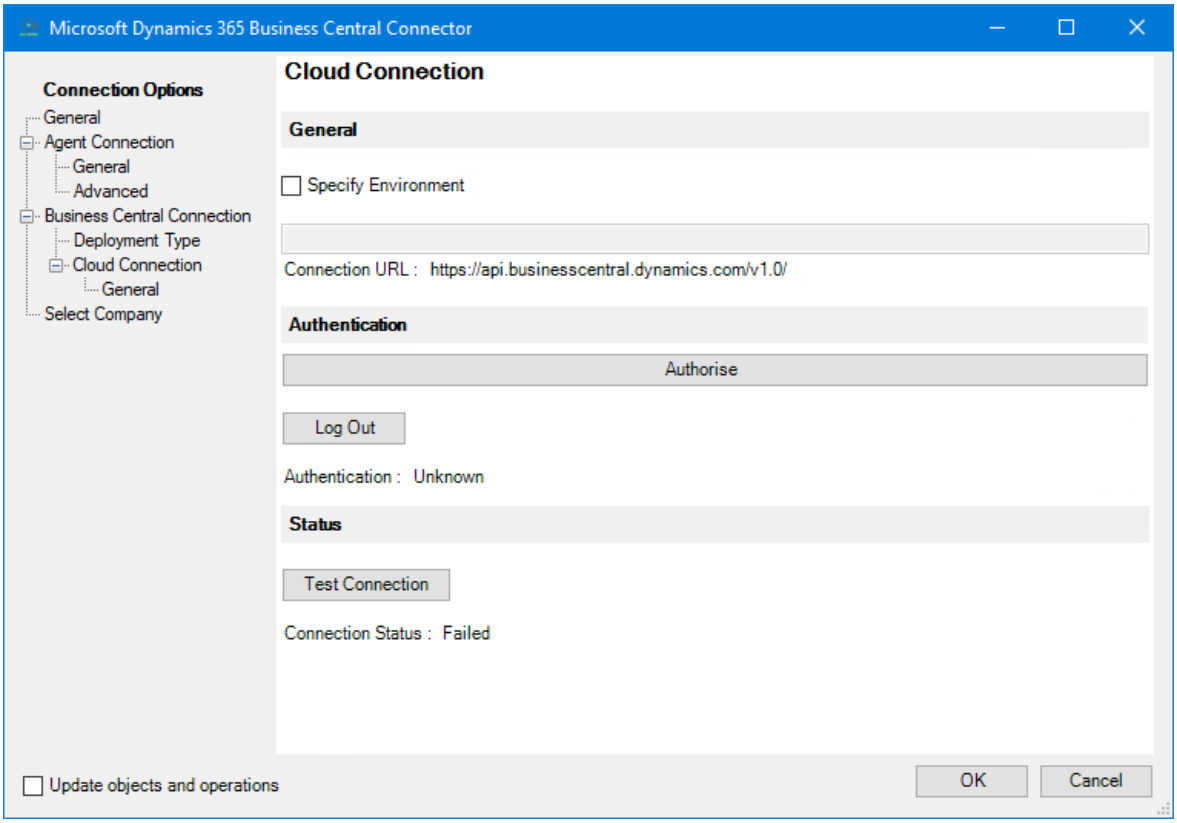


About the Cloud Connection Node

The **Cloud Connection** node provides a brief summary of the configured connection Dynamics 365 Business Central in the cloud.

About the General Node

The **General** tab is only available when **Cloud** is selected as the **Deployment Type**.



For standard cloud deployments, click **Authorise** and enter the database user credentials required to access the company database for this connection.

When deploying Dynamics 365 Business Central to the cloud, you can choose to create separate environments, for example, for production and "live" purposes (for more information, refer to your Microsoft documentation). To connect to such an environment, select **Specify Environment** and enter the environment name in the box below — **Connection URL** shows the URL the **Agent** uses to connect to this environment and API. Then click **Authorise** and enter the database user credentials required to access the company database for this connection.

Use **Test Connection** to ensure the **Dynamics 365 Business Central Agent** can connect to the database successfully.

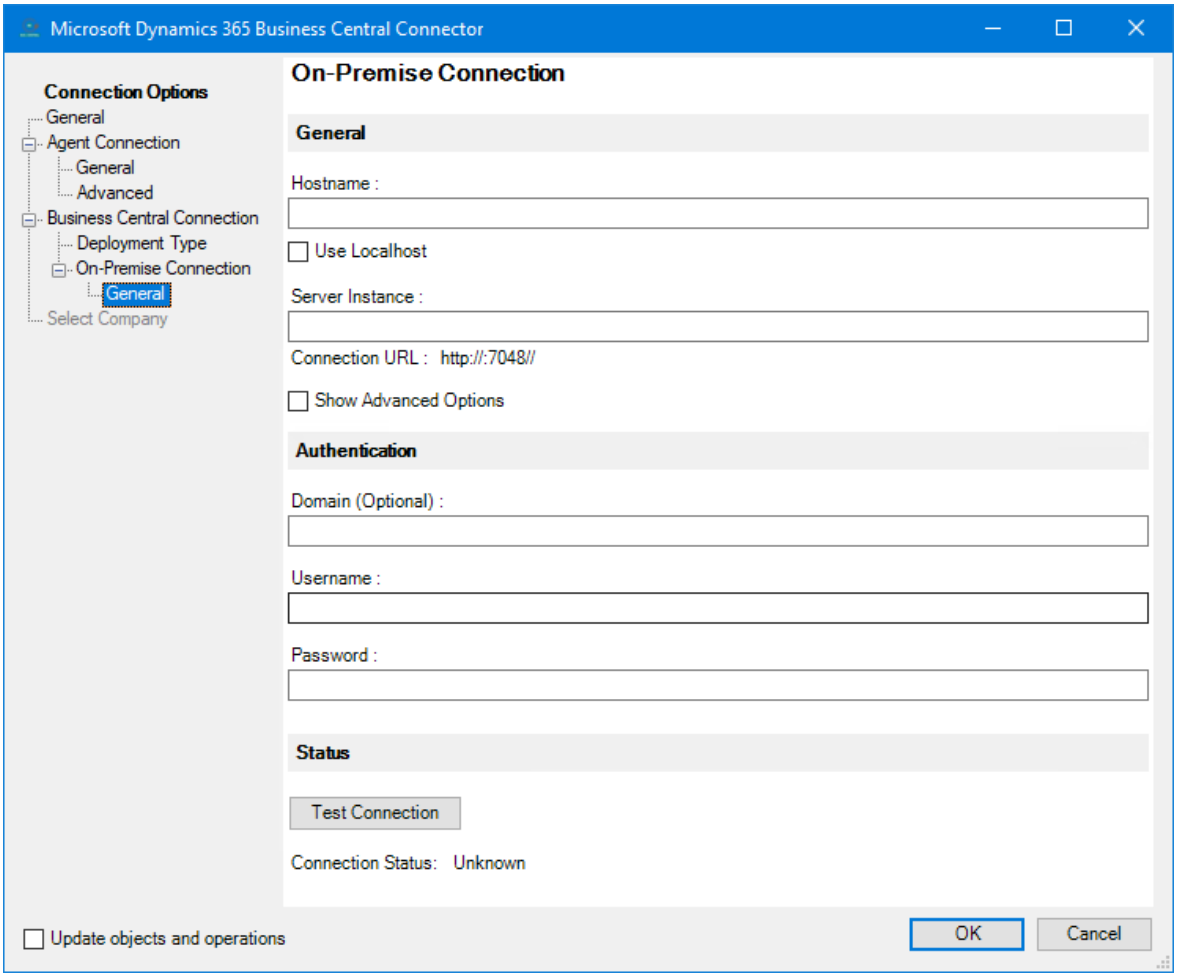
Use **Log Out** to disconnect the Agent from the API.

