

# HIVE BDC FOR MICROSOFT DYNAMICS AX 2012

## Installation and user guide

### Document

User guide, version 1.0  
10 October 2026

### Product

Hive BDC 1.0, by Balsoft  
Microsoft Dynamics AX 2012 R3 with the Balsoft Data Flow module

### Balsoft GmbH

Herler Str. 109  
51067 Köln  
HRB 121678 Amtsgericht Köln, USt-IdNr. DE452983132





|          |                                                         |           |
|----------|---------------------------------------------------------|-----------|
| <b>1</b> | <b>ABOUT HIVE BDC .....</b>                             | <b>3</b>  |
| <b>2</b> | <b>SYSTEM REQUIREMENTS .....</b>                        | <b>4</b>  |
|          | 2.1 Server for the Hive BDC service .....               | 4         |
|          | 2.2 Microsoft Dynamics AX 2012.....                     | 4         |
|          | 2.3 Export folder .....                                 | 4         |
|          | 2.4 Microsoft 365 (only for mail and SharePoint).....   | 5         |
|          | 2.5 Document management (optional) .....                | 5         |
|          | 2.6 Licence .....                                       | 5         |
| <b>3</b> | <b>INSTALLING HIVE BDC.....</b>                         | <b>5</b>  |
| <b>4</b> | <b>SETTING UP AX 2012 .....</b>                         | <b>6</b>  |
|          | 4.1 Parameters.....                                     | 6         |
|          | 4.2 Flow table .....                                    | 7         |
|          | 4.3 Document types .....                                | 13        |
| <b>5</b> | <b>FROM POSTED INVOICE TO SENT DOCUMENT .....</b>       | <b>17</b> |
|          | 5.1 Posting queues the invoice .....                    | 17        |
|          | 5.2 Data Flow Import/Export Batch writes the data ..... | 17        |
|          | 5.3 Data Flow Send/Receive Batch writes the files ..... | 18        |
|          | 5.4 The files in the export folder.....                 | 19        |
| <b>6</b> | <b>THE HIVE BDC DASHBOARD .....</b>                     | <b>20</b> |
|          | 6.1 Overview.....                                       | 20        |
|          | 6.2 Document types and companies .....                  | 20        |
|          | 6.3 Connections .....                                   | 22        |
|          | 6.4 Service.....                                        | 23        |
| <b>7</b> | <b>TROUBLESHOOTING .....</b>                            | <b>24</b> |
|          | 7.1 Support.....                                        | 24        |

## 1 ABOUT HIVE BDC

Hive BDC (Balsoft Data Connector) sends the documents Microsoft Dynamics AX 2012 produces for your customers and vendors. A posted sales invoice becomes a German electronic invoice in the XRechnung or ZUGFeRD format. Order confirmations, quotations, collection letters, purchase orders and payment advices are delivered as the PDF that AX prints. Each document can be mailed to the recipient and filed in SharePoint (also with ShareFlex), DocuWare or another document management system.

The product has two parts. The Hive BDC service runs in the background on a Windows server: it watches the export folder, produces each document and delivers it. The dashboard is the window you open to see whether the service runs, which documents went out, and to change the settings.

Everything runs on your own infrastructure. Document content is not sent to Balsoft or to any other service; it only goes to the recipients and the SharePoint site you configure.

| Document type     | AX document        | Sent to  | Delivered as                                                |
|-------------------|--------------------|----------|-------------------------------------------------------------|
| SalesInvoice      | Sales invoice      | Customer | XRechnung (XML) or ZUGFeRD (PDF with embedded invoice data) |
| SalesConfirmation | Order confirmation | Customer | PDF                                                         |
| SalesQuotation    | Quotation          | Customer | PDF                                                         |
| CollectionLetter  | Collection letter  | Customer | PDF                                                         |
| PurchaseOrder     | Purchase order     | Vendor   | PDF                                                         |
| PaymentAdvice     | Payment advice     | Vendor   | PDF                                                         |

This guide describes the setup for Microsoft Dynamics AX 2012. Separate guides cover Dynamics 365 Finance and Operations and Dynamics AX 2009.

## 2 SYSTEM REQUIREMENTS

Please check the following points before the installation. Your Balsoft consultant goes through them with you and installs the AX part.

### 2.1 Server for the Hive BDC service

| Item                | Requirement                                                                                                                                                                                                                                                                   |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating system    | Windows Server 2016, 2019, 2022 or 2025, 64-bit, with Desktop Experience (the dashboard is a Windows application). Windows 10 or 11, 64-bit, is fine for test systems. Windows Server 2012 R2 only with Microsoft Extended Security Updates.                                  |
| Runtime             | Nothing to install. The Setup brings everything it needs, including the .NET runtime.                                                                                                                                                                                         |
| Disk space          | About 250 MB for the program, plus space for the documents and the logs (logs are kept for 30 days).                                                                                                                                                                          |
| Operation           | A server that runs all the time, ideally the AX batch server or a file server close to it. The service needs little memory and processor time.                                                                                                                                |
| Installation rights | A local administrator account for the Setup.                                                                                                                                                                                                                                  |
| Service account     | LocalSystem is enough when the export folder is on the same server. For a folder on a network share, use a domain account with the right "Log on as a service" and read and write access to the share. The Setup checks the account with Windows before it installs anything. |

### 2.2 Microsoft Dynamics AX 2012

- Microsoft Dynamics AX 2012 R3 with the Balsoft Data Flow module. Balsoft delivers and installs the module.
- An AX batch server that runs the two Data Flow batch jobs (chapter 5).
- The AOS service account can write to the export folder.
- Customer master data contains what an e-invoice needs: address, VAT registration number and payment terms.

### 2.3 Export folder

AX writes each document as a pair of files into an export folder, and Hive BDC picks them up from there. The folder can be local on the Hive BDC server or a network share (for example \\fileserver\Export\SalesInvoiceExport). Both the AOS service account and the Hive BDC service account need read and write access to it. Hive BDC creates the subfolders processed, out and error itself.

## 2.4 Microsoft 365 (only for mail and SharePoint)

- Document mail: an app registration in Microsoft Entra ID with the application permission Mail.Send and the mailbox the documents are sent from. Balsoft provides a script that creates the registration and limits it to that one mailbox.
- SharePoint: a second app registration with the application permission Sites.ReadWrite.All, or Sites.Selected granted on the target site.
- The server reaches login.microsoftonline.com and graph.microsoft.com over HTTPS.

## 2.5 Document management (optional)

Hive BDC uploads directly to SharePoint document libraries, including libraries managed with ShareFlex, and fills their metadata columns from the document. DocuWare, d.velop documents, ELO, M-Files, enaio, windream, SER Daxis, nscale, EASY archive, Laserfiche, OpenText and other document management systems take the finished files from the Hive BDC output folder through their own folder import (for DocuWare, an import configuration that watches that folder). Your DMS partner sets up the import; Balsoft tells them the folder and the file names.

## 2.6 Licence

Hive BDC needs a licence file (.lic) from Balsoft. It is bound to your Microsoft 365 tenant and lists the features you use: e-invoices, PDF documents and SharePoint. The dashboard warns before the licence expires. After expiry there are seven days of grace; then processing pauses, and the documents wait in the export folder until a valid licence is installed. Nothing is lost.

For updates, the dashboard reads the Balsoft update feed at `hiveinvoiceupdates.blob.core.windows.net`. Without internet access you install updates by running the new Setup by hand.

## 3 INSTALLING HIVE BDC

Download HiveBDC-Setup-vX.Y.Z.exe from [www.balsoft.de](http://www.balsoft.de) (Products, Hive BDC). The file is signed by Balsoft GmbH; Windows shows Balsoft GmbH as the publisher when you start it. Run it on the server chosen in chapter 2, not on a workstation.

- Confirm the Windows prompt for administrator rights.
- Accept the licence agreement and keep the proposed folder `C:\Program Files\Balsoft\Hive BDC`.
- Service account: leave both fields empty for LocalSystem, or enter the domain account and its password (`DOMAIN\user`). The Setup only continues when Windows accepts the sign-in.
- Finish: the Setup registers and starts the service and opens the dashboard.
- Install the licence: in the dashboard, Renew licence..., then choose the .lic file from Balsoft.

IT departments can install without any window:

```
HiveBDC-Setup-vX.Y.Z.exe /VERYSILENT /SUPPRESSMSGBOXES /NORESTART [/SvcAccount=DOMAIN\user /SvcPassword=...] [/LOG=C:\Temp\hivebdc-setup.log]
```

Updates: Help, Check for updates in the dashboard downloads the new Setup, checks its Balsoft signature and installs it. Your settings and the service account stay as they are. Uninstall Hive BDC under Windows Settings, Apps; the licence, the logs and the export history in `C:\ProgramData\HiveBDC`

are kept.

## 4 SETTING UP AX 2012

All settings are in the Data Flow module. Open it from the navigation pane; the area page lists the setup forms under Setup. The steps below set up the sales invoice. The other document types follow the same pattern with their own flow.

### 4.1 Parameters

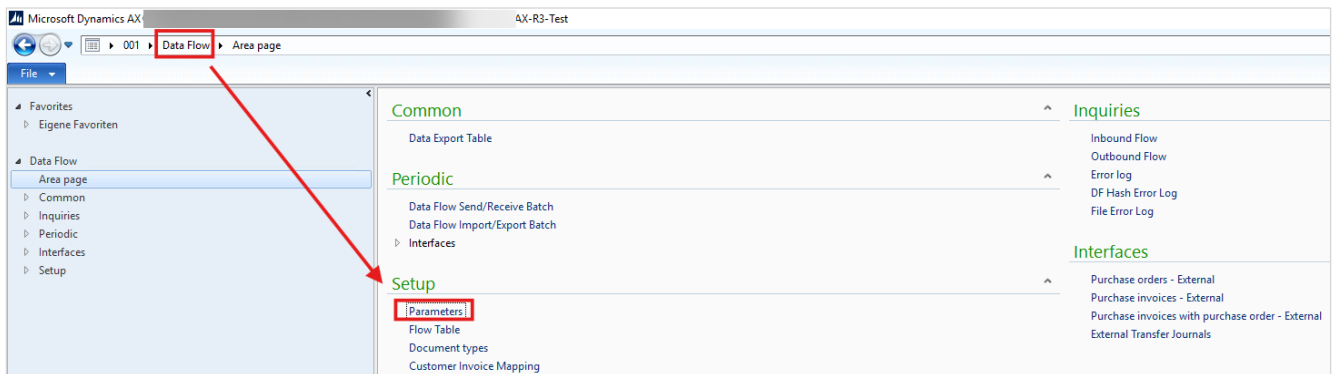


Figure 1: Data Flow area page, Setup, Parameters

Default E-Invoice Type decides the format of the e-invoice when the customer has no format of its own: ZUGFeRD, XRechnung, or None for no e-invoice. ZR contract supplier number is only needed when you invoice through a central settlement house; it is your supplier number there.

