

d.velop

d.velop document reader:
administration

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1. d.velop document reader: administration

1.1. Basic information about the application

In this chapter, you can find product notes and general information.

1.1.1. About d.velop document reader

You can use the d.velop document reader variant to record and distribute data from scanned documents. You can open the recorded data for further editing in other applications (such as d.velop documents, SAP, Navision, etc.).

1.2. Installation and uninstallation

In this chapter, you can find information about installing the application.

1.2.1. System requirements

Please refer to the central [system requirements for d.velop products \(on-premises\)](#). You can find deviating or more extensive system requirements in this documentation.

The following minimum requirements apply to the use of d.velop document reader:

Required applications

- d.velop documents, version Current 2023.Q4 (on-premises)
- Microsoft Edge WebView2 Runtime
- ABBYY FineReader OCR (on-premises)
- SQL Server Native Client 11.0 (on-premises)

1.2.2. Installing d.velop document reader

You install the software exclusively using d.velop software manager. d.velop software manager automatically installs all components which you require to operate the software.

You can find more information in the documentation for d.velop software manager.

Note

Please note that you cannot install versions older than Annual 2025 with the d.velop software manager. For the older versions, you require a DDP file. You can find more information in the d.velop knowledge base in the article **How do I install d.velop connect for Sage 100 with a DDP file?** (<https://kb.d-velop.de/s/article/000002536>).

You also need to install the following apps:

- d.velop scripting engine
- d.velop webindex designer
- d.velop document classification configurator
- d.velop text recognition

Performing setup following the installation

After you install d.velop document reader, you can find the folder **draas** in the installation directory. You can find the installation wizard (**Classcon.IRaaS.InstallerOnPremGui.exe**) for assisting with the further

setup in the **Install** folder. Execute the EXE file to select the appropriate variant of d.velop document reader and configure the database connection.

When you complete the setup, the following happens automatically:

- The database is prepared according to the configuration.
- The data is unpacked.
- Necessary directory structures with appropriate permissions for the services are created.
- The Windows services are restarted.

Then restart d.velop document reader manually using d.3 process manager.

Carrying out a new installation

To carry out a new installation, select the base profile and all the relevant variants of d.velop document reader in the menu for the installation profiles.

You need three databases:

- **IRaaS_MainDB**
- **IRaaS_LogDB**
- **IRaaS_TenantDB**

If you create a database user with appropriate permissions for the wizard, the wizard automatically creates the database tables. You can also create the databases manually beforehand. The wizard adds to the tables and data.

Adding a variant of an existing installation

If you have already fully installed and configured d.velop document reader for one variant, you can add another variant. You will follow the exact same procedure as for a new installation. However, you skip the selection of the base profile.

Procedure for a database that already contains a user, the necessary structures or data

The database may already contain data that the wizard does not need to create. If the database has already been configured, you can select **Skip database setup**. Enter the connection data anyway so that the services can establish a connection to the database.

You can manually determine which login data the services are to use in advance. Enter the appropriate data under **App login** and **App password**. If you do not already have permissions to access the appropriate databases, the wizard creates the permissions.

The following permissions are required:

- **db_ddladmin**
- **db_datawriter**
- **db_datareader**

If you do not have login data yet, you can choose **Generate new app login** to create a user account with the name of the CC administrator and a random password.

1.2.3. Installing updates for d.velop document reader

You can only update the software using d.velop software manager.

You can find more information in the documentation for d.velop software manager.

Note

Please note that you cannot install updates for versions older than Annual 2025 with the d.velop software manager. For the older versions, you require a DDP file. You can find more information in the d.velop knowledge base in the article **How do I install d.velop connect for Sage 100 with a DDP file?** (<https://kb.d-velop.de/s/article/000002536>).

1.2.4. Rolling back an installation of d.velop document reader

You can restore an earlier version of the software that you installed with d.velop software manager. During this process, the software is only reset to a previous version.

You can find more information in the documentation for d.velop software manager.

1.2.5. Uninstalling d.velop document reader

The software you installed using d.velop software manager can only be uninstalled with d.velop software manager. If the software to be uninstalled has dependencies with other software packages, you must resolve these conflicts accordingly.

You can find more information in the documentation for d.velop software manager.

1.2.6. Enabling the default port for d.velop document reader

By default, the port for d.velop document reader is determined dynamically in a range from 7071 to 8070. However, you can define a specific port range in the **App.Settings.config** file in the directory **d3/draas**. The range must include at least two free ports.

1.2.7. Using master data schemas

To be able to use multiple master data schemas for on-premises installations, you must create an additional user in the database for each additional master data schema. The user requires access to the customer database and is used for master data queries.

To create users, use the console application **DRaaS.Util.DBSchemaTool.exe** in the **Install** folder.