About the On-Premise Connection Node

The **On-Premise Connection** node provides a brief summary of the configured connection Dynamics 365 Business Central when on-premise.

About the General Node

The **General** tab is only available when **On-Premise** is selected in the **Deployment Type** node.



Use the parameters in this node to create a connection to the Dynamics 365 Business Central server instance hosting the company database you want to run tasks against.

Specifying the Server Instance

Provide the **Hostname** or IP address of the machine hosting the Dynamics 365 Business Central client.

In **Server Instance**, enter the configured name for this instance.

By default, the connection is over HTTP and port 7048. If the server instance has been set up to use HTTPS or a different port, enable **Show Advanced Options**. A new node appears under **On-Premise Connection** — **Advanced** — see *About the Advanced Node*.

The URL to the Dynamics 365 Business Central on-premise API is automatically built from the configuration you enter above — see underneath **Server Instance**.

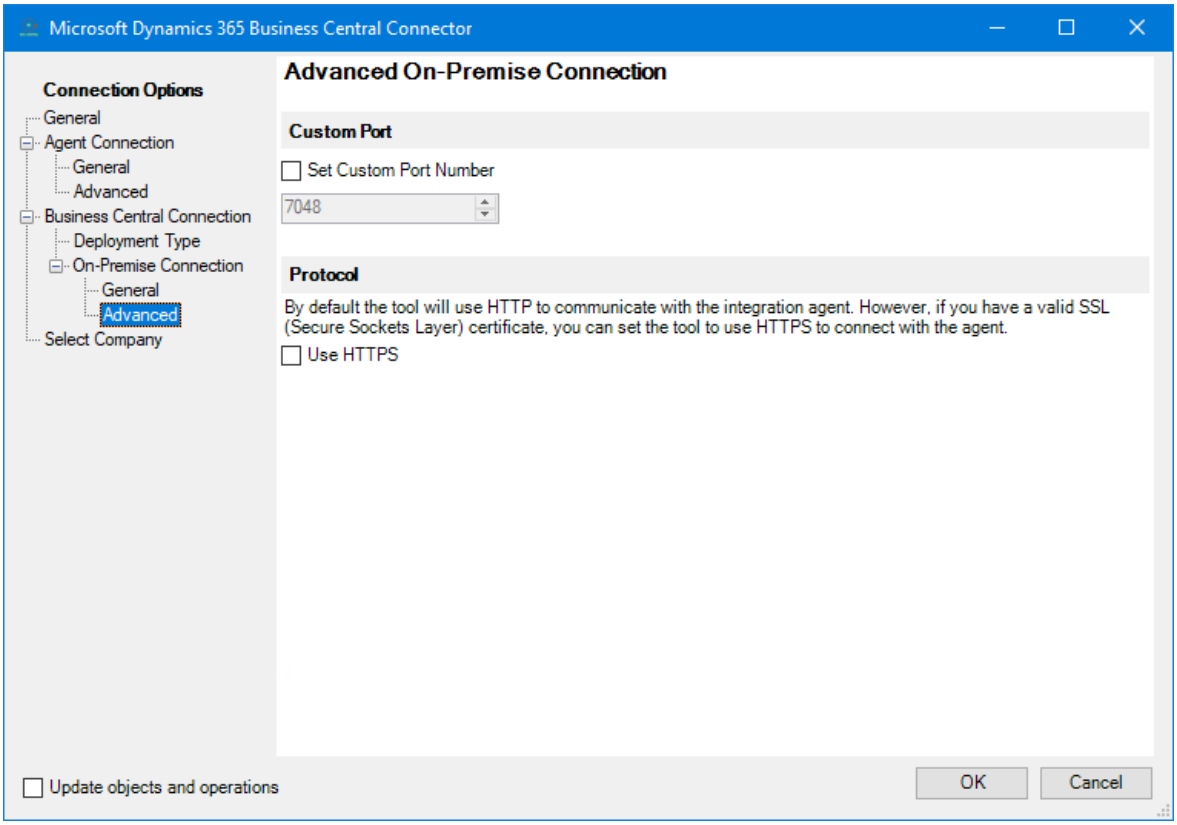
Specifying Database Credentials

You must provide the **Username** and **Password** allocated to the **Dynamics 365 Business Central Agent**. They must allow full access to the company database. **Domain** credentials can be used if required.

Use **Test Connection** to ensure the **Dynamics 365 Business Central Agent** can connect to the database successfully.

About the Advanced Node

Use the **Advanced** node to change the communication defaults to the on-premise API. This node is hidden until enable **Show Advanced Options** in the ***On-Premise Connection > General*** node is selected.



By default, the connection is over HTTP and port `7048`.