Figure 2: ZR contract supplier number

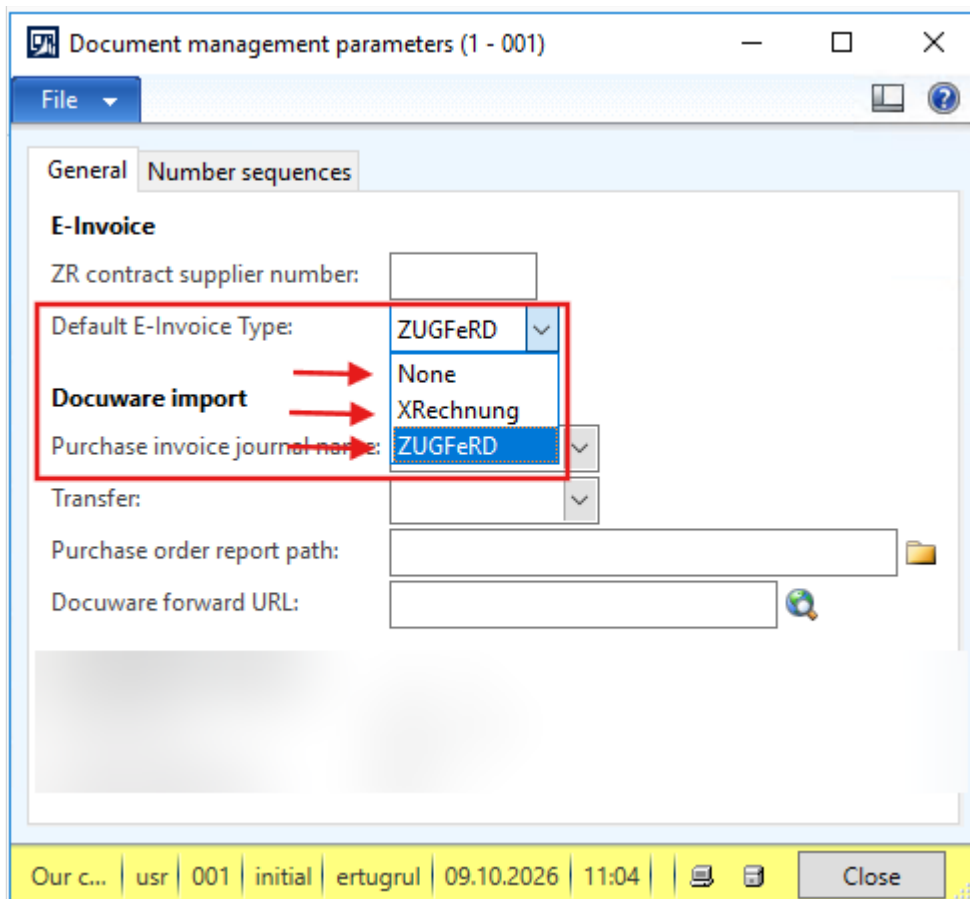


Figure 3: Default e-invoice type

## 4.2 Flow table

The flow describes how AX exports the invoice: as JSON, through which classes, and into which folder.

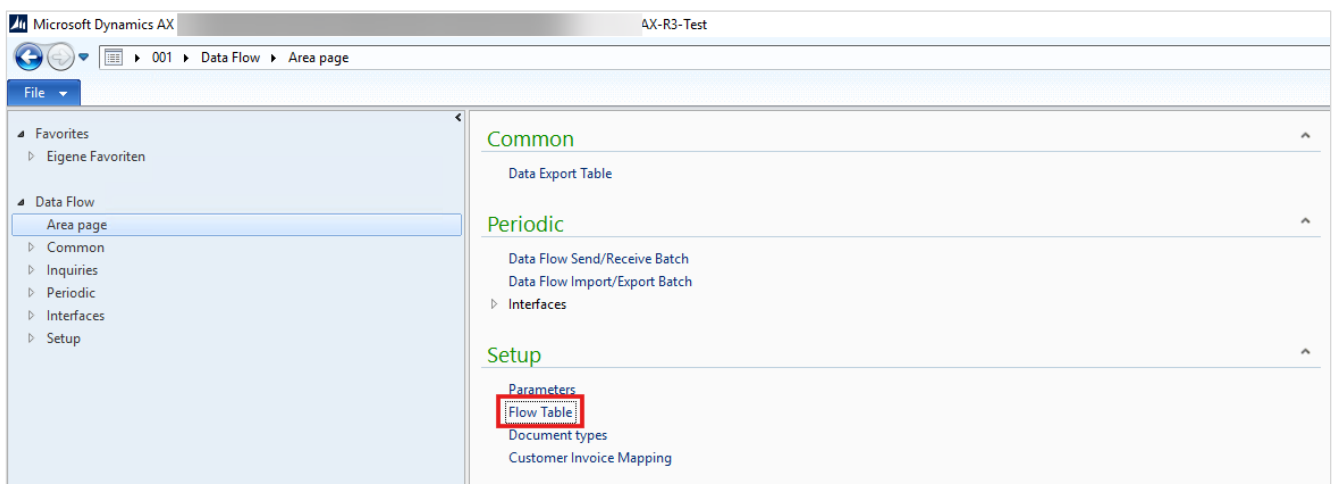


Figure 4: Setup, Flow Table

Create a new line with Flow Id E-Invoice.

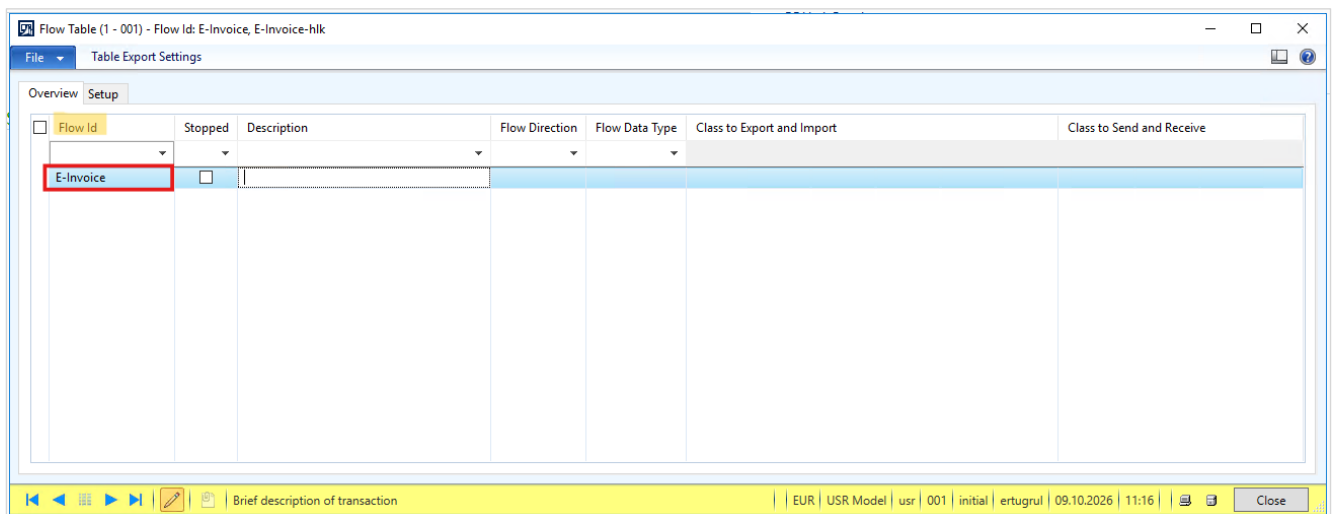


Figure 5: Create a new line with Flow Id E-Invoice

Leave Stopped cleared, otherwise nothing is exported.

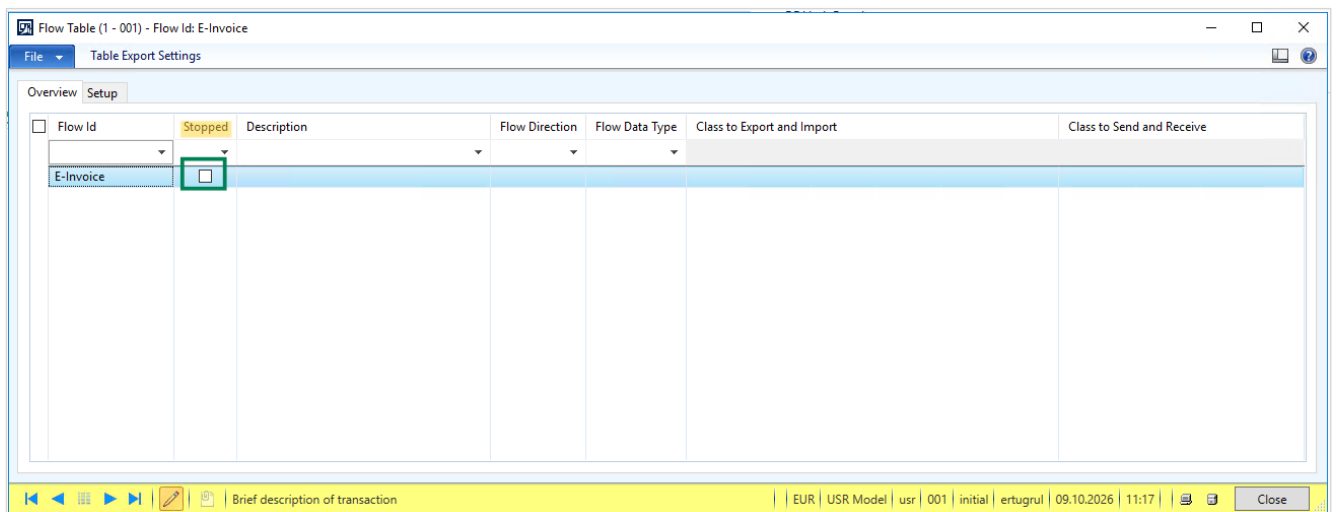


Figure 6: Leave Stopped cleared, otherwise nothing is exported

## Description: E-invoice Export.

The screenshot shows a software window titled 'Flow Table (1 - 001) - Flow Id: E-Invoice, E-invoice Export'. The window has a 'File' menu and a 'Table Export Settings' tab. Below the menu is a toolbar with icons for navigation and editing. The main area contains a table with the following columns: 'Flow Id', 'Stopped', 'Description', 'Flow Direction', 'Flow Data Type', 'Class to Export and Import', and 'Class to Send and Receive'. The 'Description' column is highlighted in yellow. The first row of the table has 'E-Invoice' in the 'Flow Id' column, an unchecked checkbox in the 'Stopped' column, and 'E-invoice Export' in the 'Description' column. The 'Description' cell is highlighted with a red border. The status bar at the bottom shows 'Description of the class' and various system information including 'EUR', 'USR Model', 'usr', '001', 'initial', 'ertugrul', '09.10.2026', '16:58', and a 'Close' button.

