Welcome to the future

Release 7: Foundation

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Let's go further

Table of Contents

1 Introduction to ASPECT4 Foundation release 7

ASPECT4 release 7 focuses on automation as a systemwide feature and introduces a number of innovations to ASPECT4 Foundation. These new systemwide features cater to all ASPECT4 industry solutions.

ASPECT4 release 6 introduced a new browser-based client platform with a new look for ASPECT4 in the form of UUI (Unified User Interface) for a consistent user experience across clients and subsystems with a responsive design. Release 7 is based on the very same UUI principles and is thus fully recognisable.

With an already efficient user interface, release 7 has instead been more about adding efficiency on other fronts, including automation of otherwise manual tasks, streamlining and simplifying integration tasks, as well as streamlining processes connecting ERP and a user's day-to-day life filled with supplemental digital information and dialogue.

For each release since the switch to version 3, we have maintained the following benchmarks:

- Ease-of-use
- Ease-of-integration
- Ease-of-collaboration

In short, release 6 was heavily influenced by the "Ease-of-use" theme, while release 7 addresses the other two themes to a greater extent.

Prior to release 7 we carried out thorough analyses of technological trends and there is no doubt that we are being swept by a wave of automation. Automations are predominately occurring via robots, and we're seeing the emergence of office robots, software robots or simply "bots". And now in ASPECT4, as well.

In release 7 you are able to create, train, and unleash robots on traditional – or manual – tasks in ASPECT4. The possibilities are endless and an important point is that the robots are general and can be trained for an advanced task, which can otherwise be solved manually by a user through ASPECT4 Client.

ASPECT4's Robotics Process Automation (RPA) solution differs from the very general RPA solutions from third-party providers by being completely oriented towards and designed for ASPECT4, ultimately providing the easiest way to build robots and, simultaneously, the most efficient way to execute them. Unlike a foreign RPA solution, ASPECT4 robots can be run in the backend, even if they have been trained in the frontend (through the ASPECT4 Client). That relationship is vitally important to the robustness and speed of robots.

The new robots are launched as an extension of ASPECT4 WFM (Workflow Management) and are a great solution for transforming manual workflow tasks into automatic tasks - ultimately transforming the overall workflow to becoming exclusively automatic.

However, it is also important to emphasise that robots can be run outside workflows as stand-alone processes that can be activated in conjunction with other user tasks through periodic time management or triggered by system events.

This means the robots work tirelessly and persistently click-by-click, field-by-field on the tasks that seem trivial to a user, but where repetitive actions increase the risk of human error.

The next focal point for release 7 is even greater emphasis on "ease-of-integration", and here, too, the RPA solution acts as an enabler. In general, the topic has been dealt with through many releases after multiple expansions of ASPECT4 Business Connector (ABC) and based on ABC as a message hub for asynchronous communication. Now the concept is being expanded with a focus on synchronous communication through the usual web service concepts within SOAP and REST.

A journey has started with release 7 in which ASPECT4, as a software component of a larger IT landscape, offers and publishes increasingly more APIs (Application Programming Interface) through modern web service standards. Moreover, it is an increasingly popular architecture trend that substantially supports the latest Service Oriented Architecture (SOA) principles that make it easier and more cost-effective to build best-of-breed solutions, in which many different sub-solutions are combined to complete a comprehensive solution to the company's end-to-end process – or even the supply chain's overall end-to-end process, as service orientation can have both an in-house and an external-oriented purpose.

One of the special innovations here is that robots can also be displayed as REST web services, so anyone who can build and train a robot can also build a REST web service and publish it in the outside world. Through this web service a foreign system can therefore "operate" ASPECT4 in a controlled way and enter or output data.

The option and solution are based on the fact that a robot is also generally defined with an interface in the form of input and output parameters.

Not all surrounding systems and business partners can be part of a set-up that communicates through web services. However, many systems or partners will be able to produce an information spreadsheet for use in ASPECT4 for creating/correcting customers, items, prices and much more. A major new feature is that an ABC destination can now be created in the form of a robot powered by spreadsheet rows. With manual uploads or other forms of receiving spreadsheets, it is now no longer necessary to program so-called adapters. These can be replaced by a robot and uploading a spreadsheet is quite simply transformed into repeated robotic executions. Simply put, the associated robot enters the spreadsheet columns row by row.