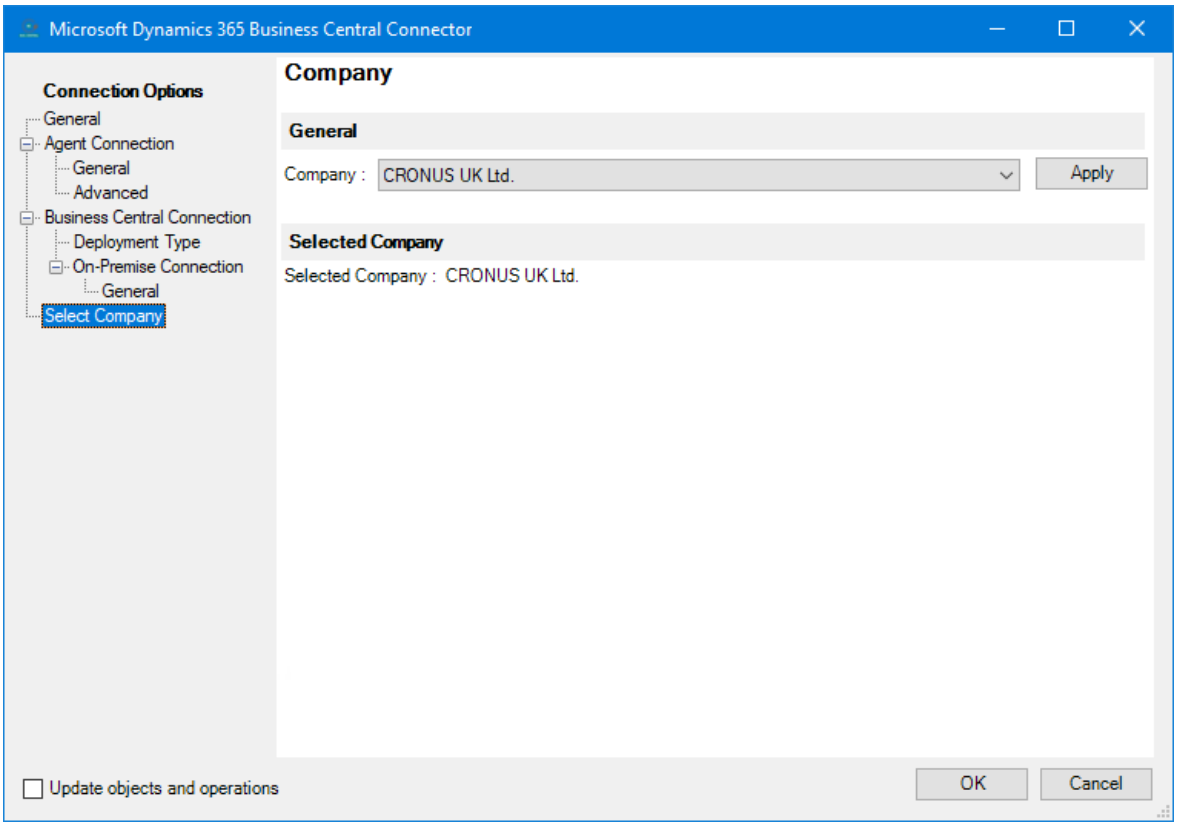
To change the port used to communicate over, enable **Set Custom Port Number** and enter the required number in the box provided.

To use HTTPS communication, enable **Use HTTPS**.

> **TIP:** After changing any parameter on this page, use **Test Connection** in the **General** node to ensure successful communication is maintained.

About the Select Company Node

Use the **Select Company** node to choose the Dynamics 365 Business Central database this **Agent** is specifically monitoring.



If your **Dynamics 365 Business Central Agent** is installed on a machine hosting more than one company database, you must create a separate global connection for each database you want tasks to access.

Step Configuration

When creating new tasks, the **Microsoft Dynamics 365 Business Central Connector** tool is located under **Data Connectors** of the Task Browser.

> **NOTE:** It is not possible to add the connector tool to the task until at least one connection to a Dynamics 365 Business Central instance has been defined in the global configuration.

To add a new **Microsoft Dynamics 365 Business Central Connector** step to an existing task, do the following:

From the relevant task, either:

- Click and drag the **Microsoft Dynamics 365 Business Central Connector** icon from the **Task Browser** to the task **Design** area.

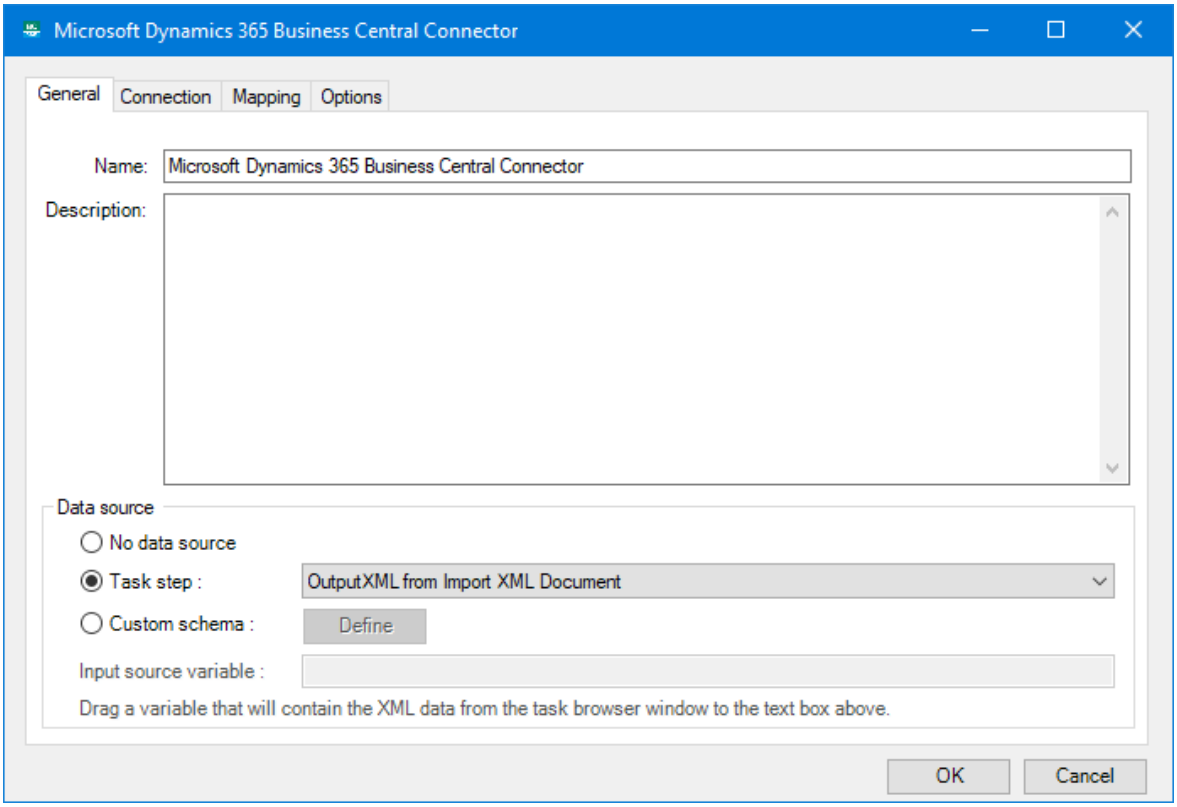
- From the task's **Design** tab, right-click on empty space and select ***New > Data Connectors > Microsoft Dynamics 365 Business Central Connector***.

For a detailed description of how to create new tasks, refer to the product help.

A NOTE ABOUT TASK DESIGN: When designing the **Microsoft Dynamics 365 Business Central Connector** task step, be aware that each task run only maintains the connection to the **Agent** for one hour or until the task completes, whichever happens first. Should the number of records being processed during a single task run force the connection to remain open for longer than an hour, the task fails with a timeout error. In such scenarios, consider "chunking" your task processes, see *How to Design a "Chunked" Task to Process a Large Amount of Records Over Multiple Task Runs*.