This is how it works

1. Enter the name of the customer database.
2. Enter the name of a table that exists in all master data schemas. The schemas are automatically determined based on this table.
3. Enter the user name of a database user who has permissions to create database users.
4. Enter the password for the user name that you entered in the previous step.

The database users are automatically created with read access to the customer database. The user name is made up of the user name for logging into the app and the name of the schema. The password is the same as the one used to log the user into the app, so you only need to adjust the user name during classification.

Run d.velop document reader again after adding another master data schema.

1.3. Configure

In this chapter, you can find information about configuring d.velop document reader.

d.velop document reader consists of multiple apps/variants or functions that each represent different document recognition variants (e.g. for invoices, customs export documents or personnel documents).

The configuration of the variants is identical. For each activated variant, you can find a corresponding entry under **Configuration** in d.velop documents. In **Document Reader**, you can activate or deactivate the variants in **Features**.

In addition, when you activate some features, you can also select a configuration profile that you want the app to preconfigure for specific scenarios, such as for invoice readers in combination with SAP.

1.3.1. Statistics

You can view the number of processed documents in the statistics. Once a document has undergone processing (text recognition, classification), the number increases. The number also increases when a document is reclassified.

You can also view the number of documents processed for each supplier. The recognized values are validated by a user (directly during indexing or through the target system, e.g. d.velop smart invoice). You can then display the values under **Statistik**. You can restrict access to the statistics so that only users with the appropriate permissions can open the statistics in the indexing.

Under **Recognition rates**, you can evaluate the percentage of correctly recognized documents at document and property level. Click **Recognition at property level** to display the number of correctly and incorrectly recognized values per property.

You can track the number of documents processed up to the beginning of the year. The document numbers for the previous year are reset during the course of the year.

Each document processed is also reported to the billing app.

1.3.2. Master data

The master data is used for classification, to match tenants, vendors or purchase order data. The different variants of d.velop document reader sometimes support different master data structures. Some variants work without a master data reference, which is why no settings for the master data are required during configuration. For variants with a master data reference, you can upload new master data during configuration.

You can use the following file formats:

- CSV
- JSON
- ZIP (for uploading multiple CSV files simultaneously)

You can upload the master data using drag and drop or by choosing **Browse files**. If necessary, you can download a ZIP file containing sample data for the default table by clicking **Download sample ZIP package**. The applicable CSV file must match the name of the table (e.g. **CC_COMPANIES.csv**). You can see the structure of the CSV file in the examples. You can find the structure for imports as a JSON file in the API documentation for d.velop document reader.

You can view the time of the last import and the number of rows for each master data table.

Under **Filling in the most important properties**, you can see whether the relevant data recognition columns are filled (e.g. the VAT identification number). For a good data recognition result, ensure that all the properties are defined for each record where possible.

1.3.3. Target systems

The documents and recognized property values are transferred to one or more target systems at the end of the process. d.velop document reader offers different target systems, some of which only support the transfer of property values. The following settings apply to all target systems:

- You can use **Export format** to specify whether the original file is exported or a PDF/A-3 file is generated from the original file. If **PDF/A-3** is selected and the original file is not a PDF file, a PDF file is created. For a document with linked attachments, a PDF file is always created. In addition, you can activate the following settings for the **PDF/A-3** option:
 - **Attach OCR as text file to PDF/A-3**: The text read from the document is added as a text file with the name `<original name>_Ocr.txt`.

- **Attach metadata to PDF/A-3 as a JSON file:** The recognized properties are added as a JSON file with the name `<original name>_Metadata.json`.
- You can use **Export validation** to specify whether the recognized values are validated by the target system or are considered validated directly during the export. Direct validation during export is mainly relevant for documents that are processed automatically. Generally, only d.velop smart invoice offers validation through the target system. For other target systems, set **Validate during export**.

The different target systems and configuration options are described in more detail below. You can configure a new target system by choosing **Add new target system**. A configured and saved target system is displayed in the list and can be edited and deleted from there.

d.velop documents

The target system d.velop documents allows you to save a document in the repository. The properties and document categories are mapped using **mappings** in d.velop documents. Each d.velop document reader function represents a separate app in the d.velop platform. During mapping, make sure that the correct app is selected by d.velop document reader.

In **API key**, enter a valid key where the user of the key has appropriate permissions to save documents. You can also create or request an API key using **API key**.

Use **Repository** to select the appropriate repository.

You can select who to use as the owner of the document in the repository using **Owner**. By default, this is the user of the specified API key. You can also use the creator or editor of the batch in d.velop document reader as the owner. To do so, set the app as trusted using **Trusted apps**. You can find the exact value on the configuration page. If no user is available as the editor or creator, the API key is used by default.