| Flow Id   | Stopped                  | Description      | Flow Direction | Flow Data Type | Class to Export and Import | Class to Send and Receive |
|-----------|--------------------------|------------------|----------------|----------------|----------------------------|---------------------------|
| E-Invoice | <input type="checkbox"/> | E-invoice Export |                |                |                            |                           |

Figure 7: Description: E-invoice Export

## Flow Direction: Outbound.

This screenshot shows the same 'Table Export Settings' window as Figure 7, but with the 'Flow Direction' column highlighted in yellow. The dropdown menu for 'Flow Direction' is open, showing 'Outbound' as the selected option, which is highlighted with a red border. The 'Description' column remains highlighted in yellow. The status bar at the bottom now shows 'Brief description of transaction' and the time is '17:06'.

| Flow Id   | Stopped                  | Description      | Flow Direction | Flow Data Type | Class to Export and Import | Class to Send and Receive |
|-----------|--------------------------|------------------|----------------|----------------|----------------------------|---------------------------|
| E-Invoice | <input type="checkbox"/> | E-invoice Export | Outbound       |                |                            |                           |

Figure 8: Flow Direction: Outbound

## Flow Data Type: JSON.

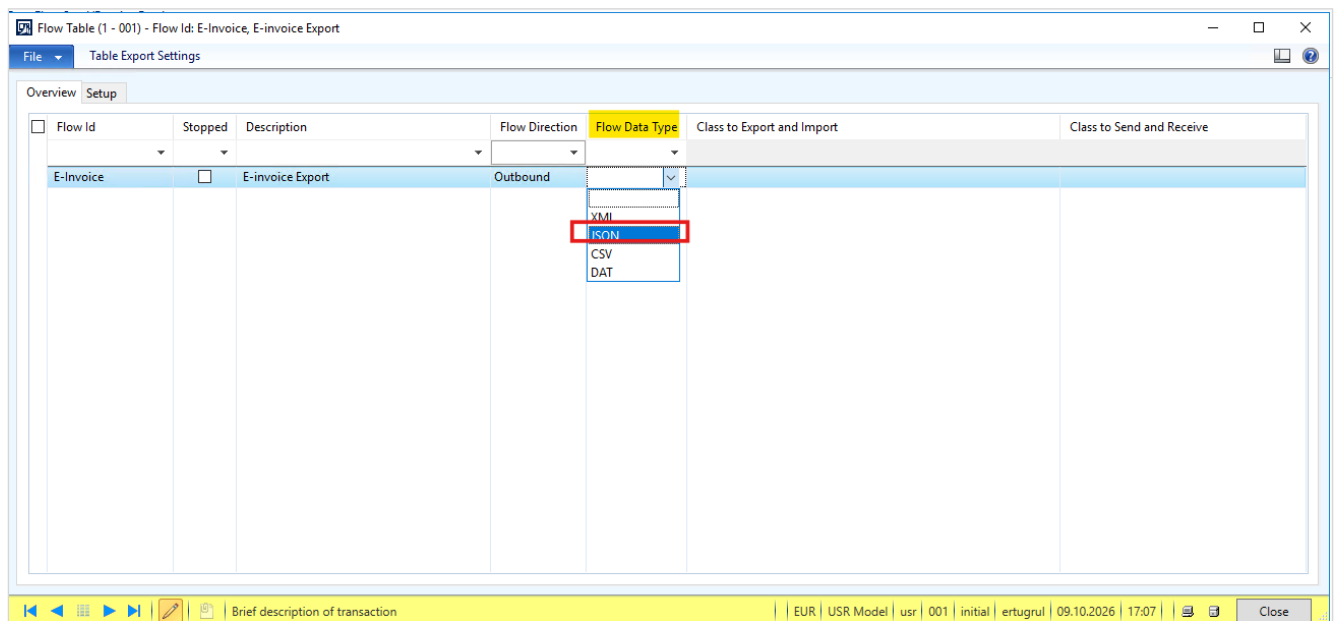


Figure 9: Flow Data Type: JSON

## Class to Export and Import: BDC E-Invoice JSON Export.

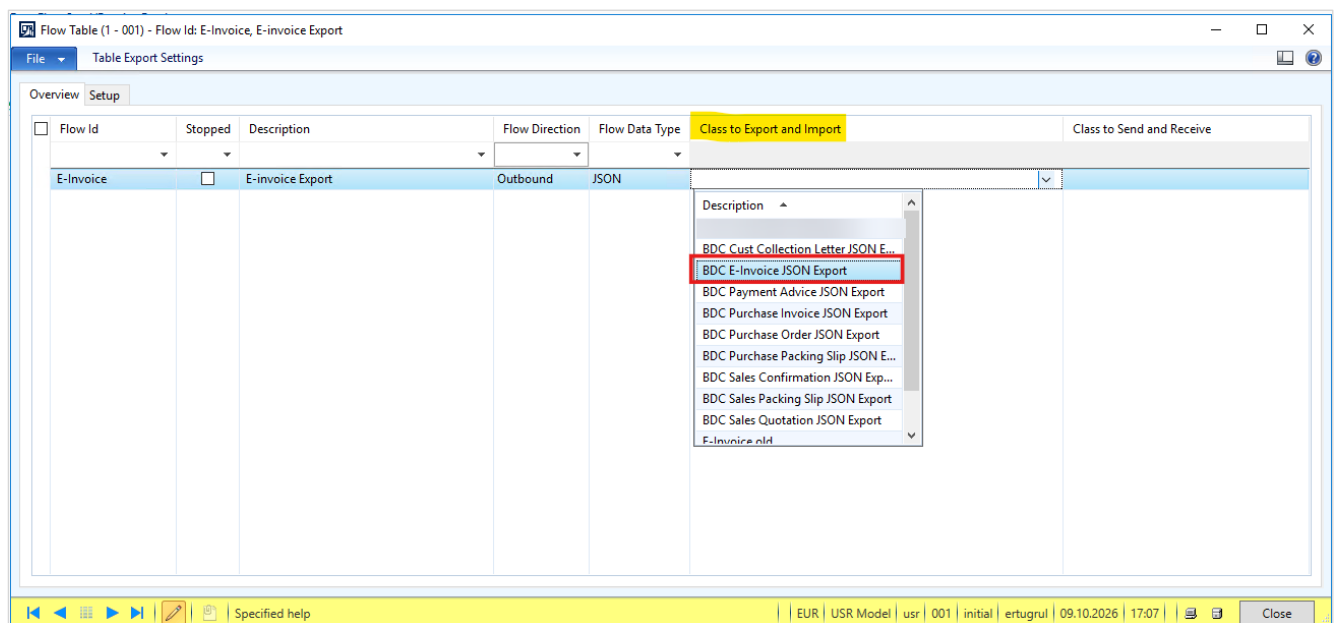


Figure 10: Class to Export and Import: BDC E-Invoice JSON Export

## Class to Send and Receive: BDC Send File.

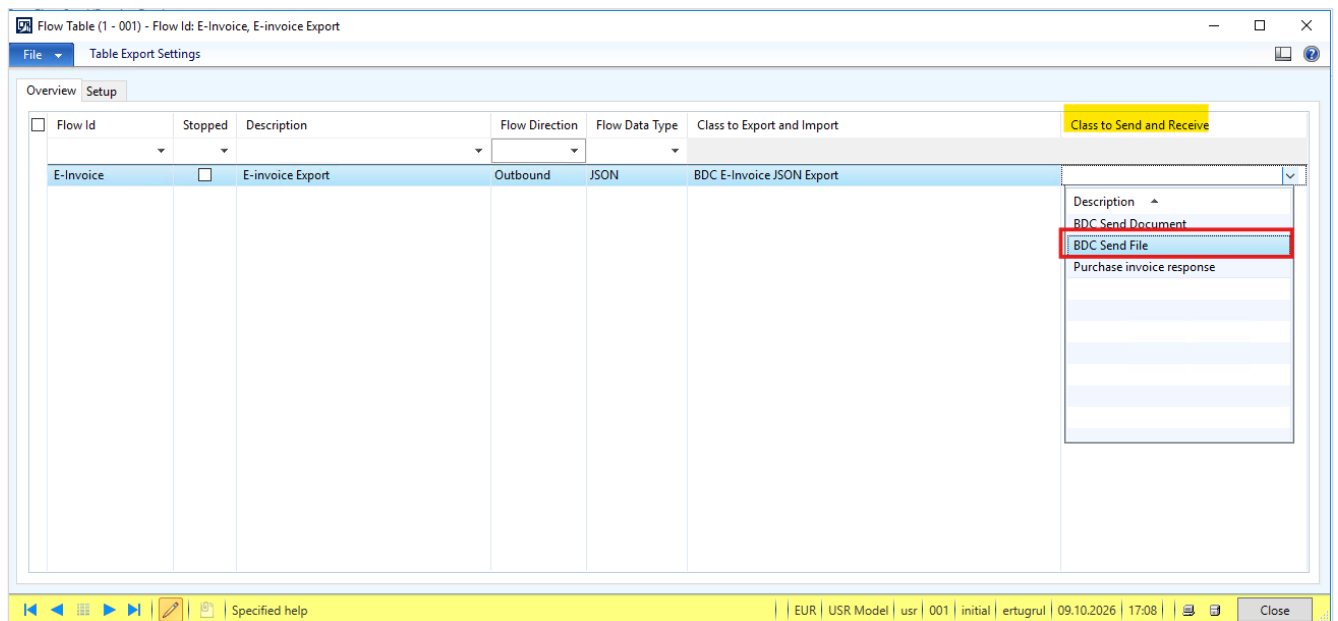


Figure 11: Class to Send and Receive: BDC Send File

On the Setup tab, enter the export folder under File Path to Export/Import for Pending. It must be exactly the folder Hive BDC watches (chapter 6.2). Processed and Error can stay empty. The REST API fields are not used for file export.

Flow Table (1 - 001) - Flow Id: E-Invoice, E-invoice-hlk

File ▾ Table Export Settings

Overview Setup

**Rest Api Settings**

Rest API URL:  

Rest API Client Id:

Rest API Client Secret:

Rest API Token URL:  

Response Flow Id:  ▾

**File Settings**

File Path to Export/Import for Pending:  

File Path to Export/Import for Processed:  

File Path to Export/Import for Error:  

⏮ ⏪ ⏩ ⏭ ⏮ ⏪ ⏩ ⏭   WWW address for Internet homepage

Figure 12: Setup tab: export folder

Under Table Export Settings, choose the table CustInvoiceJour. Every posted sales invoice is then queued for export.