A third major new feature is that users now have the option of attaching any document, file or e-mail to ASPECT4 business objects in a very simple and intuitive way. Additional documents or e-mail threads can be attached to customers, suppliers, items, workflows, orders, jobs and other types of what we call "business objects" through simple drag and drop. The solution uses the "stepping stone" technique that was introduced several releases ago. Using the so-called "alias" link on screens, business objects can be configured to carry information such as notes, news, infoBoards and links to applications. The concept has now been expanded with attachments.

By using configuration, a number of document categories are created that are used in part for a logical grouping of the attachments and in part for mapping the link to selected stepping stone keys (and thus the type of business object). Creating an attachment is, in its simplest form, a matter of dragging a document

to the relevant ASPECT4 screen and then releasing it, after which the mapping takes place according to configured rules. From the corresponding screen or other locations where the same business object appears, the user can see from a list which attachments they or others have created and also open or download the attachments.

A special point regarding attachments is that these can also be created by other actors besides users. In this situation we are talking about system documents loaded via ABC, downloaded as a photo from a mobile CrossPad app or perhaps most commonly: Created and saved by DocManager as a business document. With configurations, these system documents can be configured per category to appear in the list of attachments as well, along with manual ones. There are some limitations to these system documents. For example, they cannot be deleted. Note that the underlying storage for attachments is one of two archive options – either ASPECT4 internal archive or Next from Nextway (formerly Multi-Support).

The super easy method of creating attachments from basically "anything", together with a similarly easy method of obtaining an overview of whatever might be linked to documents, files and e-mail threads in any relevant context of use, provides a unique option for increasing the overview across ERP solutions and other sources of information. Everything is gathered in one place and in a relevant context.

With release 7 you are well positioned to reap even more benefits through streamlining – an eternal goal and a very important competitive parameter as well.

Several other new features are also included in this release. You can find out more in this release notes document as well as in the industry release notes.

2 News

2.1 ASPECT4 RPA – Robotics Process Automation

With release 7 a completely new extension of ASPECT4's Workflow Management (WFM) concept is launched with a clear automation theme. The field is known as RPA – Robotics Process Automation – or robots, in everyday speech.

Ever since the first launch of ASPECT4 WFM, this tool has focused on structuring business processes and automation as much as possible. For this we have the concept of automatic tasks in workflow processes and in building the models for the automatic tasks, we have been able to make use of program modules and also perform updates using SQL expressions. By introducing robots, we have completely different and formally unlimited possibilities for automation.

Bots are a technology for automation with the robotic operation of ASPECT4 performing automatic tasks through the normal user interface. Technically, under normal conditions robot execution will be independent of an ASPECT4 Client in order to perform the operation, but for the sake of clarity, robots will be able to do the same thing a user can do by following a very specific and clear set of instructions. Obviously, the robot cannot make judgements or choices in the same way a user would, and this is the big difference or limitation, if you will.

Although robots are being launched as an element of ASPECT4 WFM, they will also be able to add value outside of workflows, and it will be possible to deploy large parts of the robot function without using workflows. Thus, we are also talking about ASPECT4 RPA as a stand-alone feature.

2.1.1 The robot concept

Similar to WFM's processes and process models, we also use RPA to work with:

- A design component (robot modelling)
- A runtime component (robotic execution)

Unlike the WFM, the design task around RPA is significantly simpler, and we talk more about "training" robots when building them.

Robots can be divided into two main types:

- Unattended (automatic) robots
- Attended robots

In principle, robots are unattended. That is the basic aim, but individual steps in a robotic execution can be defined as "attended", i.e. at a certain stage the robot "needs help". From a practical standpoint, therefore, an attended robot will have to be executed by the user and will take over the user's ASPECT4 Client for the unattended steps, but "hand over the keyboard", so to speak, for the attended steps.
Below, we will first look at RPA design and then runtime.

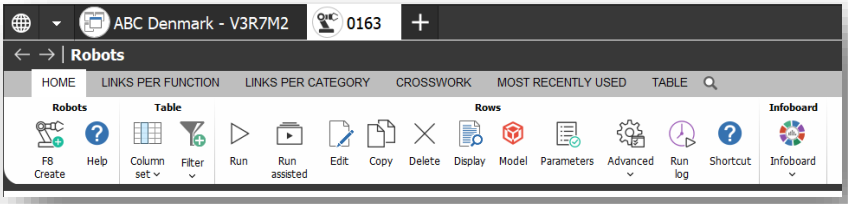
2.1.2 Application 0163 Robots

A new application 0163 'Robots' grants access to working with robots, including the usual functions such as creating, editing and deleting. In addition to this, there are a number of specific features that are particular to robots.