Use **Output structure** to define how documents with attachments are exported:

- Select **Main documents with attachments** to attach the linked documents to the main document and export them as one document.
- Select **Main documents without attachments** to export the main document without the linked documents.
- Select **Main documents and attachments separately** to store the main document and the linked documents separately in the repository.
- Select **Attachments only** to export only the linked documents.

SharePoint Online

A document can be stored in a SharePoint online repository. The properties are connected and mapped through the separate Microsoft SharePoint configuration.

After you set up a repository, the repository appears in the **Repository** selection list. The **Property for determining the repository** selection list gives you the option of configuring a property. The property is used to determine the repository, based on the value defined for the property. If the property does not have a value, the fixed configured repository is used.

Like in the d.velop documents target system, you can configure the output structure of the document and the linked attachments. You can find more information in the chapter [d.velop documents](#).

In addition to the document, you also have the option of creating and storing an XML or JSON file based on the property values. You activate this option using **Export the metadata in an additional file**. You can adjust the structure of the metadata file by choosing **Edit metadata**. You can find more information in the chapter [Metadata](#).

d.velop smart invoice

The transfer to d.velop smart invoice is activated by the d.velop smart invoice target system.

The transfer is activated by default. You can deactivate the transfer temporarily using **Send to d.velop smart invoice**.

You can configure the output structure of documents with linked attachments. Define the output structure to be used for saving the documents in the repository. Select **Main documents with attachments** to attach the linked documents to the main document and export them as one document. Select **Main documents without attachments** to export the main document without the linked files. This option is useful if the attachments are to be processed separately via the target system d.velop documents or SharePoint Online.

d.velop smart invoice queries the documents downstream from d.velop document reader. Once d.velop smart invoice has queried the documents, it reports this back to d.velop document reader. The documents are then deleted. If d.velop document reader does not receive a response after eight hours or an error is reported, the documents are moved back to indexing and a notification is sent to the configured groups.

Local provisioning

Local provisioning allows you to download processed documents and metadata to a computer locally following successful processing by d.velop document reader.

In **API key**, enter a valid key that gives its user the appropriate permissions for calling the d.velop document reader API. You can store the authorized user groups with access under **Permissions**. Do not use a user with administrative permissions.

In the **Output structure** selection field, specify the output structure in which the documents are to be stored in the target directory. By default, one file is stored in the target directory for each document and another file with the relevant metadata is added. Linked documents are attached to the main document as additional pages. If you select the **SAP folder** option, a subdirectory is created for each document. In this case, the linked documents are also stored in the subdirectory as individual files.

For **Target directory**, specify the target directory for the server. You need the directory to configure the tool that locally downloads the documents and metadata for immediate use. After you save the target system, you can download the tool as a ZIP file using **Download tool**. The tool can be used immediately. The directory contains a BAT file for registering the tool as a service. In the file **appsettings.json**, you can specify the intervals at which and the target system to which documents are downloaded. By default, the system queries whether documents are available for download every 100 seconds. As an option, you can activate **RunOnce** in the configuration file so that the download tool runs through Windows Task Scheduler instead of as a Windows service. You can also enter a proxy under **ProxyAddress**. The **ProxyUserName** and **ProxyUserPassword** entries are optional.

Once the download tool on the local computer has requested the documents, the tool reports the data back to d.velop document reader. If d.velop document reader does not receive a response after 24 hours or an error is reported, the documents are moved back to indexing and a notification is sent to the configured groups.

You can adjust the structure of the metadata by choosing **Edit metadata**. You can find more information in the chapter [Metadata](#).

Azure Storage

You can use the target system Azure Storage to store a document and its metadata.

Under **Connection string for the Azure storage account**, enter the connection string (access key) from Azure for the relevant storage account.

Use **Azure Storage platform** to determine whether to store the data in an Azure Blobs storage container or in an Azure Files directory.

If you select **Azure Blobs**, you can enter the name of the container under **Azure Blobs storage container**. If you select **Azure Files**, you can enter the name of the file share under **Azure Files file share**. You have the option of configuring the path to a subdirectory using **Azure Files directory**.

You can use **Send a notification via Azure Service Bus** to activate the dispatch of an automatic notification when the file is stored to an Azure Service Bus queue. Enter the connection string under **Azure Service Bus Connection String**. The Azure Service Bus connection string differs from the Azure storage account connection string. Enter the name of the queue in **Azure Service Bus Queue**. The message sent in JSON format has the following structure:

```
{
  "DocumentReference": "Pfad zur Belegdatei in Azure",
  "MetadataReference": "Pfad zur Metadatendatei in Azure"
}
```

You can adjust the structure of the metadata file by choosing **Edit metadata**. You can find more information in the chapter [Metadata](#).