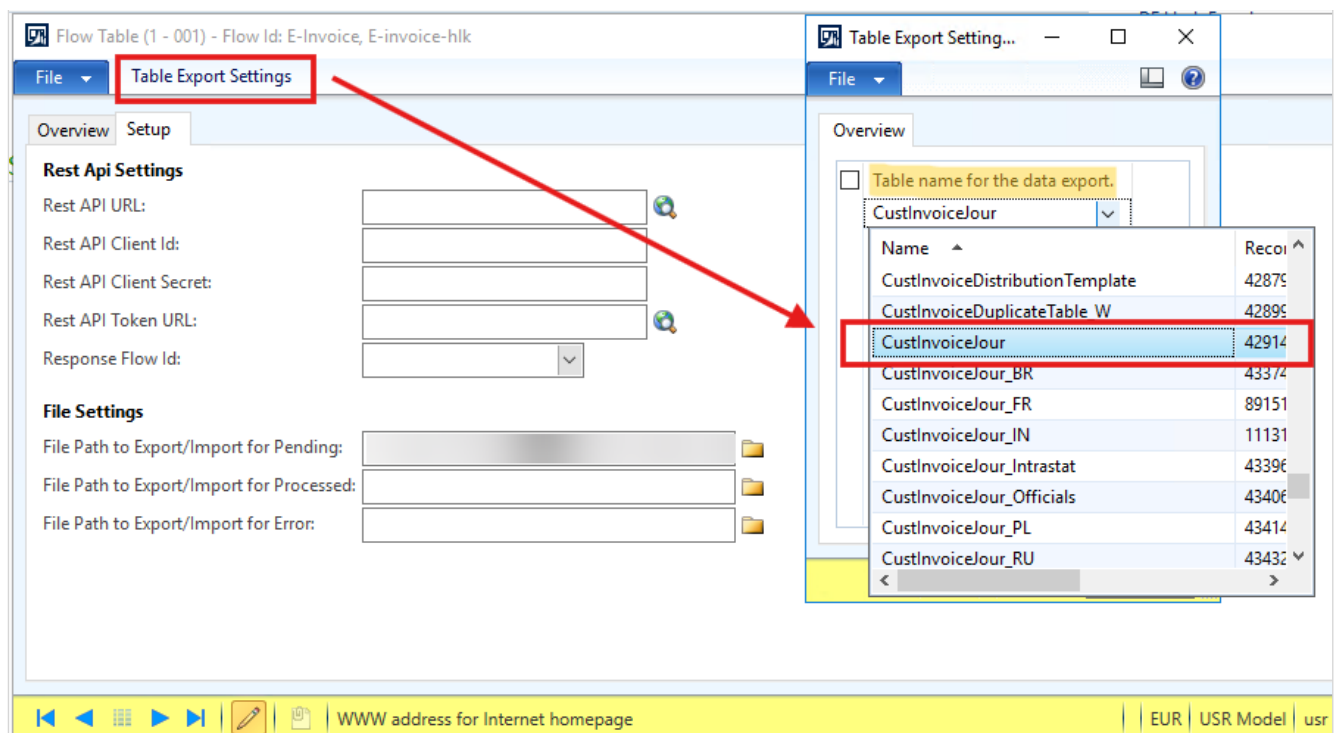


Figure 13: Table Export Settings: CustInvoiceJour

### 4.3 Document types

The document type connects the AX document with the flow and decides how it is mailed.

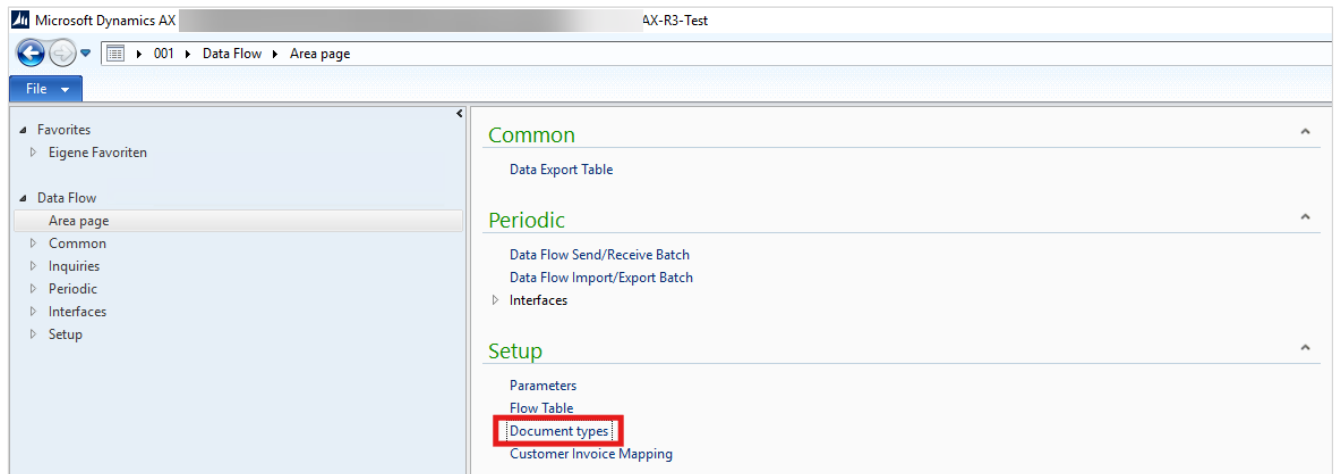


Figure 14: Setup, Document types

New, Document type Sales invoice.

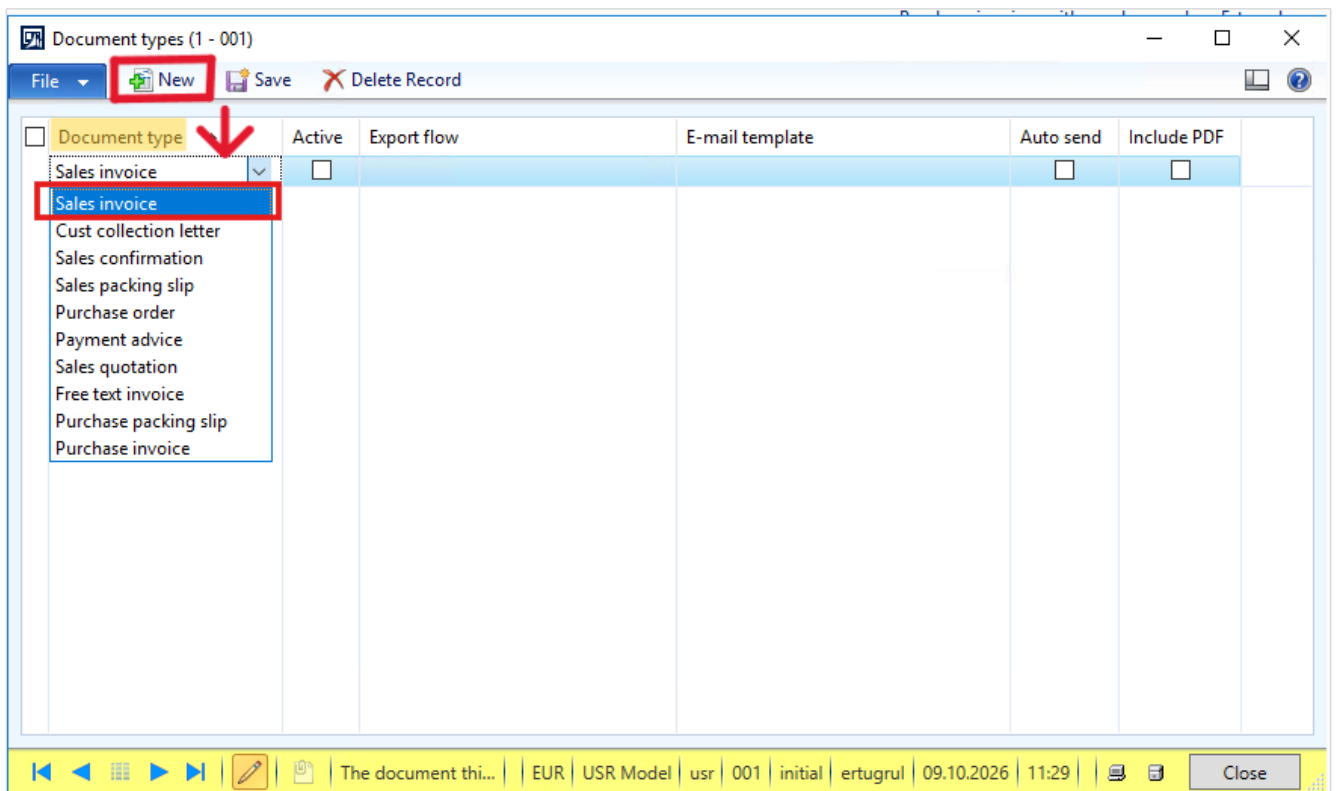


Figure 15: New, Document type Sales invoice

Active: switches the export of this document type on.