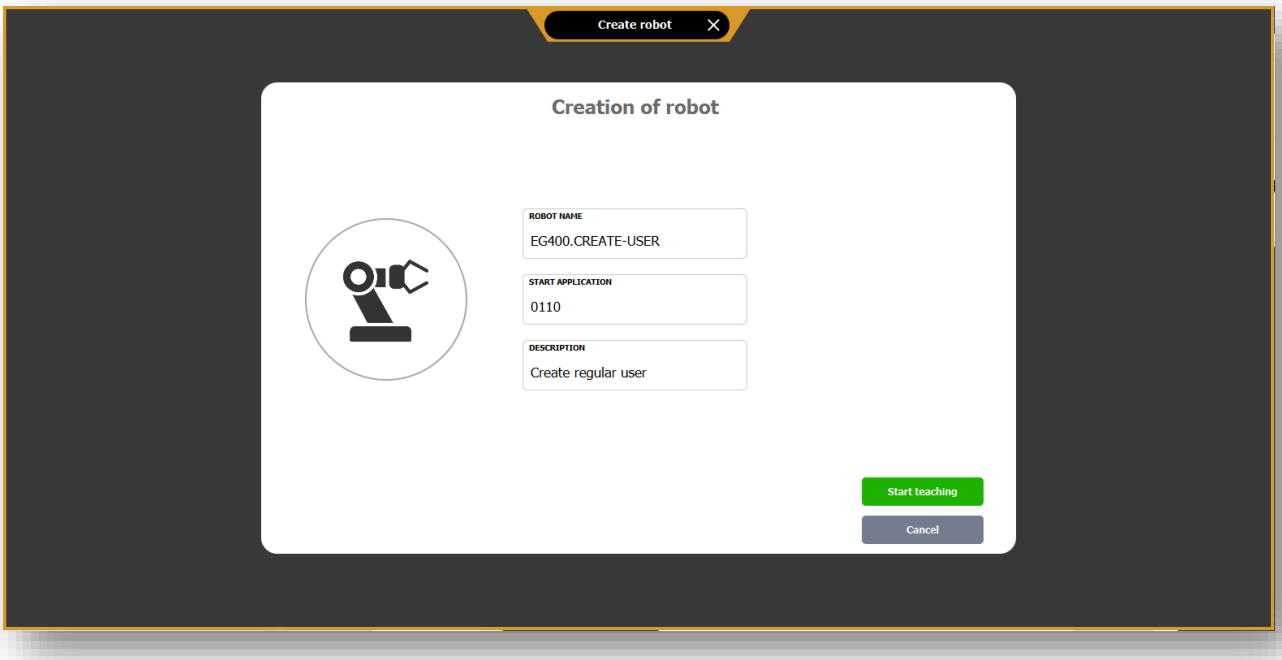
Application 0163 'Robots' is also used to "train" your robots, which is done in a special mode where the user's operating procedures are recorded and can be enhanced with additional information and instructions along the way.