About the General Tab

Use the **General** tab to choose the BPA Platform data source to be mapped to the Dynamics 365 Business Central objects. The data source must be in XML form. To map BPA Platform recordsets, configure a **Convert Recordset to XML** or **Transform Data** step in the task before the **Microsoft Dynamics 365 Business Central Connector** step, then select this as **Task step** (see below).



Provide a meaningful **Name** and **Description** for this step.

TIP: If this task instance makes use of two or more **Microsoft Dynamics 365 Business Central Connector** steps, ensure the **Name** used is unique for each individual step.

Data source can either be:

- **No data source** — If you don't make use of a dedicated XML input source, select this option to use BPA Platform variables in place of the XML or recordset objects' fields.

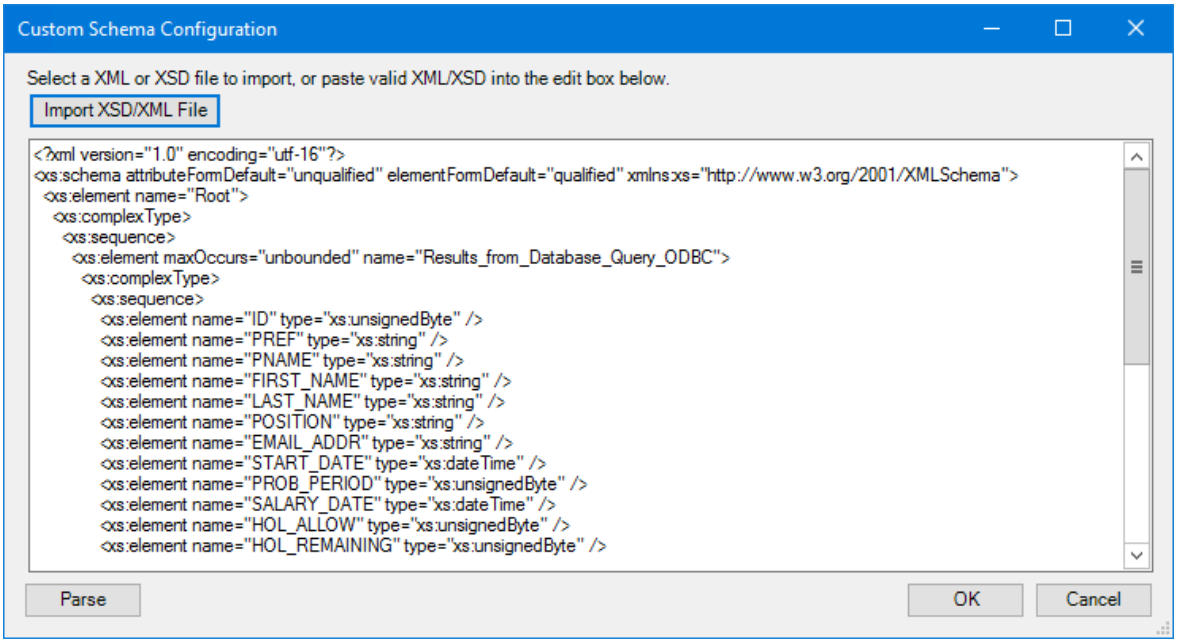
  For example, you can extract various bits of information from an email and store them in BPA Platform variables. The variables are mapped to Dynamics 365 Business Central operational objects and fields to store in the database for later use.

- **Task step** — The data source can be set to an available BPA Platform XML data source.

  Only those steps that are capable of natively exposing an XML document at runtime are listed. This may be another **Microsoft Dynamics 365 Business Central Connector** step, or a tool such as **Convert Recordset to XML** or **Transform Data**.

- **Custom schema** — An XML schema defines the structure of the parsed XML: what tags are present, and the nesting of the tags. You **Define** the schema of the XML that is used as the input data source for this step. The **Microsoft Dynamics 365 Business Central Connector** tool uses the industry standard XSD format. Any XML processed by this step must conform to this schema else an error will be reported.

  If the XSD schema is available, either import it into the **Custom Schema Configuration** (use the **Import XSD/XML File** button), or copy and paste it into the configuration box.

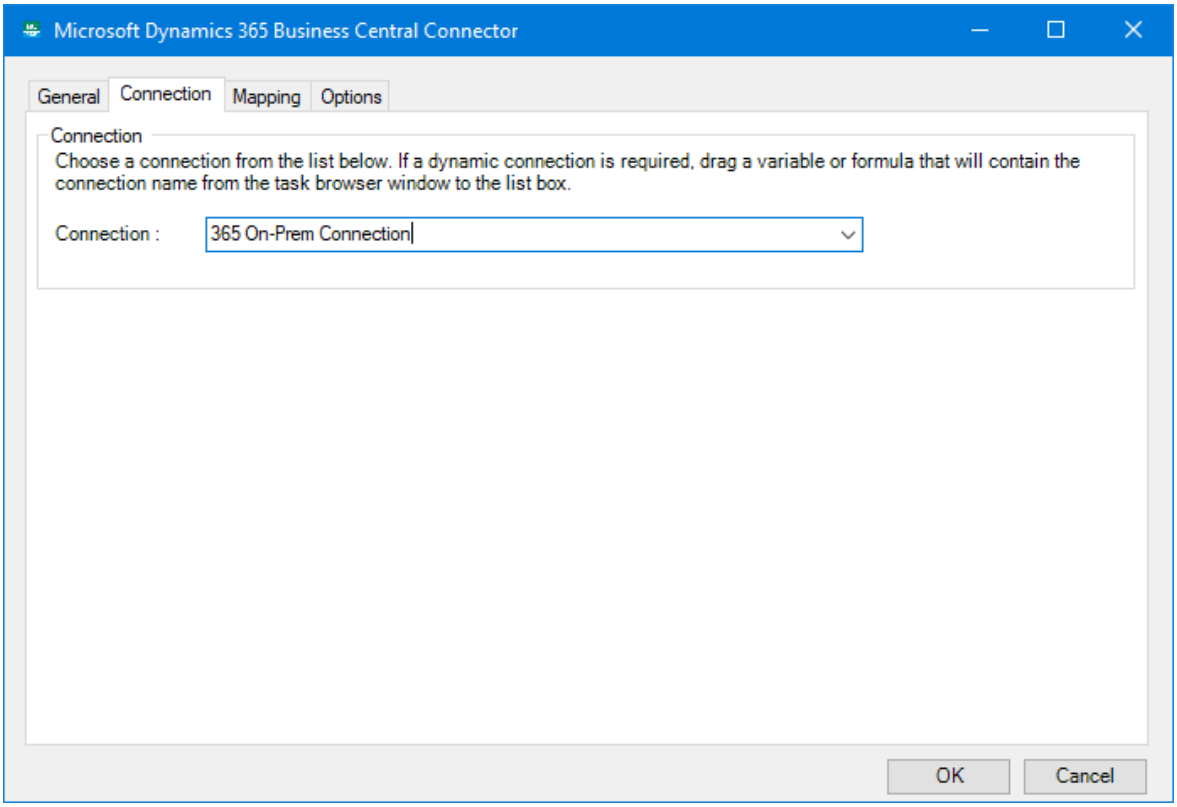


  If the XSD schema is not available, you can import an example of the runtime XML (**Import XSD/XML File**), or copy and paste it into the configuration box. Use the **Parse** button to create the schema.