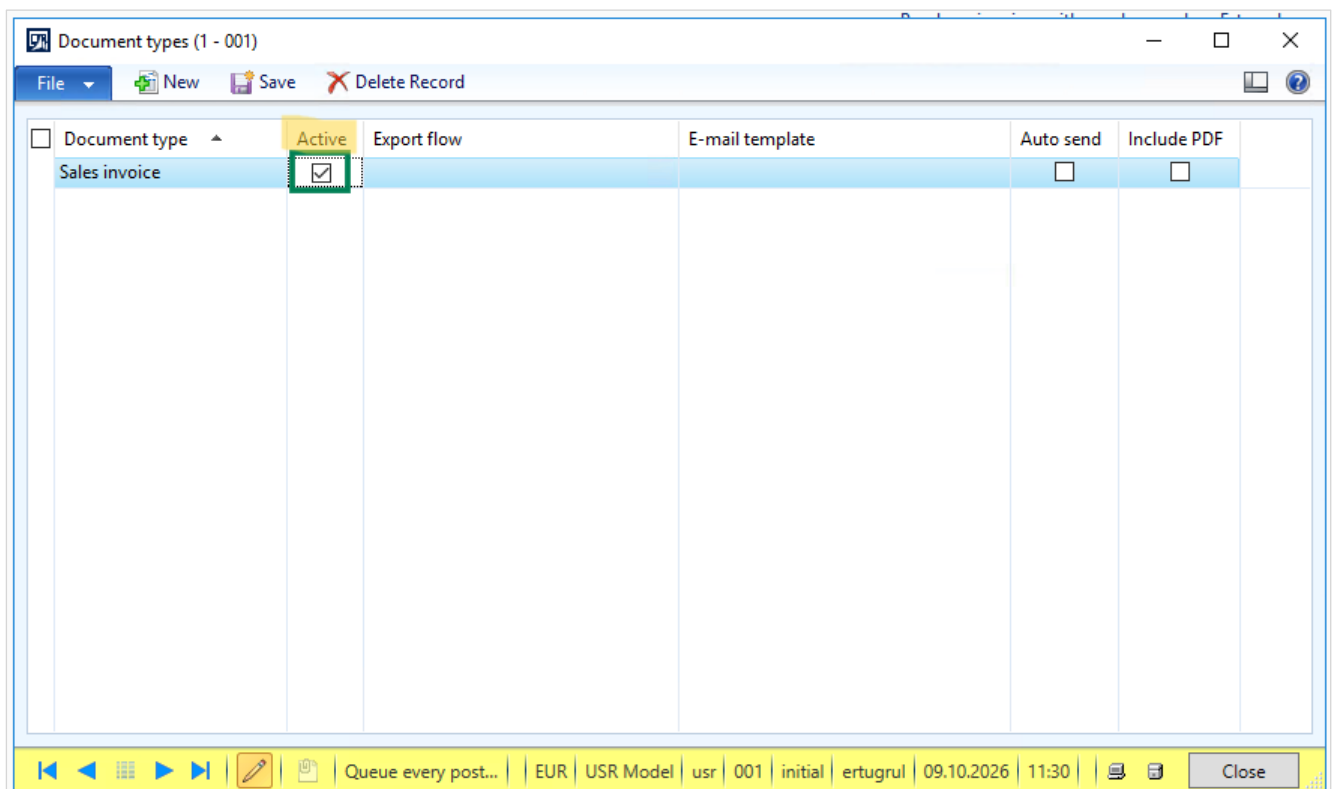


Figure 16: Active: switches the export of this document type on

Export flow: the flow from 4.2, E-Invoice.

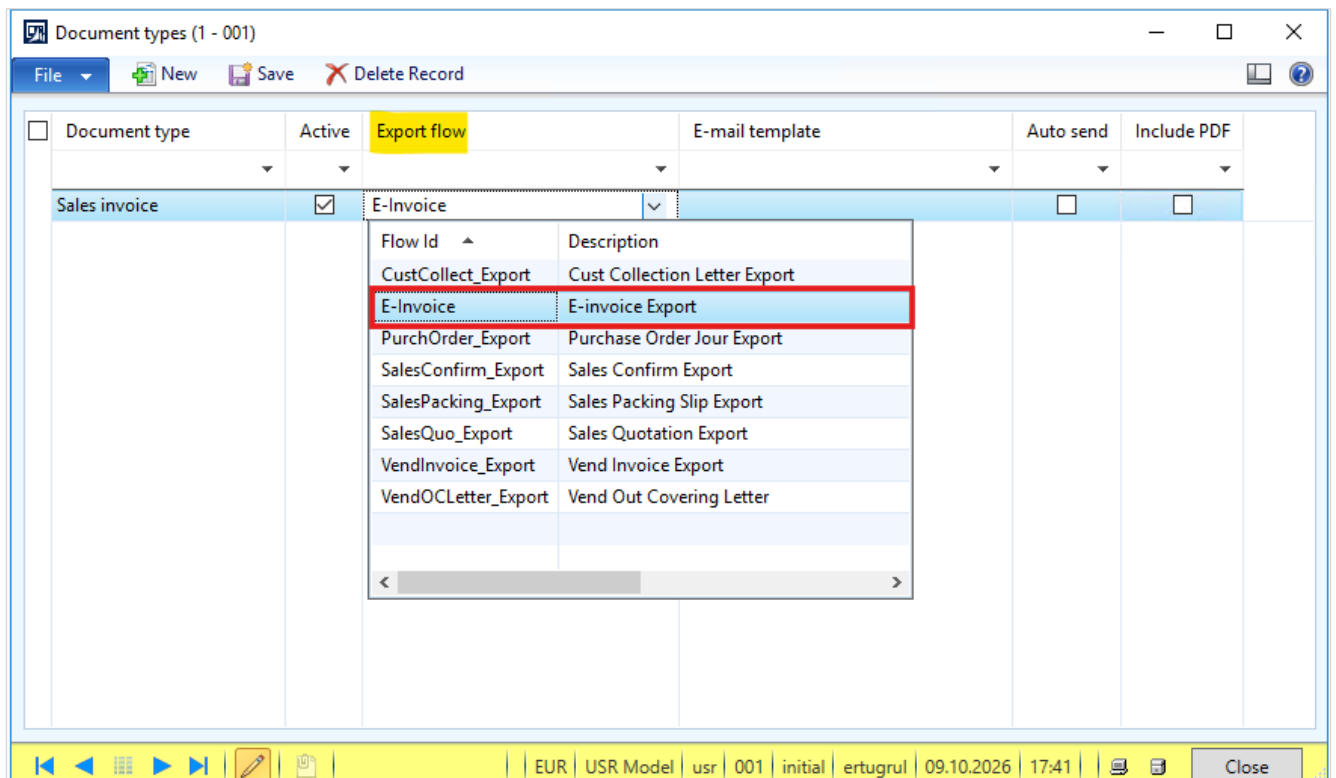


Figure 17: Export flow: the flow from 4.2, E-Invoice

E-mail template: the AX e-mail template whose subject and text go with the document, here SalesInv.

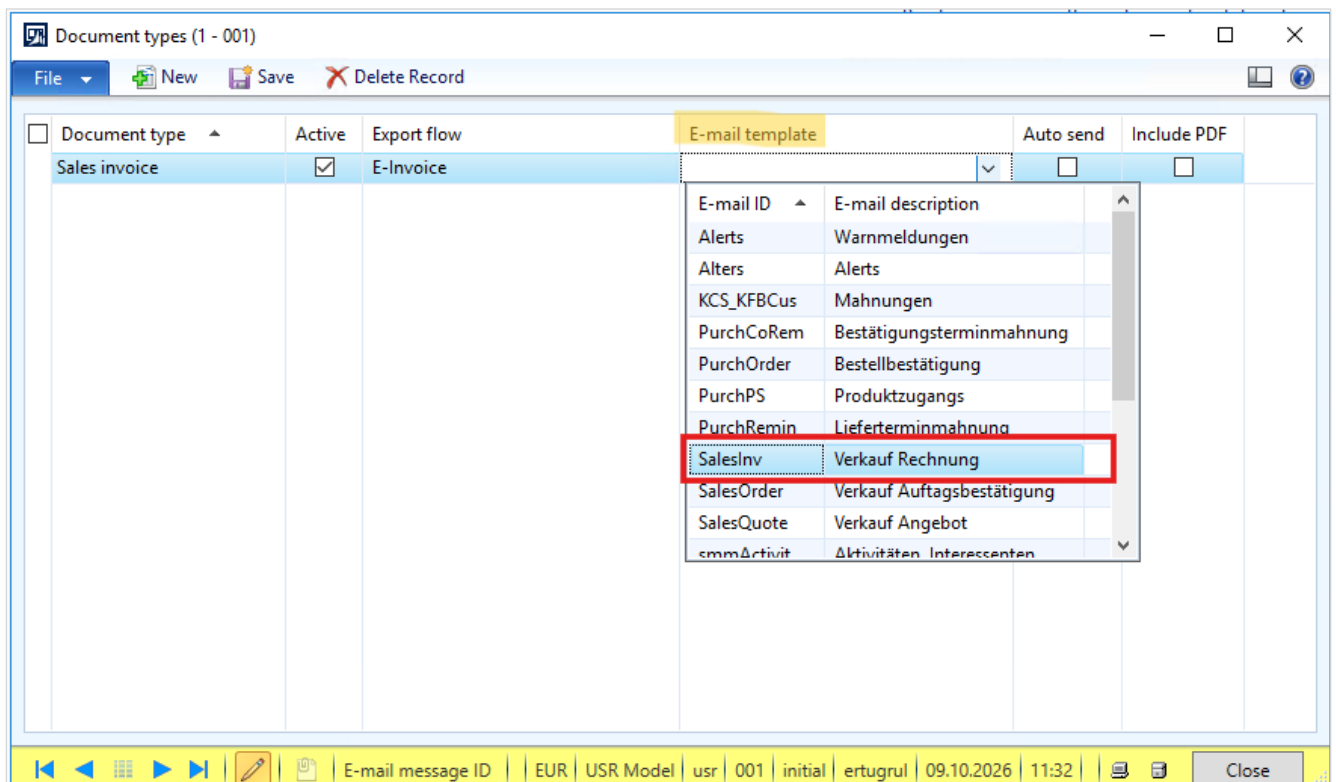


Figure 18: E-mail template: the AX e-mail template whose subject and text go with the document, here SalesInv

Auto send: every posted invoice is sent without further action.

The screenshot shows a window titled 'Document types (1 - 001)' with a menu bar containing 'File', 'New', 'Save', and 'Delete Record'. Below the menu is a table with the following columns: 'Document type', 'Active', 'Export flow', 'E-mail template', 'Auto send', and 'Include PDF'. The 'Auto send' column has a yellow background. The first row of data is 'Sales invoice', which has 'Active' checked, 'Export flow' set to 'E-Invoice', 'E-mail template' set to 'SalesInv', 'Auto send' checked (highlighted with a green box), and 'Include PDF' unchecked. The status bar at the bottom shows various system parameters and a 'Close' button.

| Document type | Active                              | Export flow | E-mail template | Auto send                           | Include PDF              |
|---------------|-------------------------------------|-------------|-----------------|-------------------------------------|--------------------------|
| Sales invoice | <input checked="" type="checkbox"/> | E-Invoice   | SalesInv        | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Figure 19: Auto send: every posted invoice is sent without further action

Include PDF: the PDF of the invoice is exported with the data, so the customer also receives the printed invoice. For ZUGFeRD it becomes the visible part of the e-invoice.

This screenshot is similar to Figure 19, showing the 'Document types' window. In this instance, the 'Include PDF' checkbox for the 'Sales invoice' row is checked (highlighted with a green box), while the 'Auto send' checkbox remains unchecked. All other data and interface elements are identical to the previous figure.

| Document type | Active                              | Export flow | E-mail template | Auto send                | Include PDF                         |
|---------------|-------------------------------------|-------------|-----------------|--------------------------|-------------------------------------|
| Sales invoice | <input checked="" type="checkbox"/> | E-Invoice   | SalesInv        | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Figure 20: Include PDF: the PDF of the invoice is exported with the data, so the customer also receives the printed invoice. For ZUGFeRD it becomes the visible part of the e-invoice

## 5 FROM POSTED INVOICE TO SENT DOCUMENT

Once the setup is done, there is nothing to do per invoice. This chapter shows what happens in the background and where you can follow it.