Azure Service Bus

When using the target system Azure Service Bus, you can only export the metadata of a document as a JSON or XML file.

Enter the Azure Service Bus connection string under **Azure Service Bus Connection String**.

Enter the name of the queue in **Azure Service Bus Queue**.

In the **Reference to the document** selection field, you have the option of selecting a previously configured target system where the document is stored in a repository. The message to the queue includes the link and ID for the document in the repository. At present, only the target systems d.velop documents and SharePoint Online support this function.

You can choose **Insert property values** to add additional parameters for the message to be sent to Azure Service Bus. You can enter a name for a message property and a fixed value. Alternatively, you can obtain the value from a property. The unique ID of the cloud tenant is also sent as a message property.

You can adjust the structure of the metadata message by choosing **Edit metadata**. You can find more information in the chapter [Metadata](#).

KPSC Cloud Connector

With the target system KPSC Cloud Connector, you can export a document to SAP. The connector is used in on-premises scenarios and is also now available as a Cloud Connector. Configure the URL in **KPSC cloud connector URL** and configure the token for the call to use the connector in **KPSC Cloud Connector**.

SFTP

The document and metadata can be sent to an SFTP server.

Configure **Host**, **Port number**, **User** and **Password** to use the SFTP server. You also have the option of specifying a subdirectory on the SFTP server under **Directory**.

You can adjust the structure of the metadata file by choosing **Edit metadata**. You can find more information in the chapter [Metadata](#).

Metadata

Some of the target systems listed provide the option to export the properties as a separate XML or JSON file. The structure of the output can be configured for each supported target system. Without further configuration, the metadata is transferred as a JSON structure by default. The ID of the property is used for the name within the output structure.

In the target systems, choose **Edit metadata** to go to the configuration. The metadata configuration provides the following options:

- The target structure can be uploaded as an XML or JSON file; the system then attempts to map the tree.
- For exports as an XML file, you can upload an XML stylesheet or select one from the templates.
- The changes made can be tested on an example directly and the output structure can be evaluated.

The configuration page is divided into three tabs. **Mappings** lists the properties at header and position level. The table displays the name in the output structure and its assigned property. The ID of the assigned property is displayed as the name by default. In addition, you can set one default value per mapping if no value is defined for the assigned property. The data type ensures the proper formatting or conversion to the selected data type. For example, amount values are transferred as a numeric data type in JSON format. You can deactivate the transfer of the mapping via **Export**.

You can change the default mappings using **Upload template**. You can then select a JSON or XML file that represents the expected structure. The system attempts to replicate and display the structure of the selected file. For more complex structures, there is no guarantee that the structure can be completely depicted. A mapping is generated for each entry. You must provide the mapping to the property manually. You can restore the default mappings using **Default template**. We generally recommend working with the default template.

The **Stylesheet** tab is relevant only for a transfer as an XML file. The XML file generated from the mappings can be translated into another XML structure using an XSL file prior to the actual transfer. You can upload an XSL file by choosing **Upload stylesheet**. You can also use a template for the transfer to SAP with **Stylesheet templates**. You can view the stylesheet used under **Stylesheet template**. **Download stylesheet** allows you to download the used stylesheet as an XSL file. You can reset the use of a stylesheet with **Delete stylesheet**.

Under **Export**, you can save the changes you made and then display a generated sample output. You can use **Export format** to choose whether the metadata is output as a JSON or XML file. Choose **Save changes** to save all the changes. The generated sample output is then updated and shown under **Save changes and display sample result**. You can also download the output in the appropriate file format directly by choosing **Download sample result**. A predefined set of properties and values is used as the example. Values defined during later processing may therefore be missing.

1.3.4. Permissions

Permissions control general access to the respective apps. You can manage the following types of access:

- **API access:** Manage access from d.velop document reader invoice business to the API. If no groups are configured, only users in the administrator group have access by default.
- **Application visibility:** Define user groups that can see and access the app. If you do not select any groups, all users will be able to access the app.
- **Statistics:** Manage user groups' access to the statistics data and related functions. If you do not select any groups, all users will be able to view the statistics.

You cannot prevent access by administrator group users, even if the administrator group is not explicitly created.

1.3.5. Document check

The document check helps you with indexing. It checks the plausibility of documents and prevents duplicates from being processed. The following types of document check are available:

Invoice check

The invoice check gives you a visual overview of the authenticity and integrity of your documents in the sense of a check according to §14 (UStG). The invoice check can be enhanced on request. In addition

to the internal invoice check, you can also perform the check from the Formal Correctness app. The following aspects are checked:

- Check of whether the client data is available on the document (name, postal code, town/city, street).
- Check of whether the supplier was found in the master data.
- Check of whether the supplier data is available on the document (name, postal code, town/city, street, sales tax ID or tax number).
- Check of whether the bank details (IBAN) are available on the document.
- Check of whether general invoice data is available (invoice date, invoice number).
- Check of whether invoice amounts are correct (net amounts 1 to 3, gross value).