Robot recording

1. Record a robot by selecting F8 'Create'



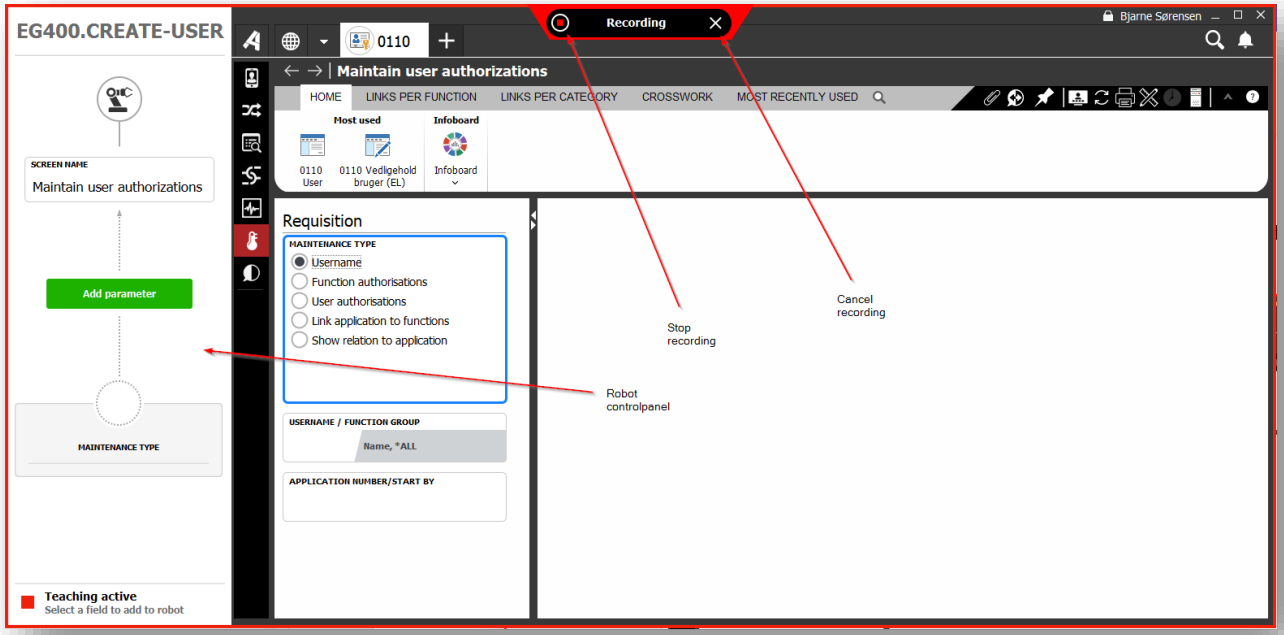
2. To get started, give the robot a name. Specify the first program in the robot recording (in this case 0110).



The robot name must be unique within the same ASPECT4 environment – across the whole group and company. By default, robots are stored globally under Group 0 (All) and Company 0 (All) – but are also only visible to the user (personal) by default.

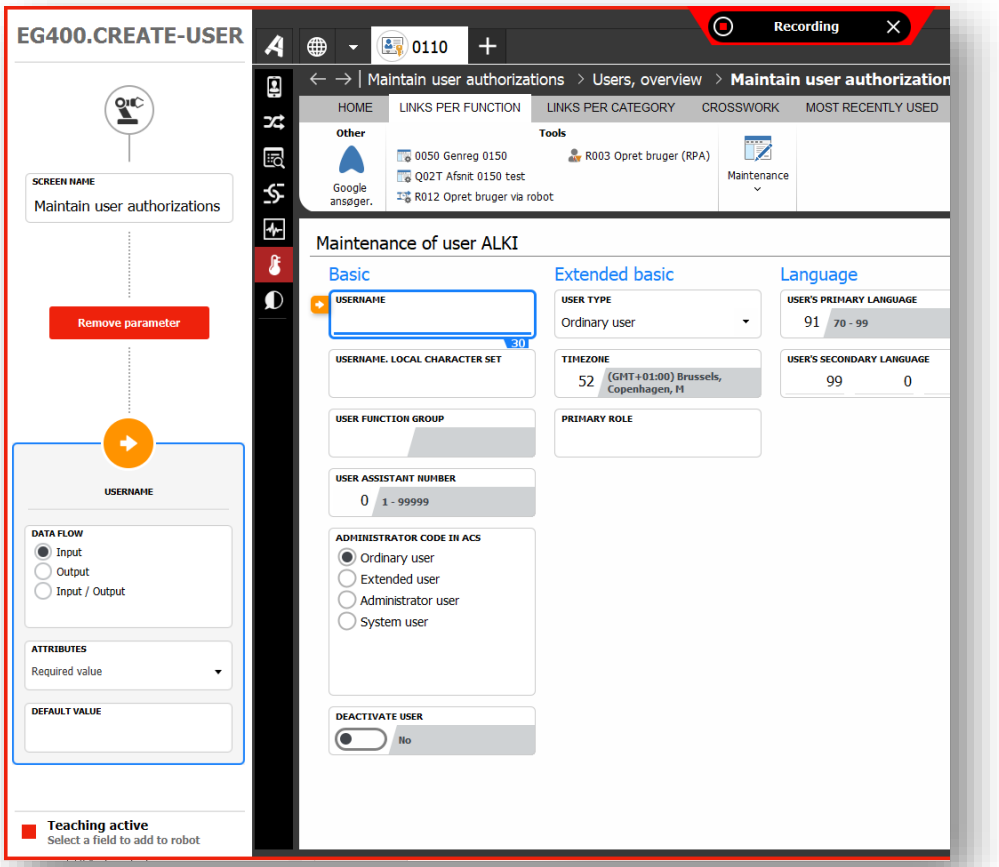
3. Click Start.