### 5.1 Posting queues the invoice

When you post a sales invoice, AX adds a line to Data Export Table with status Created.

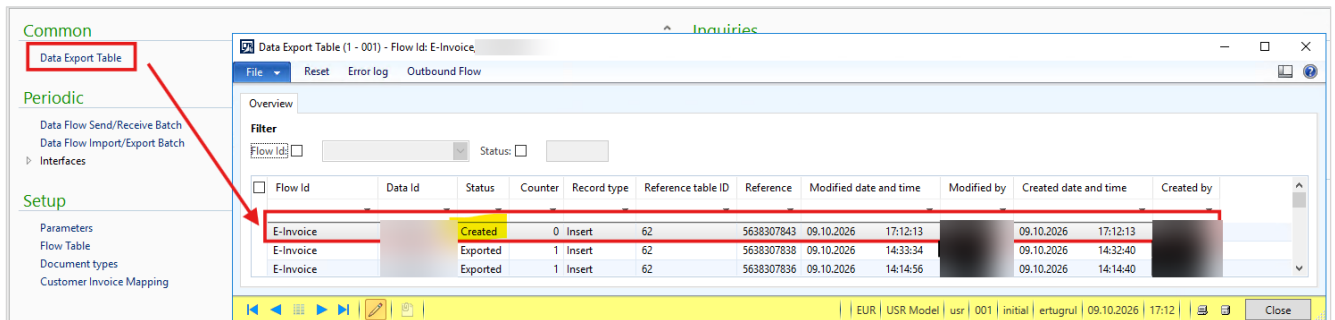


Figure 21: Data Export Table: new line in status Created

### 5.2 Data Flow Import/Export Batch writes the data

This batch job builds the invoice data. The line in Data Export Table changes to Exported, and Outbound Flow gets a message in status Created.

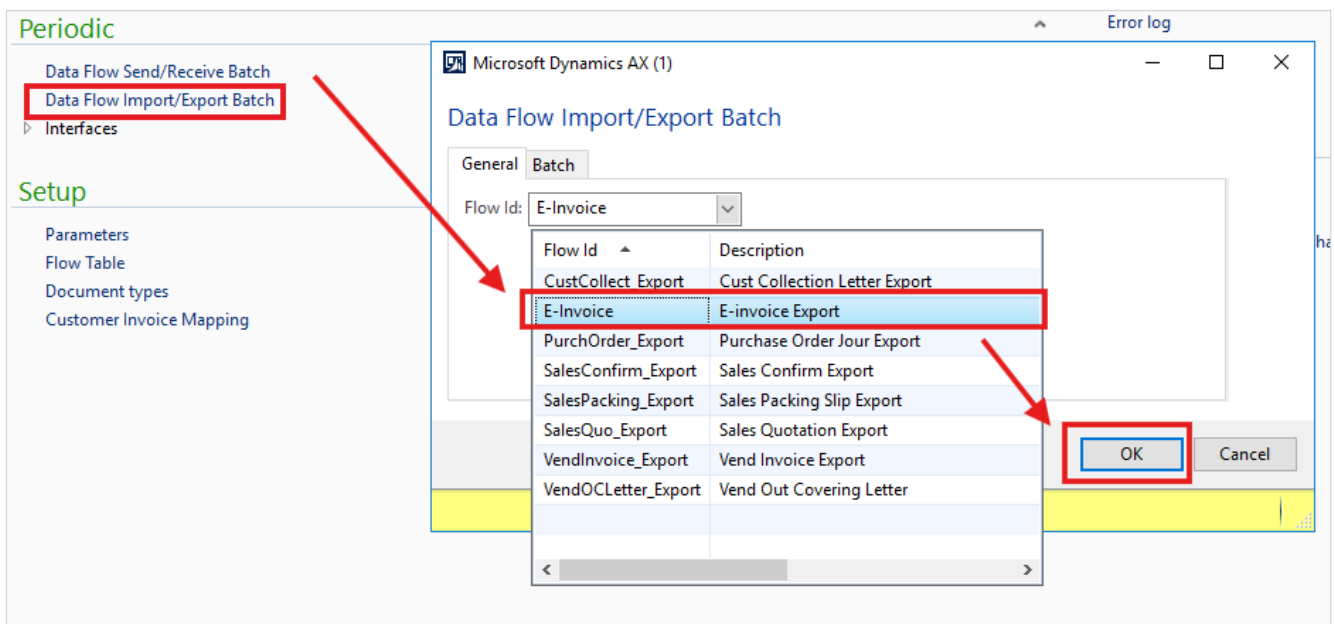


Figure 22: Data Flow Import/Export Batch with Flow Id E-Invoice

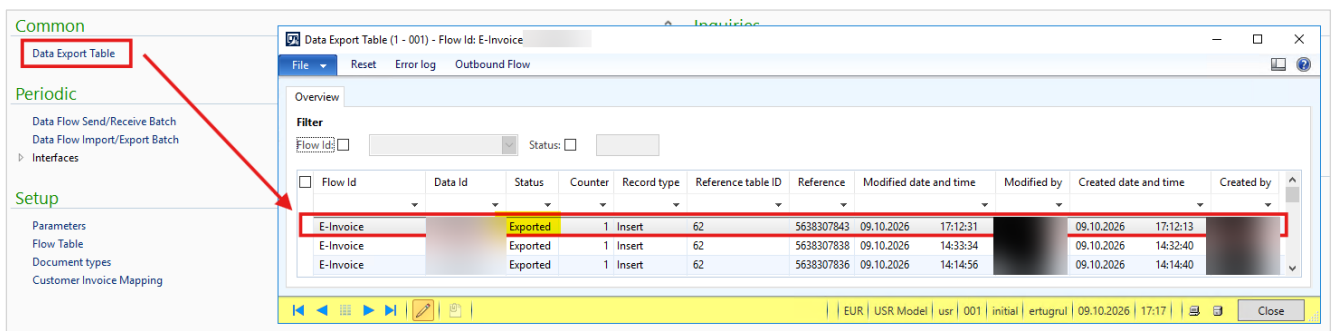


Figure 23: Data Export Table: status Exported

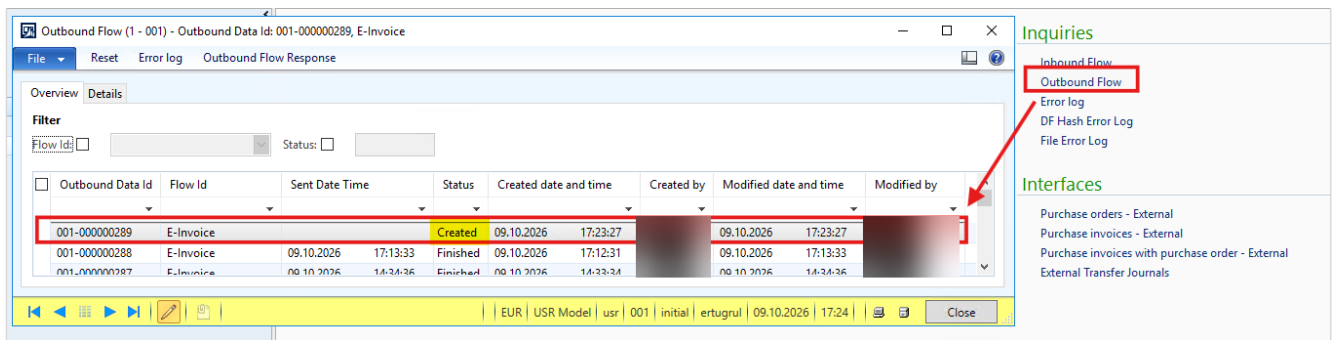


Figure 24: Inquiries, Outbound Flow: message in status Created

### 5.3 Data Flow Send/Receive Batch writes the files

The second batch job writes the message into the export folder. The Outbound Flow message changes to Finished. On the Details tab, Formatted shows the data that was written.