Check for duplicates

The invoice number is used to check whether a document with the same invoice number has already been processed in the system. A document can only be found if the recognized values have been validated (visual inspection or validation via API or target system). To exclude false matches, unvalidated documents are not included in the search. You can adjust the check for duplicates via d.velop webindex designer.

Document permissions

You can activate or deactivate batch visibility management using user groups. If you deactivate batch visibility management, all users can see all the batches. If you activate batch visibility management, users can only see batches where users and batches are assigned to at least one identical group. Users can always see their own created batches. Administrators can view all batches. You can also configure whether the dialog for defining the user groups is displayed when a user uploads new documents via the user interface.

1.3.6. Creating processing profiles

You can restrict the functions in the visual inspection to specific groups and users by creating processing profiles. The processing profiles are deactivated by default, which means that all users can use all the functions in the visual inspection. Use the button **Control permissions to edit documents with the assignment of profiles** to activate the configuration of processing profiles.

This is how it works

1. Click **Add profile**.
2. Enter a name for the profile.
3. Select a template for the permissions. You have the following options:
 - **Indexing**: This template is suitable for users who mainly check documents.
 - **FullAccess**: This template is suitable for administrators who control the visual inspection process.
4. Assign at least one group or user to the profile using **Assigned groups** or **Assigned users**.
5. Activate or deactivate the profile's access to specific functions, such as **Delete documents and batches** or **Change document class**.
6. Click **Save**.

You have created a processing profile. Users that are assigned to the profile you create can only use the functions that you have enabled for the profile. If users are not assigned to a processing profile, the users cannot access any functions in the visual inspection. If users are assigned to multiple processing profiles and a function is deactivated in one of the processing profiles, the users cannot use the function.

You can deactivate the general use of processing profiles again later.

1.3.7. Document recognition

You can configure settings for classifying the documents in the document recognition configuration area.

Configuring the position output filter

In the **Position output filter** selection list, you control the extent to which recognized positions are checked and validated with the master data. You have the following options:

- **Checked positions:** Outputs the checked positions (validation of a position with the master data, check of amounts and quantities)
- **Matching positions:** Outputs matching positions (position was found in master data)
- **All positions:** Outputs all recognized positions

Setting the master data schema

You can divide master data into multiple schemas, for example, to map different clients. This function is particularly useful in combination with d.velop smart invoice, because the master data in d.velop smart invoice is usually divided into several buckets. In the **Master data schema** selection list, you can select the schema you want to use for new batches. The selected schema is used, for example, if the schema is not specified during the import by d.velop inbound scan. The **Default** schema is preselected. Another schema appears in the selection when master data is uploaded for a specific schema. If a schema is not specified while uploading master data, the master data is given the **Default** schema.

Change regular expressions for order numbers

For the provision of master data, regular expressions for identifying the order numbers are created on the document. If the master data is not delivered in the standard structure, you can configure the regular expression for the order number yourself. Activate the option **Change regular expressions for order numbers** and configure the expressions for each master data schema. If there are no problems with the detection of order numbers, you should not activate the option. Activating it suppresses the automatic creation of regular expressions. If you are using the on-premises deployment and the master data is not sent directly to d.velop document reader, you always have to create the regular expressions manually.

Selecting the default client

The **Default client** selection list displays all the clients from the **Default** schema. The default client is used when no other client can be determined by the classification.

Activating generic address data recognition

The client and supplier in a document are initially recognized based on the master data. If a result cannot be identified based on the master data, you can activate the **Generic address data recognition** option. You should only activate generic address data recognition if you want results that differ from the master data. Generic address data recognition is deactivated by default. No client or supplier numbers are set. With that in mind, use caution when activating this option.

1.3.8. Creating rules for document routing

You can set properties to define routing rules for determining how a document is further processed (routing). The documents are routed after document recognition and before the actual visual inspection.

You can use routing to implement the following requirements:

- Exporting documents automatically
- Moving documents to a different variant of d.velop document reader
- Changing batch names
- Defining authorized groups
- Changing document classes
- Defining additional property values

To create routing rules, you create conditions and statements. You define the actual rule in the **Condition** area. In the **Statement** area, you configure how the document is processed further when the rule is applied.