- **Input source variable** — As well as defining the schema, specify the BPA Platform variable that contains the XML data at runtime.

About the Connection Tab

You must specify the Dynamics 365 Business Central connection (see *Global Configuration*) this task step must use.

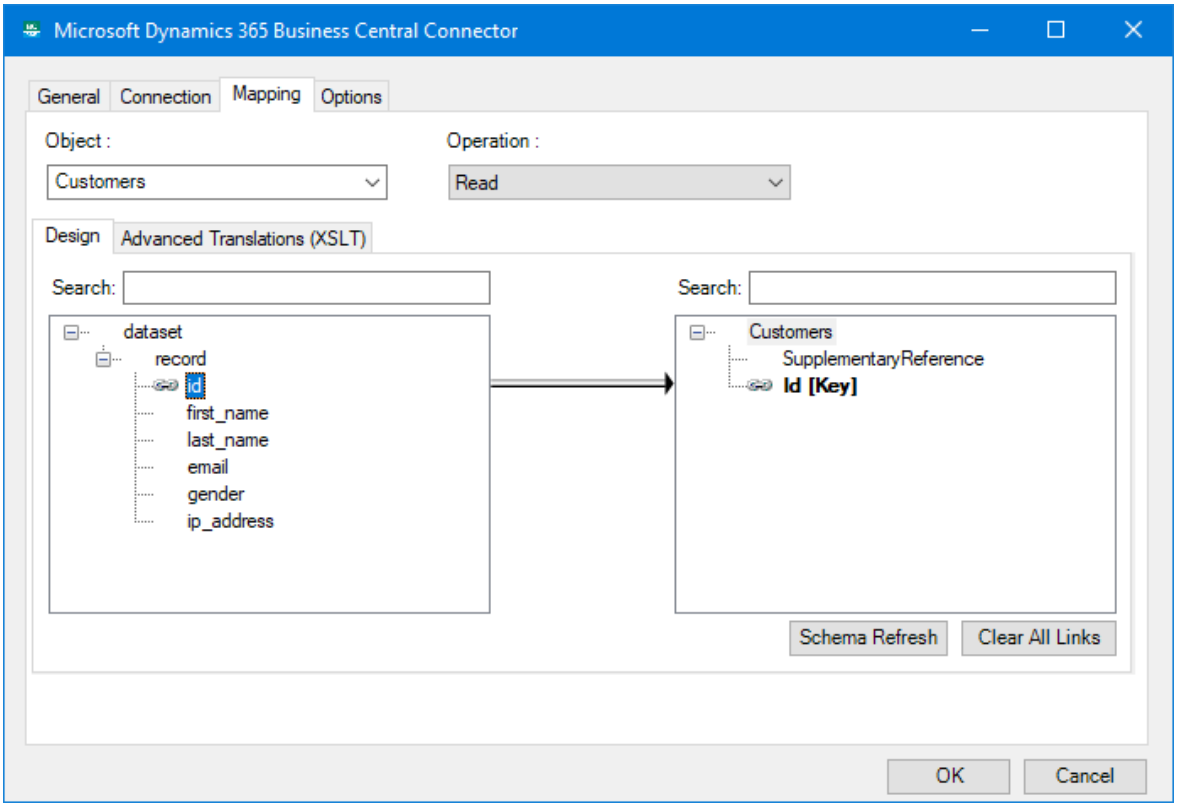


All connections created in the *global configuration window* are presented here.

Alternatively, you can use a BPA Platform variable or formula to create a dynamic connection, where the connection used is determined by runtime circumstances. At runtime, the contents of the variable must match the name of one of the global connections — this is case-sensitive. To do this, you must install a **Microsoft Dynamics 365 Business Central Agent** for each individual company database you want to monitor (even though access is through the same API). All **Agents** must be registered with the BPA Platform server and a separate global connection created for each **Agent**.

About the Mapping Tab

Use the **Mapping** tab to define links between the data source XML (see *About the General Tab*) and those required by Dynamics 365 Business Central. This defines how, at runtime, the incoming XML is to be translated into the XML required for the relevant object and operation.



The **Object** drop-down shows the Dynamics 365 Business Central objects. The **Operations** drop-down shows the operations available for the selected **Object**

Further down, the left-hand XML tree structure shows those data source fields available for mapping . The right-hand XML tree structure displays those input fields for the selected **Object** and **Operation**.

> **TIP:** If you have selected **No data source** in the **General** tab, you must add BPA Platform formulas and variables to the left-hand data source XML tree structure before mapping.

Creating Mappings

Create links by dragging and dropping a data source field (left) onto its corresponding **Microsoft Dynamics 365 Business Central Connector** input field (right). Only linked fields are used in the output XML.

BPA Platform formulas and variables can be included in the source data even when using a **Task step** or **Custom schema** — drag them from the BPA Platform Browser to the data source's XML; these can then be linked to the relevant input fields. BPA Platform recordsets must first be converted to XML using either the **Convert Recordset to XML** or **Transform Data** tool before they can be used here.

Each operation has an additional field, `SupplementaryReference`, which allows for traceability when transferring data from one place to another. When mapped, the data resides locally at runtime. It is added to the output, and creates a record for reference purposes only — you can choose to map any field to `SupplementaryReference` to assist with checking where the data originated from or at what time the data transfer occurred, for example.

The **Microsoft Dynamics 365 Business Central Connector** tool uses eXtensible Stylesheet Language Transformations (XSLT) to translate the received XML. The **Advanced Translations (XSLT)** tab shows the XSLT generated for the links created for the object and operation. Use **Enable Free Type Mode** to directly edit the XSLT — this is particularly useful when translating a non-standard requirement.

Refreshing the Dynamics 365 Business Central Schema

If new fields, objects, and operations have been added to your Dynamics 365 Business Central instance after this task step was originally created, use **Schema Refresh** to make the latest API metadata available for use.