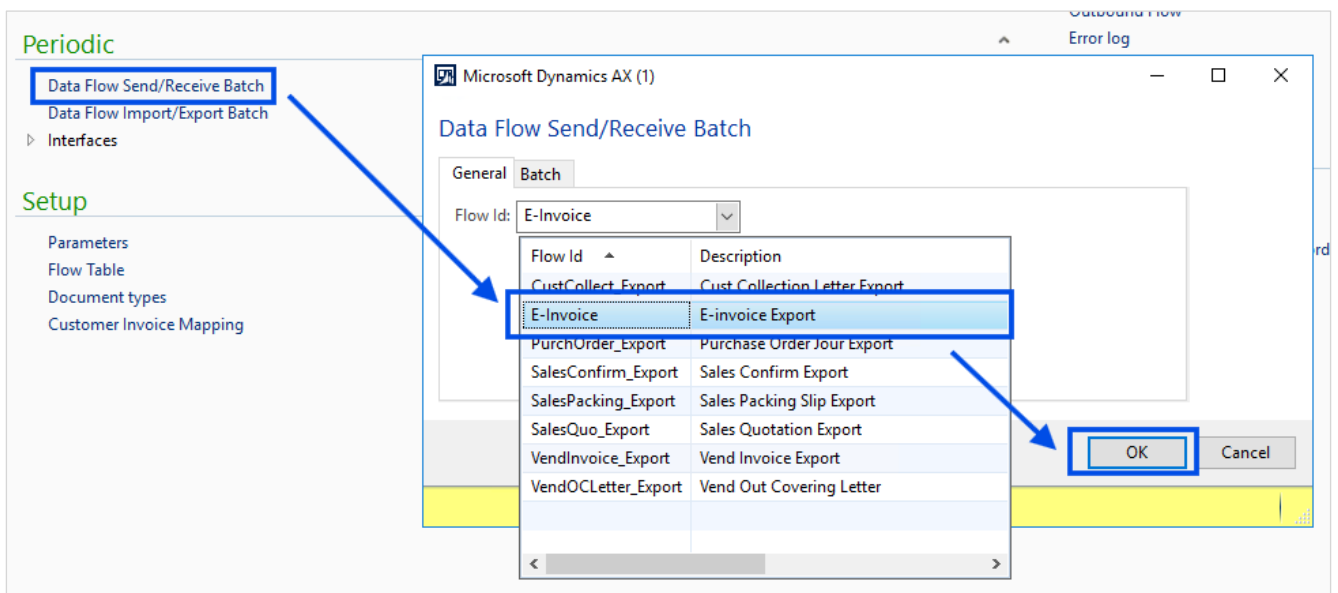


Figure 25: Data Flow Send/Receive Batch

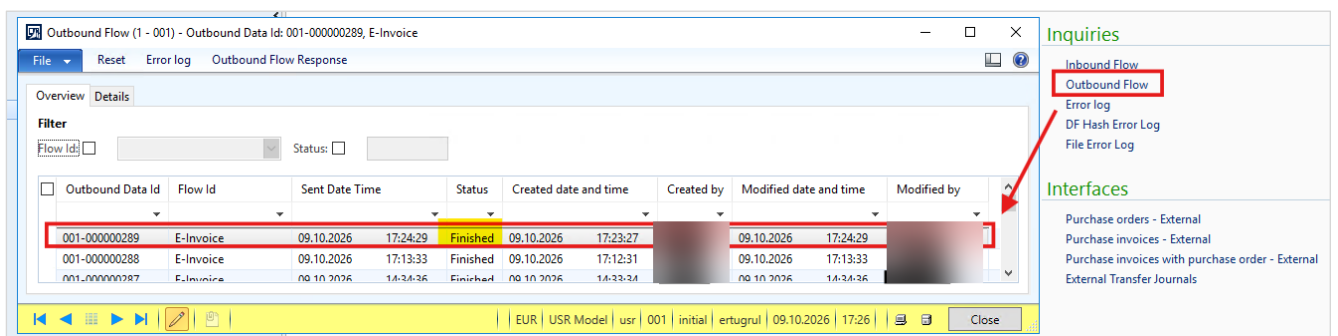


Figure 26: Outbound Flow: status Finished

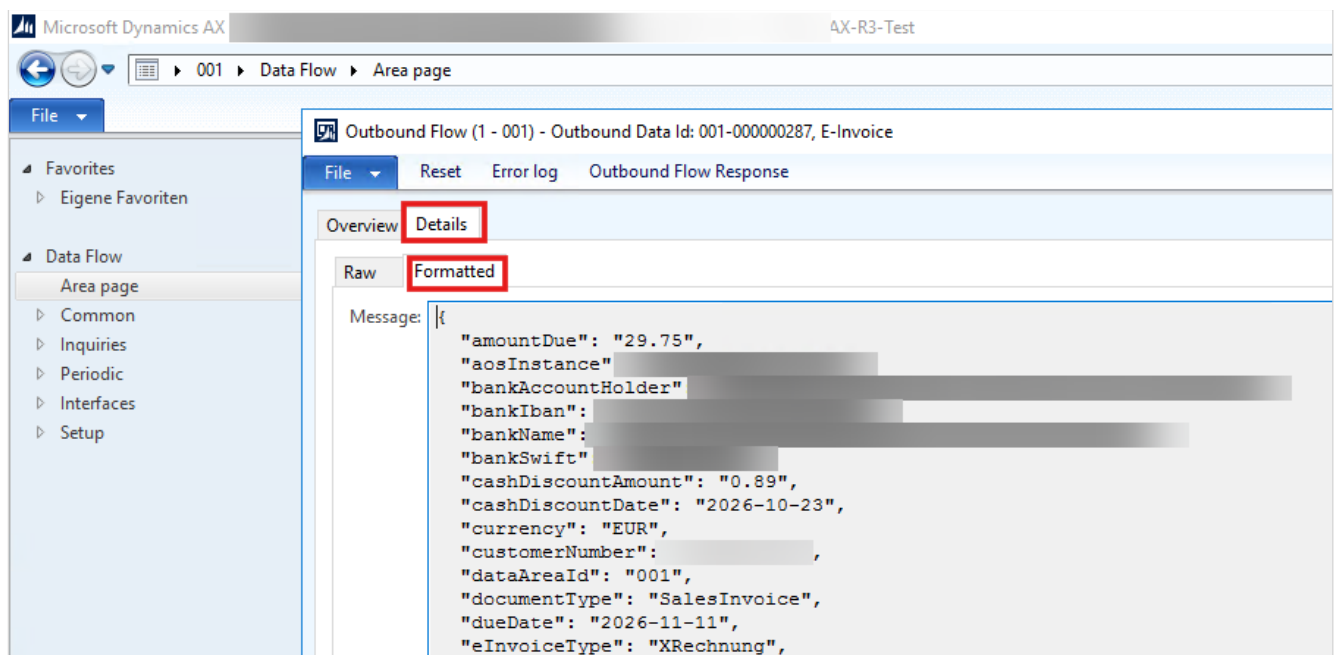


Figure 27: Details, Formatted: the invoice data

**Note:** In daily use, both batch jobs run as recurring AX batch jobs (Batch tab, for example every five minutes). You only start them by hand to test.

#### 5.4 The files in the export folder

Each invoice arrives as a .json file with the data and, with Include PDF, a .pdf file with the same name. Hive BDC picks the pair up within its polling interval, produces the e-invoice, sends it and moves the pair to processed. The produced files are in out. A pair that could not be processed goes to error, and the reason is in the log.

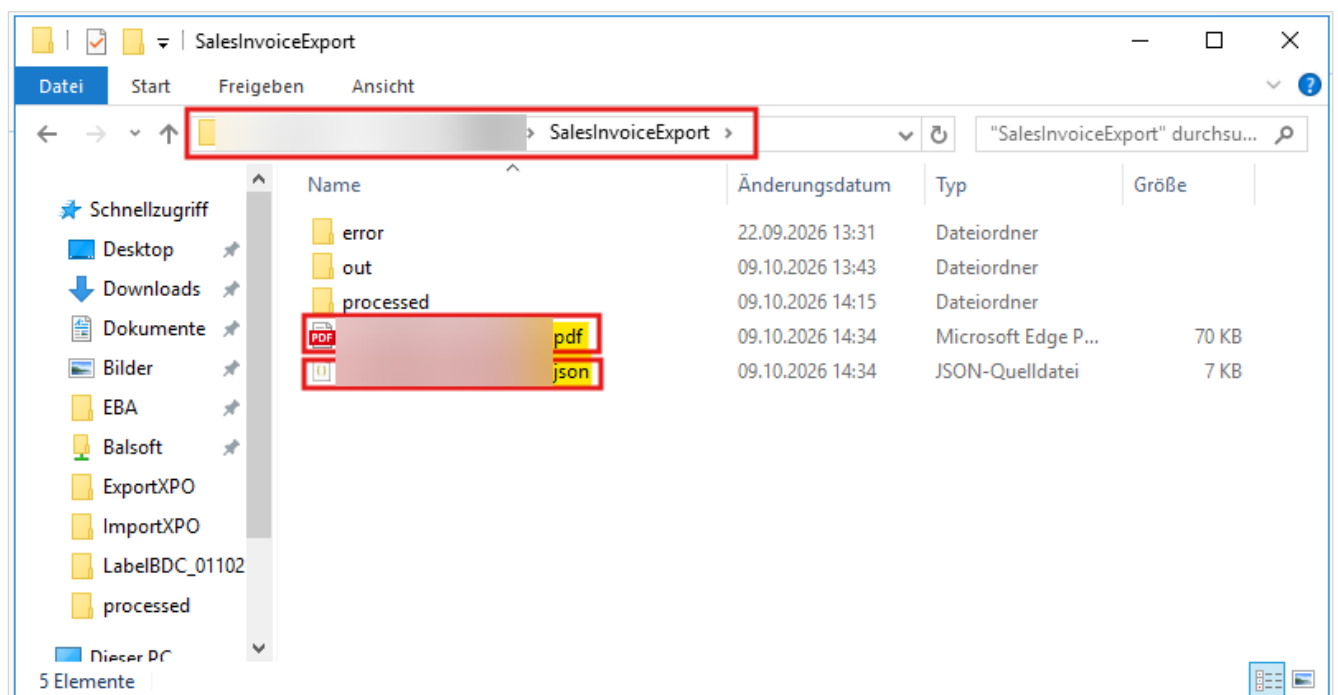


Figure 28: Export folder with the files of one invoice

**Note:** Do not rename or move files in this folder while the service runs. To retry a document from

error, move the pair back into the export folder.

## 6 THE HIVE BDC DASHBOARD

### 6.1 Overview

The dashboard shows whether the service runs, the version, the licence and its expiry date, the number of exported documents and the most recent exports. Start and Stop control the service; Settings opens the configuration. The dashboard itself is in English.

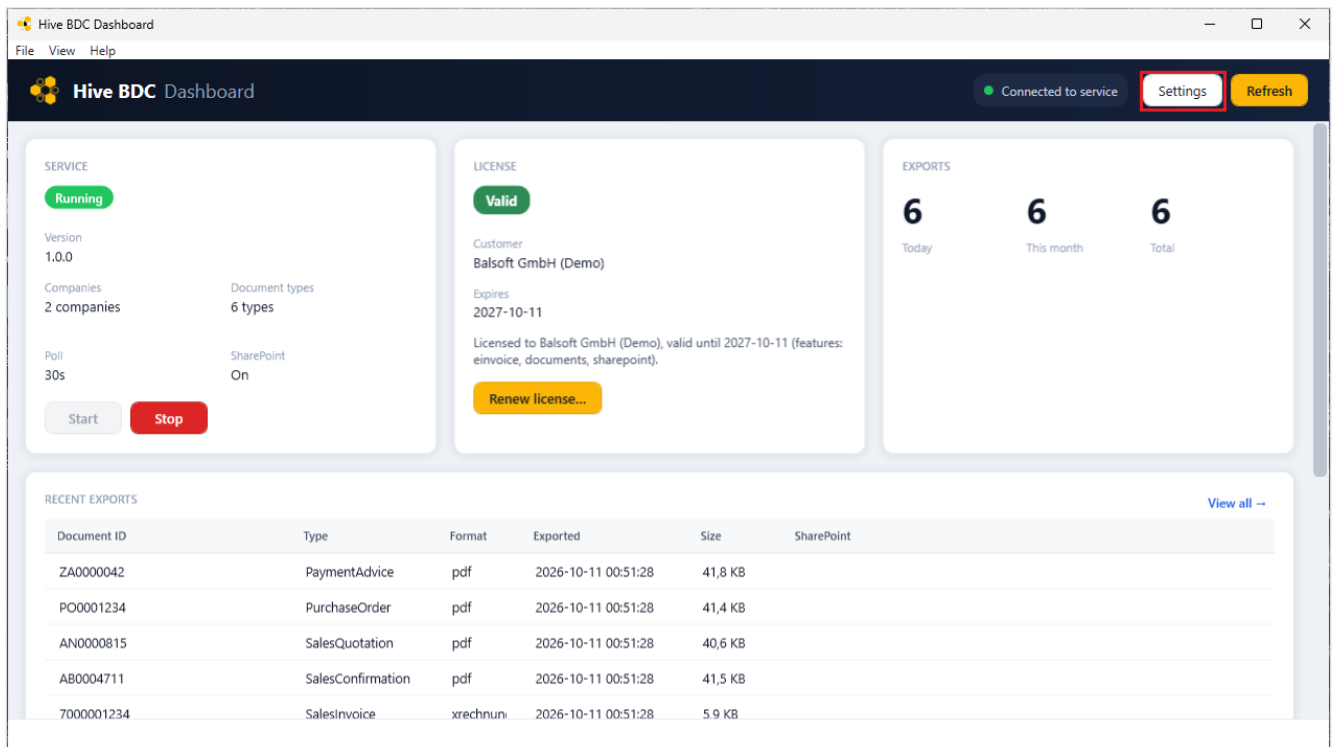


Figure 29: The Hive BDC dashboard

### 6.2 Document types and companies

Under Settings, Document types, each document type lists the AX companies it is picked up for. For every company, Input folder is the export folder from chapter 4.2. Enabled switches the type on, and Mail to the recipient sends the produced document by mail. Recipient, subject and text come from AX. The finished files are written to the output folder (blank = the out subfolder of the input folder); that is the folder a DMS such as DocuWare imports from.