This is how it works

1. Click **Add routing rule**.
2. Under **Rule description**, enter a description for the rule.
3. In the text field on the left under **Condition**, enter the property that you want to check.
4. Select an operator. The following operators are available:
 - **equals**: Property value is an exact match.
 - **is not equal**: Property value does not match.
 - **greater**: Property value is greater than the entered value (for numeric properties only).
 - **less**: Property value is less than the entered value (for numeric properties only).
 - **exists**: A value is set for the selected property.
 - **not exists**: No value is set for the selected property.
 - **exists on the document**: A value is set for the selected property and was found in the document.
5. In the text field on the right under **Condition**, enter the value that you want to check the property for.
6. If necessary, click **Add** to add another condition.
7. Use **And** or **Or** to link multiple conditions. If necessary, activate **Group** to group conditions.
8. Click **Check** to check that the rule is syntactically correct. The syntactic structure of the rule is displayed.
9. Under **Statement > batch description**, enter a description for the document batch.
10. Click the **Permissions** field to select the authorized groups for the document batch. The previous authorized groups are overwritten. If you do not select any groups, the batch retains its previous permissions.
11. In the **Target app** selection field, select the app to which you want to move the document.
12. In the **Destination node** selection field, select the processing step at which you want to continue processing.
13. Click **Insert property values** to select properties and assign a fixed value to the properties. If the property was already set during data recognition, the value from data recognition is overwritten.
14. Click **Save**.

You have configured a routing rule. Once a rule has been applied to a document, no other rule is applied to the properties of the document. The rules run in the order in which they are listed on the configuration page. You can move the order up and down using the arrows next to the rule name.

In addition, note the following:

- Alternatively, you can also enter rules manually. Activate the **Enable manual input** switch to enter rules manually. Rules should only be input manually by people with the appropriate knowledge. We recommend that you do not activate this switch.
- You can deactivate the movement of a document using routing rules (for example, to temporarily suspend the movement for testing purposes). Deactivate the **Redirect documents** switch to suspend their movement. If you deactivate the switch, batches of the document are not renamed. Property values are still set.
- Fully delete rules that you no longer use. Click **Delete routing rule** for the rule in question.

1.3.9. Extension points

You can use extension points to edit and add values by script. You can use different entry points for editing and adding values in the processing sequence.

- **Before extraction**: The content of the document has been read out, but the classification has not yet taken place. At this point, you can pre-define properties and parameters for data recognition.
- **After extraction**: The recognized properties are available. You can check, edit or add to the properties.
- **After indexing**: This is the last entry point before a document is exported to the configured target systems.

- **Validation of documents:** When you save a document in the visual inspection, an additional validation can be performed using script. You can also set properties here.

At present, three variants of extension points are supported:

- **d.velop scripting engine:** This app is specifically designed for the creation of scripts for d.velop document reader. The scripts are written in the programming language C#. New extensions should use this variant as an extension point, because most functions are supported in this variant. You can find more detailed information and sample scripts in the d.velop scripting engine documentation. The following functions are available to you:
 - Checking, editing and adding properties
 - Pre-filling the master data schema
 - Defining validation messages to display during the visual inspection
 - Querying master data using SQL queries in the client's customer database and querying HTTP endpoints
 - Submitting a list of predefined properties that are relevant to processing (**DebitorNum**)
- **Scripting app:** An app in the d.velop environment where Java scripts that are accessed via HTTP can be defined. d.velop document reader transmits the property values as JSONs.
 - Checking, editing and adding properties
 - JSON for transferring properties:

```
{  "VENDOR_NUM":"8001",    "InvoiceNumber":"20190527-V1",
  "InvoiceDate":"2019-05-27T00:00:00",    "CostCenter":"",
  "ImpersonalAccount":"",    "9e322012-3cc1-402d-9fd8-f64aad71fbf7":"",
  "3d6dd2a3-bfc6-4170-b7e5-8d347d449c35":"",    "Notes":"",
  "VENDOR_NAME":"Schubert GmbH",    "VENDOR_CITY":"Weilrod",
  "VENDOR_STR":"Neugasse 21-23",    "VENDOR_ZIP_CODE":"64276",
  "VENDOR_VAT_REGISTRATION_ID":"DE111294343",    "VENDOR_COUNTRY":"",
  "VENDOR_IBAN":"DE94512500000037875006",    "DEBITOR_NUM":"ceu",
  "NAME":"ecstraordinary GmbH",    "CITY":"München",
  "STR":"Helsinkistraße 20",    "COUNTRY":"CH",    "DEFAULT_CURRENCY":"CHF",
  "GrossAmount":885.12,    "NetAmount1":743.8,    "VatAmount1":141.32,
  "VatRate1":19,    "OrderNum":"00000252",    "ProjectNumber":"",
  "ZIP":"81829",    "NetAmount2":0,    "VatAmount2":0,
  "VatRate2":0,    "NetAmount3":0,    "VatAmount3":0,
  "VatRate3":0,    "AdditionalCosts":0,    "Discount":0,
  "Issuer":"",    "Advisor":"",    "Email":"",    "TermOfPayment":"",
  "GrossAmountCurrency":"EUR",    "DocumentType":"Invoice",
  "DocumentUID":"",    "PerformanceDate":"2019-05-27T00:00:00",
  "BookingDate":"2019-05-27T00:00:00",    "VENDOR_REGISTRATION_ID":"",
  "AutoRoutingFlag":"",    "QR-IBAN":"",    "QR-REFERENCE":"",
  "Custom1":"",    "Custom2":"",    "Custom3":"",    "Custom4":"",
  "Custom5":"",    "Custom6":"",    "Custom7":"",    "Custom8":"",
  "Custom9":"",    "Custom10":"",    "Custom11":"",    "Custom12":"",
  "Custom13":"",    "Custom14":"",    "Custom15":"",    "Custom16":"",
  "Custom17":"",    "Custom18":"",    "Custom19":"",    "Custom20":"",
  "Inbound_creatorName":"",    "Inbound_importProcessname":"",
  "Inbound_importProcessId":"",    "Inbound_importDateTime":"",
  "Inbound_documentName":"",    "Inbound_documentCategoryId":"",
  "Inbound_documentCategoryName":"",    "CH_QR_IBAN":"",    "CH_QR_TYPE":"",
  "CH_QR_REFERENCE":"",    "CH_QR_AMOUNT":"",    "CH_QR_CURENCY":"",
  "CH_QR_DESCR_MESSAGE":"",    "CH_QR_DESCR_INFO":"",    "CH_QR_CODE":"",
  "CH_ESR_LINE":"",    "ProcessingDate":"2023-01-26T00:00:00+01:00",
  "ProcessingDateTime":"2023-01-26T11:18:02.678761+01:00",
  "DocumentReference":"",    "DocumentReferenceId":"",
  "OriginalFileName":"Bestellrechnung - Schubert_ohne_Abweichungen.pdf",
```

```

"BatchCreator": "CB5BE150-EA37-4DAB-95D0-19E33CAC23F8",
"BatchEditor": "CB5BE150-EA37-4DAB-95D0-19E33CAC23F8", "positions": [
  {
    "Pos_OrderNum": "00000252", "Pos_UPrice": 57.66,
    "Pos_SPrice": 576.6, "Pos_Quantity": 10,
    "Pos_OrderPos": "1", "Pos_DeliveryNote": "",
    "Pos_Article": "D0001", "Pos_Description": "Mid-Range Speaker",
    "Pos_CostCenter": "", "Pos_CostUnit": "",
    "Pos_GLAccount": "", "Pos_Custom1": "", "Pos_Custom2": "",
    "Pos_Custom3": "", "Pos_Custom4": "",
    "Pos_Custom5": "", "Pos_Custom6": "", "Pos_Custom7": "",
    "Pos_Custom8": "", "Pos_Custom9": "",
    "Pos_Custom10": "", "Pos_Custom11": "", "Pos_Custom12": "",
    "Pos_Custom13": "", "Pos_Custom14": "",
    "Pos_Custom15": "", "Pos_Custom16": "", "Pos_Custom17": "",
    "Pos_Custom18": "", "Pos_Custom19": "",
    "Pos_Custom20": "", { "Pos_OrderNum": "00000252",
    "Pos_UPrice": 16.78, "Pos_SPrice": 167.8,
    "Pos_Quantity": 10, "Pos_OrderPos": "2",
    "Pos_DeliveryNote": "", "Pos_Article": "D0002",
    "Pos_Description": "StandardSpeaker", "Pos_CostCenter": "",
    "Pos_CostUnit": "", "Pos_GLAccount": "",
    "Pos_Custom1": "", "Pos_Custom2": "", "Pos_Custom3": "",
    "Pos_Custom4": "", "Pos_Custom5": "",
    "Pos_Custom6": "", "Pos_Custom7": "", "Pos_Custom8": "",
    "Pos_Custom9": "", "Pos_Custom10": "",
    "Pos_Custom11": "", "Pos_Custom12": "", "Pos_Custom13": "",
    "Pos_Custom14": "", "Pos_Custom15": "",
    "Pos_Custom16": "", "Pos_Custom17": "", "Pos_Custom18": "",
    "Pos_Custom19": "", "Pos_Custom20": "" } ] }

```

- **Serverless hook:** The type **Serverless hook** should no longer be used and has been replaced by d.velop scripting engine.

All changes are only applied once you click **Save**. Always save any changes before you switch to a script in the relevant app by choosing **Open scripting engine** or **Open scripting app**.