ASPECT4 Client now appears with red Windows borders. The Robot control panel appears to the left of the ASPECT4 Client and the "media player" which indicates that the client is recording, appears in the top centre.



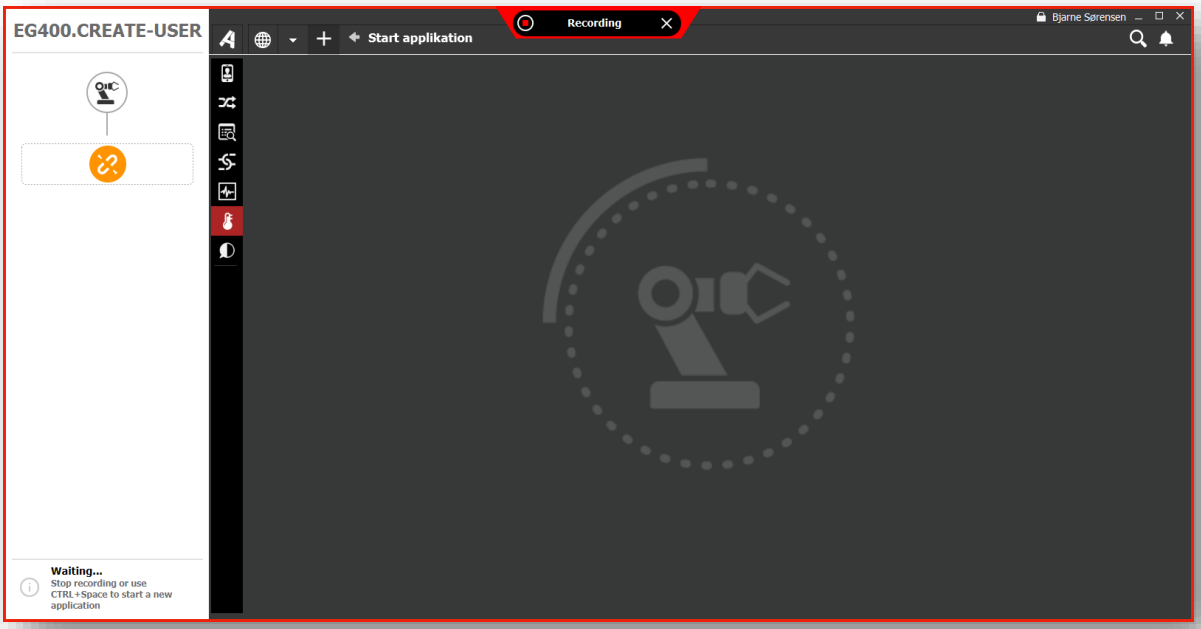
The selected start program is the only application tab that is shown.
Operating the programs is the same as you are accustomed to (including the |+| tab and <Ctrl+Space> for launching a new application).
One exception is that previously saved requisition values are not displayed during recording – so they must be entered manually. This is to ensure that the robot actually records a tangible value – instead of relying on random recent key entries.
Programs (tabs) that were active before recording are automatically displayed again when recording is finished or cancelled.

4. While recording, you must identify the fields that you want to be able to vary in content in subsequent executions of the robot. Click the green 'Add parameter' in the control panel - the field in focus in the active application is now added as a parameter and a few details are displayed in the info box in the control panel.