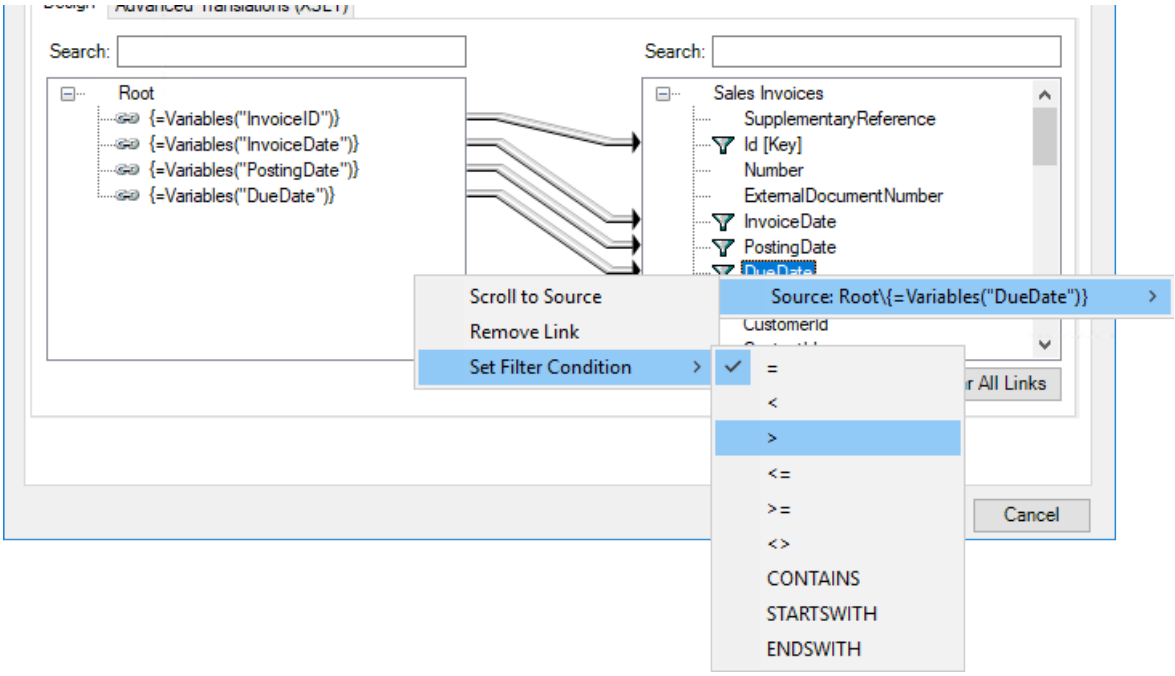
Using Filters with Objects

When using `SEARCH` operations, you can make use of filters to limit the data involved. At runtime, these fields are treated as “where clauses”. Available filter conditions are:

Filter	Description
`=`	Equal to
`<>`	Not equal to
`<`	Less than
`>`	Greater than
`<=`	Less than or equal to
`>=`	More than or equal to
`STARTSWITH`	Starts with
`ENDSWITH`	Ends with
`CONTAINS`	

The presence of multiple filter fields implies that all conditions must be met.

Nominated fields must be mapped to be included in the output XML. You add filter conditions by right-clicking the output XML field, and selecting **Set as Filter**. By default, all filters are set to "equal to". To change the filter condition, right-click the field again, and select **Set Filter Condition**. Change the filter condition as required.



Supported Objects

The following objects and operations are supported in this release of the **Microsoft Dynamics 365 Business Central Connector**:

> **TIP:** Where the object has a corresponding operation, the mandatory fields that must be mapped (see *About the Mapping Tab*) are shown in bold underneath.

Object	Operations					
	READ	ADD	UPDATE	DELETE	SEARCH	Additional Supported
Account	✔ **ID**				✔ No mandatory fields for the SEARCH operation.	

Object	Operations					
	READ	ADD	UPDATE	DELETE	SEARCH	Additional Supported
Aged Accounts Payable	✔ **VendorID**				✔ No mandatory fields for the SEARCH operation.	
Aged Accounts Receivable	✔ **CustomerID**				✔ No mandatory fields for the SEARCH operation.	
Attachments	✔ **ID** **ParentID**	✔ No mandatory fields for the ADD operation; the keys are auto-generated if not mapped.	✔ **ID** **ParentID**	✔ **ID** **ParentID**	✔ No mandatory fields for the SEARCH operation.	
Balance Sheet	✔ **LineNumber**				✔ No mandatory fields for the SEARCH operation.	
Bank Account	✔ **ID**	✔ No mandatory fields for the ADD operation; the key is auto-generated if not mapped.	✔ **ID**	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	
Cash Flow Statement	✔ **LineNumber**				✔ No mandatory fields for the SEARCH operation.	

Object	Operations					
	READ	ADD	UPDATE	DELETE	SEARCH	Additional Supported
Company Information	✔ **ID**		✔ **ID** **NOTE:** If updating the address for a record, you must send through all lines of the address not just the affected line. Sending a partial address may cause the address to be deleted, leaving only the updated lines.		✔ No mandatory fields for the SEARCH operation.	
Country Region	✔ **ID**	✔ **Code**	✔ **ID**	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	
Currency	✔ **ID**	✔ **Code**	✔ **ID**	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	
Customer Financial Detail	✔ **ID**				✔ No mandatory fields for the SEARCH operation.	

Object	Operations					
	READ	ADD	UPDATE	DELETE	SEARCH	Additional Supported
Customer Payment Journal	✔ **ID**	✔ **Code**	✔ **ID**	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	
Customer Payment	✔ **ID**	Although this operation is available, you cannot add a **Customer Payment** record in isolation. It must be done as part of the new **Customer Payment Journal** record or as an update to **Customer Payment Journal**.	✔ **ID**	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	
Customer Sale	✔ **CustomerID** **CustomerNumber** **Name**				✔ No mandatory fields for the SEARCH operation.	

Object	Operations					
	READ	ADD	UPDATE	DELETE	SEARCH	Additional Supported
Customer	✔ **ID**	✔ **DisplayName**	✔ **ID** **NOTE:** If updating the address for a record, you must send through all lines of the address not just the affected line. Sending a partial address may cause the address to be deleted, leaving only the updated lines.	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	
Default Dimensions	✔ **DimensionID** **ParentID**	✔ No mandatory fields for the ADD operation; the keys are auto-generated if not mapped.	✔ **DimensionID** **ParentID**	✔ **DimensionID** **ParentID**	✔ No mandatory fields for the SEARCH operation.	
Dimension Line	✔ **ID** **ParentID**	✔ No mandatory fields for the ADD operation; the keys are auto-generated if not mapped.	✔ **ID** **ParentID**	✔ **ID** **ParentID**	✔ No mandatory fields for the SEARCH operation.	
Dimension Value	✔ **ID**				✔ No mandatory fields for the SEARCH operation.	