1.3.10. Notifications

If there are errors while processing a document, users can be informed by e-mail. The notifications are activated by default. However, you can deactivate them via **Sending a notification in case of an error in processing**.

You can configure the parent groups that are contacted when errors occur. If you do not specify a group, the notification is sent to the administration group.

You can also specify an additional list of child groups that are notified when errors occur while exporting a document, such as when a required field is not filled in. The groups configured earlier are not contacted in this case. Thus, the parent groups only receive notifications of errors that cannot necessarily be corrected by users in the indexing.

Save all your changes by clicking **Save**.

1.3.11. Transferring documents from the Inbound app

The main input channel for importing documents to d.velop document reader is the Inbound app. You can set any activated function in d.velop document reader as a manual or automatic target system in an import profile. During a manual transfer, another page opens where you can choose whether to delete the transferred documents in the Inbound app.

In addition to transferring documents, you can also forward property values from the Inbound app to d.velop document reader. A property is mapped using the Webindex Designer app.

The batch permissions are transferred from the Inbound app. For processing, you can also set other parameters as batch properties:

- **DebitorNum:** Fixed client. This parameter is predefined with the client number.
- **DebitorWhiteList:** Selection list for the pre-assignment of multiple permitted clients by the Inbound app. The individual client numbers are separated by commas.
- **DefaultDebitorNum:** The default client is applied if data recognition did not find another client.
- **Schema:** You can specify the master data schema used for the transfer.

You can configure the parameters as batch properties in the import profile or mailbox. When attachments are sent from the Inbound app separately, they are each checked to determine whether they are an e-invoice.

1.4. Tips and tricks

In this section, you can learn about other features of the application that can help you achieve your goals faster.

1.4.1. Common sources of error in an on-premises installation

- The connection strings in the file **App.Settings.config** are incorrect: Restart the services after changing the database connection.
- The connection strings in d.classify modules are incorrect: If the connection string **ClassifyTenantDatabaseConnectionString** is incorrect and the service with this incorrect connection string created a module based on the template, you must delete the module and create a new module based on the template. You can create the module while processing the next document or change the module manually.
- The specified SQL user does not have the required permissions.
- SQL Native Client (SNAC) is missing. You need SNAC for the d.classify service. You can find the installation file **sql-native-client-11.msi** under the path d3\draas\Install\Frameworks.

1.5. Frequently asked questions

You can find answers to frequently asked questions in this section.

1.5.1. Where can I find the various services? (on-premises)

d.velop document reader consists of a number of different services. They include some background services and the web portal.

The background services are located in the folder d3/draas/Servicesx64 or, in the case of the OCR service, in the folder d3/draas/Servicesx86. They run as Windows services. The names of the services are composed of the prefix **document reader** and the service name. For example, the OCR service is called **document reader Abbyy OCR**.

The web portal is the application registered in d.3one and contains both the web user interface and the API. The corresponding files can be found in the folder d3/draas/WebPortal.

1.5.2. How do I edit the configuration for the installed services? (on-premises)

All the services obtain their configuration from the central file **App.Settings.config** in the folder **draas**. In this file, you can also find all the database connection strings that the wizard creates from the entered connection data.

The index dialog layouts are located in the directory d3\draas\Storage\resources\processequence-storage\[process sequence ID]\webdefinitions.

You can find the file **workflow.xml** for d.classify at d3\draas\Storage\resources\d.classify storage. The file is packed in ZIP archives with no file extensions. Add the extension **.zip** and extract the files to open and edit the actual file. Then create a ZIP archive from the folder again and remove the file extension.

Note

The **Install** folder includes the tool **Classcon.DRaaS.Util.EncryptionTool.exe** for viewing and defining encrypted configuration variables.

1.5.3. Where can I find the logging for the services? (on-premises)

Web portal:

- Back-end logging in d.velop process manager or in d.3 log viewer.
- Front-end logging in the browser console (using F12).

Windows services: In Windows Event Viewer or in d.3 log viewer.

You can find more detailed processing logs in the database **IRaaS_LogDb**.

1.6. Additional information sources and imprint

If you want to deepen your knowledge of d.velop software, visit the d.velop academy digital learning platform at <https://dvelopacademy.keelearning.de/>.

Our E-learning modules let you develop a more in-depth knowledge and specialist expertise at your own speed. A huge number of E-learning modules are free for you to access without registering beforehand.

Visit our Knowledge Base on the d.velop service portal. In the Knowledge Base, you can find all our latest solutions, answers to frequently asked questions and how-to topics for specific tasks. You can find the Knowledge Base at the following address: <https://kb.d-velop.de/>

Find the central imprint at <https://www.d-velop.com/imprint>.