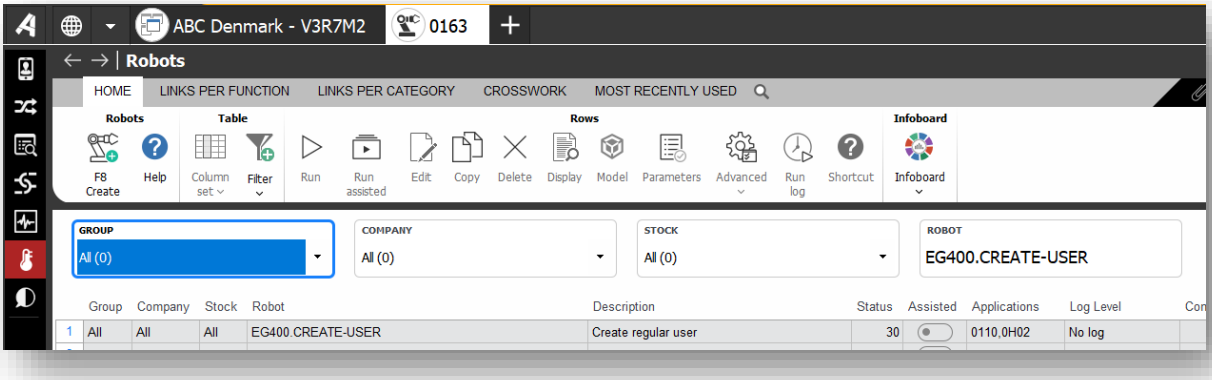


Fields selected as parameters are marked with orange parameter tags during recording (the way a field is displayed varies slightly depending on whether it is individual, part of a group or in a table).
Declared parameters can be removed by clicking the red 'Remove parameter' which appears when the current field is in focus. In principle, parameters cannot be added AFTER recording. Parameters can usually be deleted afterwards in application 0163 'Robots' -> Parameters.

5. All programs that have been opened during recording must be closed before recording can be finished and saved. When the last program in the recording is finished, click the red button on the media player. The robot is now stored in application 0163 'Robots'.



6. The robot now appears at the top of the list in application 0163, which automatically positions the list for the new robot.



The recorded robot contains 3 elements:

- Basic information
- Model (the recorded process step by step)
- Parameters (declared input and output parameters)

2.1.3 Other special functions

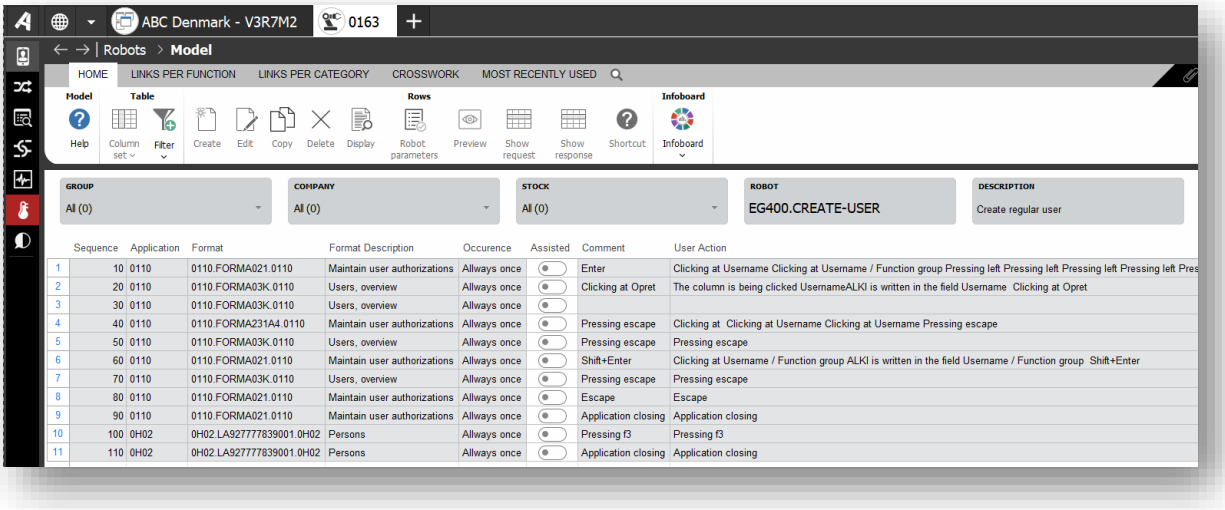
In addition to creating and using the usual functions such as show, edit, copy and delete, application 0163 'Robots' grants robots access to the following functions:

- Model
- Parameters
- Advanced
    - Excel profiles
    - Event relations
    - Robot application
    - Export
    - Import
    - Assign to PTF

- Run
- Run assisted
- Run log

Note that these last three functions are related to executing robots and are described in more details in the runtime section.