Hive BDC — Settings

Settings
applied live on Save, no restart

Document types
Connections
Service

Each type lists the companies it is picked up for. A type the ERP sends that is not here is added automatically, routed like the folder it arrived in, and marked auto-registered.

**Sales invoice**  
SalesInvoice · Customer · e-invoice · 2 companies

**Order confirmation**  
SalesConfirmation · Customer · PDF · 1 company

**Quotation**  
SalesQuotation · Customer · PDF · 1 company

**Collection letter**  
CollectionLetter · Customer · PDF · 1 company

**Purchase order**  
PurchaseOrder · Vendor · PDF · 2 companies

**Payment advice**  
PaymentAdvice · Vendor · PDF · 1 company

Add type
Remove
Import columns..

DOCUMENT TYPE

Display name  
Sales invoice

Sent to  
Customer

ID (documentType in the ERP JSON)  
SalesInvoice

Produced as  
Invoice

Pdf delivers the ERP's PDF as it is. Invoice turns the JSON into XRechnung or ZUGFeRD (sales invoices).

Letters and digits only. Also names the output sub-folder and the ledger entry.

☒ Enabled
☒ Mail to the recipient

Mail uses the connection from the Connections tab; recipient, subject and body come from the ERP JSON. A disabled type's files go to the error folder.

COMPANIES

One entry per AX company this type is picked up for. Select an entry to edit where the ERP drops the files, where the produced files go and which SharePoint library they are uploaded to.

001  
001 · no SharePoint

002  
002 · SharePoint: SalesInvoices

Company (AX dataAreald)  
001

Input folder  
C:\Export\001

Browse...

Where the ERP drops this type's (documentId).xxx.json + .pdf pairs. Several types may share one folder; a folder used by one type alone implies that type.

Output folder (blank = inout\out\tvoe)

Test SharePoint
Test mail
Cancel
Save

Settings loaded — 6 document type(s), 8 company entries.

Figure 30: Settings, Document types: Sales invoice

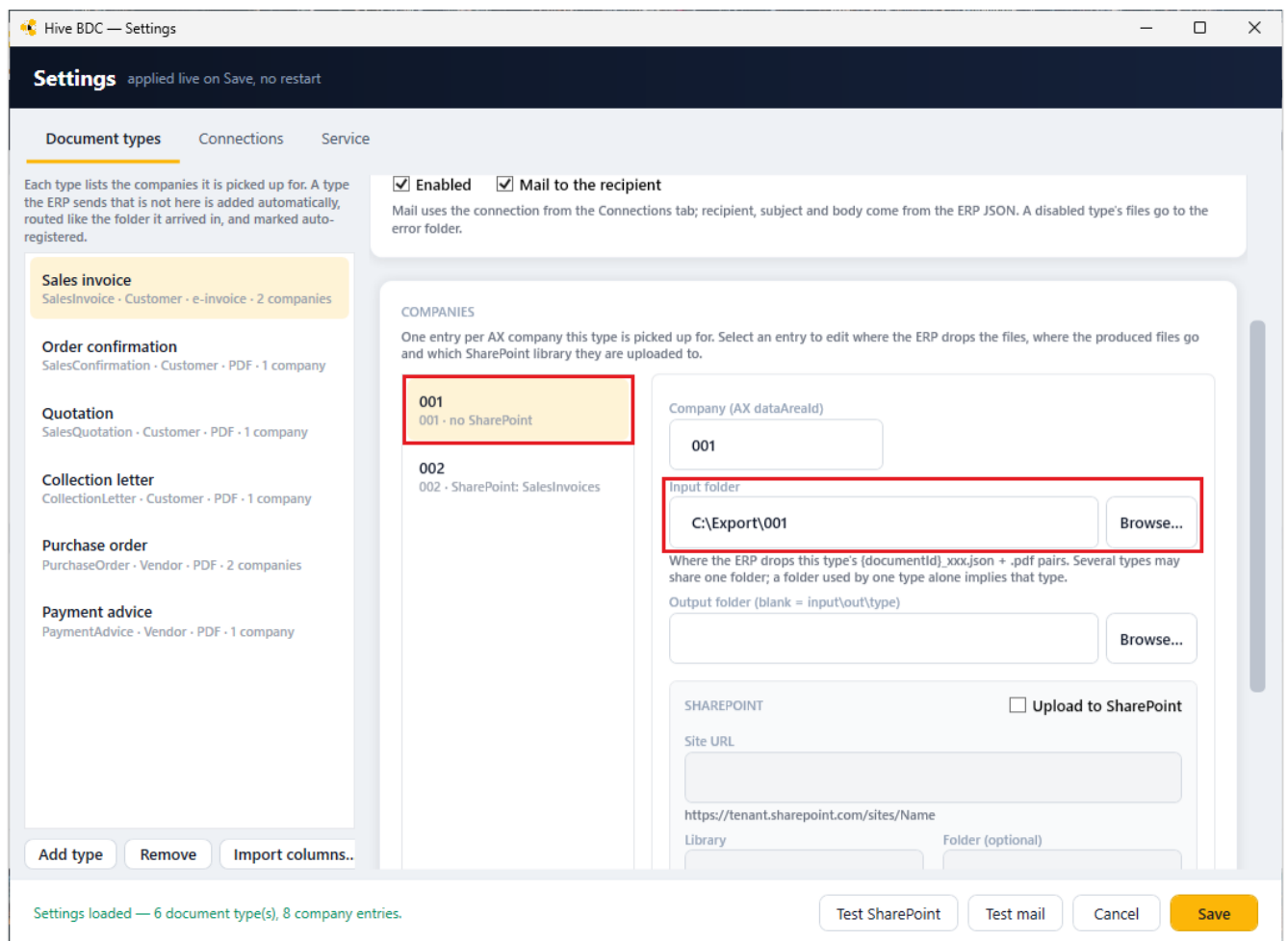


Figure 31: Company entry with its input folder

## 6.3 Connections

Connections holds the two Microsoft 365 app registrations from chapter 2.4: one for SharePoint and one for document mail, with the mailbox the documents are sent from. Client secrets are stored encrypted on the server. Test SharePoint and Test mail check the registrations without uploading or sending anything.

Hive BDC — Settings

Settings applied live on Save, no restart

Document types **Connections** Service

SHAREPOINT APP

One app registration uploads for every document type and company. Which library each document goes to is set per company entry on the Document types tab.

Tenant ID

3f2b8c1e-5a7d-4e21-9b6c-0d4e8a1f2c73

Client ID

5c1d9e7a-2b4f-4c8e-a3d6-7f9b0e1c2d45

Client secret

A secret is stored — leave blank to keep it.

Application permission Sites.ReadWrite.All (or Sites.Selected). The secret is stored encrypted on this machine.

DOCUMENT MAIL

Mails each produced document via Microsoft Graph with its own app registration (application permission Mail.Send). Recipients, subject and body come from the ERP JSON. Switch mail off per type on the Document types tab.

Client ID

8e4a2c6f-1d3b-4f7e-9a5c-2b6d0f8e1a37

Client secret

A secret is stored — leave blank to keep it.

Tenant ID (blank = same as SharePoint)

Send from

rechnung@contoso.com

Test recipients (separate with ; or one per line)

buchhaltung@contoso.com  
it-test@contoso.com

Documents exported from a Test or Dev AX go here instead of to the customer or vendor, with the real recipients named in the body. Only a Live AX reaches real recipients.

☒ Keep a copy in the sender's Sent Items

☒ Enabled

Settings loaded — 6 document type(s), 8 company entries.

Test SharePoint

Test mail

Cancel

Save

Figure 32: Settings, Connections

**Note:** A test system never mails a customer or vendor. Documents from a Test or Dev AX go to the test recipients instead, with [Test] in the subject and the real recipients named in the text. Only a Live AX reaches the real recipients.

## 6.4 Service

Poll seconds sets how often the service checks the input folders (at least 5 seconds, 30 is a good value). Log folder can stay empty; the logs are then in C:\ProgramData\HiveBDC\logs, one file per day. Settings take effect when you save, without a restart.

Hive BDC — Settings

**Settings** applied live on Save, no restart

Document types   Connections   **Service**

**SERVICE**

Poll seconds

30

How often every input folder is scanned. Minimum 5.

Log folder

Browse...

Blank = %ProgramData%\HiveBDC\logs. Rolling daily files, 31 kept.

License

Managed from the dashboard: use Renew license... to import the .lic Balsoft sent you. A valid license is always required; without one, or once it expires past the 7-day grace period, processing stops. The license lists features: e-invoice generation and PDF document dispatch are unlocked separately.

Settings loaded — 6 document type(s), 8 company entries.

Test SharePoint   Test mail   Cancel   Save

Figure 33: Settings, Service

## 7 TROUBLESHOOTING

| What you see                                           | What to check                                                                                                                                                  |
|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The line stays in status Created in Data Export Table. | Data Flow Import/Export Batch does not run. Check the AX batch job and the batch server.                                                                       |
| The Outbound Flow message stays in Created.            | Data Flow Send/Receive Batch does not run, or AX cannot write to the export folder. See Error log in the Data Flow area page.                                  |
| Files stay in the export folder.                       | The service is stopped, the licence has expired, or the service account cannot access the folder. The dashboard shows which one.                               |
| A pair is in the error folder.                         | The log names the reason, for example missing customer data. Correct it in AX and post again, or move the pair back into the export folder.                    |
| No mail arrives.                                       | Check Mail to the recipient for the type, Test mail under Connections, and whether the document came from a test system (then it went to the test recipients). |

### 7.1 Support

Balsoft GmbH, Herler Str. 109, 51067 Köln. Mail [support@balsoft.de](mailto:support@balsoft.de), web [www.balsoft.de](http://www.balsoft.de). Please include the version from the dashboard and the log file of the day when you contact us.