Object	Operations					
	READ	ADD	UPDATE	DELETE	SEARCH	Additional Supported
Dimension	✔ **ID**				✔ No mandatory fields for the SEARCH operation.	
Employee	✔ **ID**	✔ No mandatory fields for the ADD operation; the key is auto-generated if not mapped.	✔ **ID** **NOTE:** If updating the address for a record, you must send through all lines of the address not just the affected line. Sending a partial address may cause the address to be deleted, leaving only the updated lines.	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	
General Ledger Entry	✔ **ID**				✔ No mandatory fields for the SEARCH operation.	
General Ledger Entry Attachments	✔ **GeneralLedgerEntryNumber** **ID**	✔ No mandatory fields for the ADD operation; the keys are auto-generated if not mapped.	✔ **GeneralLedgerEntryNumber** **ID**	✔ **GeneralLedgerEntryNumber** **ID**	✔ No mandatory fields for the SEARCH operation.	

Object	Operations					
	READ	ADD	UPDATE	DELETE	SEARCH	Additional Supported
Income Statement	✔ **LineNumber**				✔ No mandatory fields for the SEARCH operation.	
Item Category	✔ **ID**	✔ **Code**	✔ **ID**	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	
Item	✔ **ID**	✔ No mandatory fields for the ADD operation; the key is auto-generated if not mapped.	✔ **ID**	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	
Journal Line	✔ **ID**	Although this operation is available, you cannot add a **Journal Line** record in isolation. It must be done as part of the new **Journal** record or as an update to **Journal**.	✔ **ID**	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	
Journal	✔ **ID**	✔ **Code**	✔ **ID**	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	POST — **ID**

Object	Operations					
	READ	ADD	UPDATE	DELETE	SEARCH	Additional Supported
Payment Method	✔ **ID**	✔ **Code**	✔ **ID**	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	
Payment Term	✔ **ID**	✔ **Code**	✔ **ID**	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	
Pdf Document	✔ **ID**				✔ No mandatory fields for the SEARCH operation.	
Picture	✔ **ID**		✔ **ID**	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	
Project	✔ **ID**	✔ No mandatory fields for the ADD operation; the key is auto-generated if not mapped.	✔ **ID**	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	

Object	Operations					
	READ	ADD	UPDATE	DELETE	SEARCH	Additional Supported
Purchase Invoice Line	✔ **ID**	Although this operation is available, you cannot add a **Purchase Invoice Line** record in isolation. It must be done as part of the new **Purchase Invoice** record or as an update to **Purchase Invoice**.	✔ **ID**	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	
Purchase Invoice	✔ **ID**	✔ No mandatory fields for the ADD operation; the key is auto-generated if not mapped.	✔ **ID** **NOTE:** If updating the address for a record, you must send through all lines of the address not just the affected line. Sending a partial address may cause the address to be deleted, leaving only the updated lines.	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	POST — **ID**
Retained Earning Statement	✔ **LineNumber**				✔ No mandatory fields for the SEARCH operation.	

Object	Operations					
	READ	ADD	UPDATE	DELETE	SEARCH	Additional Supported
Sales Credit Memo Line	✔ **ID**	Although this operation is available, you cannot add a **Sales Credit Memo Line** record in isolation. It must be done as part of the new **Sales Credit Memo** record or as an update to **Sales Credit Memo**.	✔ **ID**	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	
Sales Credit Memo	✔ **ID** **NOTE:** The child object **Pdf Document** is not returned unless a POST operation has been performed for the **Sales Credit Memo** record which includes the **Pdf Document**.	✔ No mandatory fields for the ADD operation; the key is auto-generated if not mapped.	✔ **ID** **NOTE:** If updating the address for a record, you must send through all lines of the address not just the affected line. Sending a partial address may cause the address to be deleted, leaving only the updated lines.	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	CANCEL AND SEND — **ID** CANCEL — **ID** POST AND SEND — **ID** POST — **ID** SEND — **ID**

Object	Operations					
	READ	ADD	UPDATE	DELETE	SEARCH	Additional Supported
Sales Invoice Line	✔ **ID**	Although this operation is available, you cannot add a **Sale Invoice Lines** record in isolation. It must be done as part of the new **Sales Invoice** record or as an update to **Sales Invoice**.	✔ **ID**	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	
Sales Invoice	✔ **ID**	✔ No mandatory fields for the ADD operation; the key is auto-generated if not mapped if not mapped.	✔ **ID** **NOTE:** If updating the address for a record, you must send through all lines of the address not just the affected line. Sending a partial address may cause the address to be deleted, leaving only the updated lines.	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	CANCEL AND SEND — **ID** CANCEL — **ID** POST AND SEND — **ID** POST — **ID** SEND — **ID** MAKE CORRECTIVE CREDIT MEMO — **ID**
Sales Order Line	✔ **ID**	Although this operation is available, you cannot add a **Sales Order Line** record in isolation. It must be done as part of the new **Sales Order** record or as an update to **Sales Order**.	✔ **ID**	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	

Object	Operations					
	READ	ADD	UPDATE	DELETE	SEARCH	Additional Supported
Sales Order	✔ **ID**	✔ No mandatory fields for the ADD operation; the key is auto-generated if not mapped.	✔ **ID** **NOTE:** If updating the address for a record, you must send through all lines of the address not just the affected line. Sending a partial address may cause the address to be deleted, leaving only the updated lines.	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	SHIP AND INVOICE — **ID**
Sales Quote Line	✔ **ID**	Although this operation is available, you cannot add a **Sales Quote Line** record in isolation. It must be done as part of the new **Sales Quote** record or as an update to **Sales Quote**.	✔ **ID**	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	

Object	Operations					
	READ	ADD	UPDATE	DELETE	SEARCH	Additional Supported
Sales Quote	✔ **ID**	✔ No mandatory fields for the ADD operation; the key is auto-generated if not mapped.	✔ **ID** **NOTE:** If updating the address for a record, you must send through all lines of the address not just the affected line. Sending a partial address may cause the address to be deleted, leaving only the updated lines.	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	MAKE INVOICE — **ID** SEND — **ID** MAKE ORDER — **ID**
Shipment Method	✔ **ID**	✔ **Code**	✔ **ID**	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	
Tax Area	✔ **ID**	✔ No mandatory fields for the ADD operation; the key is auto-generated if not mapped.	✔ **ID**	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	
Tax Group	✔ **ID**	✔ No mandatory fields for the ADD operation; the key is auto-generated if not mapped.	✔ **ID**	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	

Object	Operations					
	READ	ADD	UPDATE	DELETE	SEARCH	Additional Supported
Time Registration Entry	✔ **ID**	✔ No mandatory fields for the ADD operation; the key is auto-generated if not mapped.	✔ **ID**	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	
Trial Balance	✔ **Number**				✔ No mandatory fields for the SEARCH operation.	
Unit of Measure	✔ **ID**	✔ **Code**	✔ **ID**	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	
Vendor Purchase	✔ **Name** **VendorID** **VendorNumber**				✔ No mandatory fields for the SEARCH operation.	
Vendor	✔ **ID**	✔ No mandatory fields for the ADD operation; the key is auto-generated if not mapped.	✔ **ID** **NOTE:** If updating the address for a record, you must send through all lines of the address not just the affected line. Sending a partial address may cause the address to be deleted, leaving only the updated lines.	✔ **ID**	✔ No mandatory fields for the SEARCH operation.	

NOTE: If your Dynamics 365 Business Central installation makes use of web services the codeunits, pages, and queries are also displayed in the **Objects** drop-down in the **Mapping** tab — they have **(Service)** after the object name, for example, **Sales Documents (Service)**. As such objects are installation-specific, they are not listed in this document.

Their operations are as follows:

- Pages — `READ`, `ADD`, `UPDATE`, `DELETE`, `SEARCH`
- Queries — `READ`, `SEARCH`
- Codeunits — The function used by the codeunit is displayed as the operation, for example, for a workflow codeunit you might have `APPROVE` and `REJECT`

For more information about using codeunits in Dynamics 365 Business Central, refer to your Microsoft documentation.

A Note About Updating Child Objects From Parent Objects

If performing an `UPDATE` on an object that has child objects where you are updating parent-level and child-level fields, how you map the child-level fields determines whether a new child record is added or an existing child record updated:

- If a child object has all **[Key]** fields mapped, this is treated as an `UPDATE` operation — The mapped keys are used to find the relevant record.
- If a child-level **[Key]** field is not mapped but a child-level field is, this is treated as an `ADD` operation — A new child record is added with the relevant keys auto-generated.

  For example, this mapping adds a new **Picture** child record against the mapped **Employee ID.**
- If a child object has more than one **[Key]** field but only one is mapped, again this is treated as an `ADD` operation — A new child record is added with the unmapped keys auto-generated.

  For example, the child object, **DefaultDimensions**, has two **[Key]** fields but only one is mapped. For this scenario, a new **DefaultDimensions** record is added with the **ParentID** being auto-generated.
- Some objects have more than one child objects. Those child objects that are not involved in the mapping are not affected by the `UPDATE` operation at task runtime.

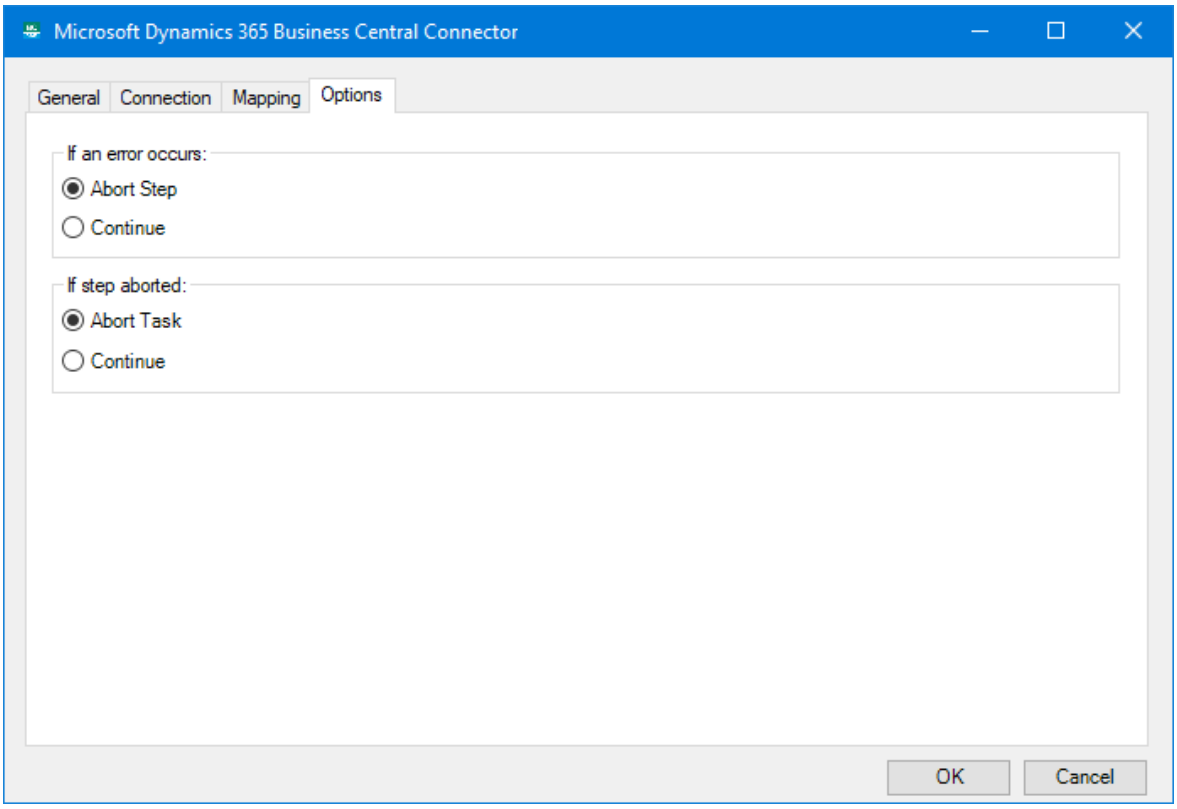
  For example, the **Employee** object has three child objects: **Picture**, **DefaultDimensions**, and **TimeRegistrationEntries**. This mapping does not affect any existing child records for **DefaultDimensions** or **TimeRegistrationEntries**.

The following table indicates those objects with child-level objects and their **[Key]** fields:

Object	Child Object	[Key] Field
Customer Payment Journal	CustomerPayments	ID
Customer	CustomerFinancialDetails	ID
	Picture	ID
	DefaultDimensions	ParentID DimensionID
Employee	Picture	ID
	DefaultDimensions	ParentID DimensionID
	TimeRegistrationEntries	ID
Item	Picture	ID
	DefaultDimensions	ParentID DimensionID
Journal Line	Attachments	ParentID ID
Journal	JournalLines	ID
	Attachments (as child of JournalLines, therefore grandchild)	ParentID ID
PurchaseInvoice	PurchaseInvoiceLines	ID
	PdfDocument	ID
Sales Credit Memo	SalesCreditMemoLines	ID
	PdfDocument	ID
Sales Invoice	SalesInvoiceLines	ID
	PdfDocument	ID
Sales Order	SalesOrderLines	ID
Sales Quote	SalesQuoteLines	ID
	PdfDocument	ID
Vendor	Picture	ID
	DefaultDimensions	ParentID DimensionID

About the Options Tab

The **Options** tab allows you to define how errors in this step are handled at task runtime.



If an error occurs, you can decide whether the step should **Continue** processing, or terminate the step immediately (**Abort Step**).

If the step is aborted, you can choose to **Continue** processing onto the next step in the task, or terminate the whole task immediately (**Abort Task**). By allowing the task to **Continue**, you can use the error XML received back in a **Save File** step for investigation purposes, for example.

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