2.1.4 Model

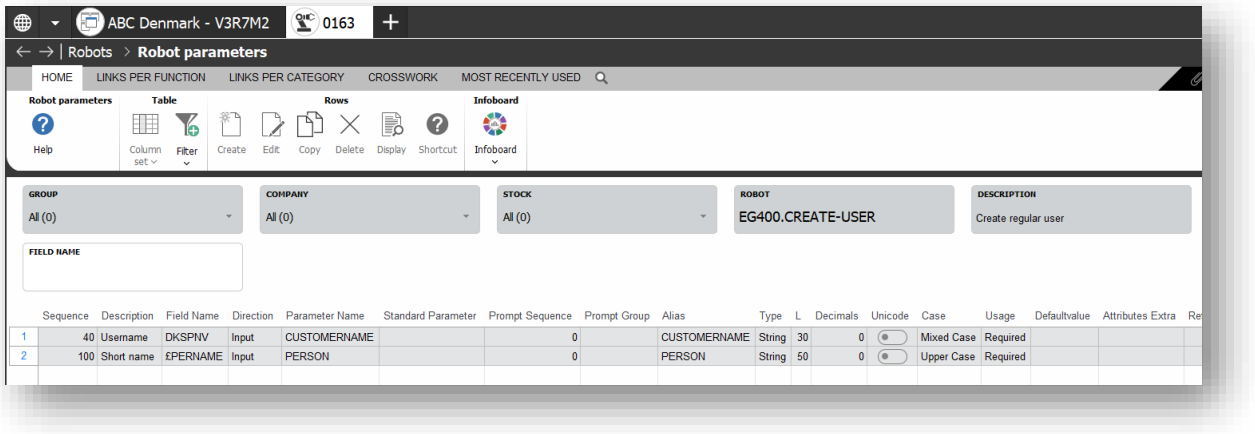


The 'Model' function grants access to the robot's individual steps and allows the modification of the model through creating, editing, copying or deleting steps. However, this will typically require special insight into robotic models.

Another option is to change (via sliders) one or more steps in the attended automation, i.e. flagging that the user's assistance is required in this step. This will have the effect of stopping the robot from executing that step, after which the user can work "normally" and at the end click 'Resume execution' of the robot.

A special modification of an attended robot can be made by deleting the execution process after the last attended step in the image. In this way, the user does not have to click 'Resume', but instead can continue working normally from the attended step.

2.1.5 Parameters



This function provides an overview of the robot's parameters, which are generally the parameters declared during robot recording. Along the way, parameters are automatically named and from the overview you can choose to change these names to more familiar terms.

You can also edit the default value for parameters, which may be necessary, for example, with parameters specified as "Fixed".

Parameters can inherit values from each other, which is done by specifying a reference to another parameter. There are no prompts for a parameter that refers to another one. This is especially useful for parameters that are actually the same, but appear in different applications, for example.

By specifying sequences and groupings, you can also design and influence the prompt image presented to the user when the robot starts.

2.1.6 Advanced

Excel profiles
This function provides access to a guided creation of an underlying ABC profile that defines how columns in an Excel spreadsheet are mapped to the robot's parameters. This configuration also allows the robot execution to be controlled via ABC, where the robot is executed through the rows of the spreadsheet. Uploading the spreadsheet to the robot also activates its execution.

Event relations
With this function, the robot can be mapped to an existing event and is thus activated by events as part of or instead of a workflow, for example.

Robot application
With this feature robots can be created as applications and thereby obtain the properties associated with applications, including authorisation management and various forms of quick access to execution – such as via stepping stone links.

Note that setting up a robot as an application and then as a stepping stone link supports the transfer of aliases to the robot's parameters. In other words, if a robot requires the entry of an item number, for example, it will automatically be provided with the item number if, like a stepping stone, it is solicited in a context where the item number is located.

Export
This function creates a package containing the robot model which is then placed on IFS for subsequent import. This can be used in the deployment of robots from Test to Production, for example.

Import
A previously exported robot model is imported and extracted.

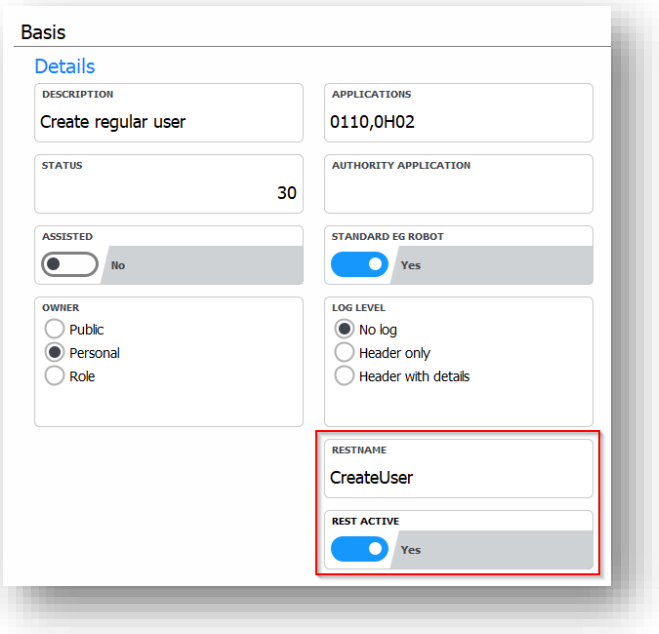
2.1.7 RPA Runtime

Robots can be executed/run in many ways and arranged schematically as follows:

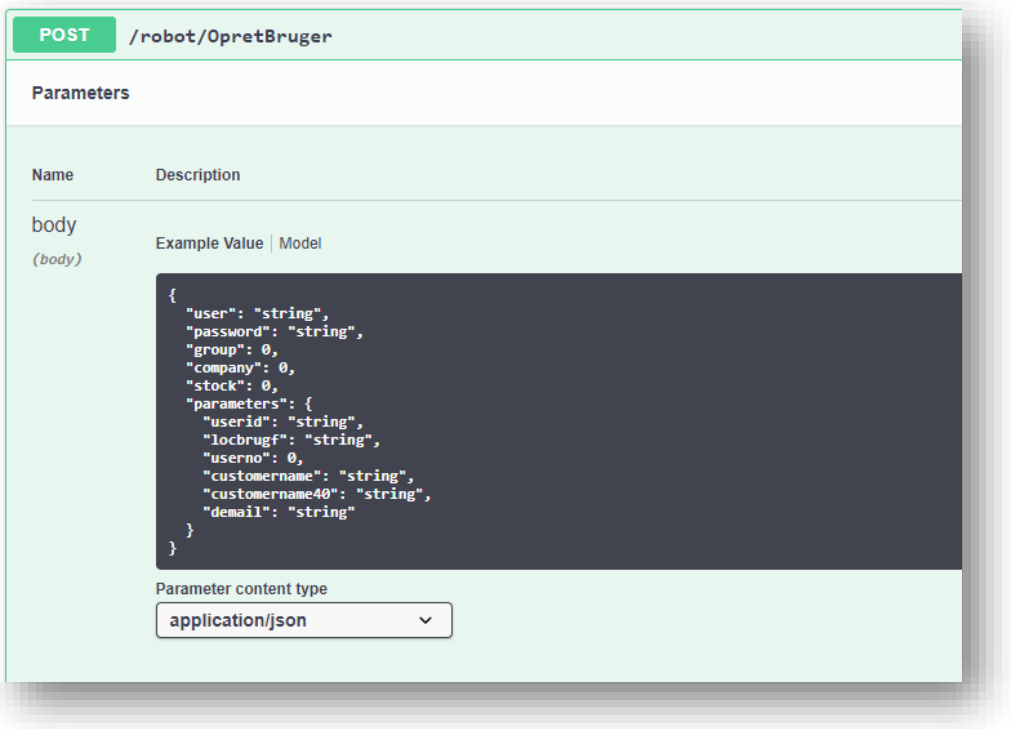
- *Manual execution*
  - Option "Run" from application 0163 'Robots'
  - Option "Run assisted" from Application 0163 'Robots'
  - Activate as application
  - Run as application via stepping stone link
  - From 'Import from Excel' in the Table tab (where the ABC robot profile is defined in section 0AB4)
- *Indirect execution*
  - Time driven via application 0160 'Attached to the Job execution system'
  - Event driven through event triggering
  - From automatic workflow task
  - From executing the QueryManager, where the report lines feed the robot's parameters (via event)
  - When receiving Excel files for ABC
  - When attaching Excel files through a special document category
  - As a REST web service

Note the possibility of displaying robots as REST APIs that can be used for calls from third-party solutions, for example.

Robots are displayed as REST service in 0163 'Robots' by specifying the service name of the robot and whether or not it is displayed (active). Displayed services automatically become visible in the ASPECT4 environment's Swagger robot homepage. See also section 2.3.1 on the general options for accessing the interface descriptions included in ASPECT4's services.



Swagger shows examples of how the robotic service is called (and a number of other information).



2.1.8 Testing, logging and error handling

The robot can specify whether its execution should be logged or not, with no logging as the default. You can select two levels of logging, with logging header and detail being the most detailed.

The log can be accessed from application 0163 'Robots' using the option 'Run log'.

Note also the possibility of executing robots from application 0163 'Robots' with the option 'Run assisted'. This option is also available for robots that are basically designed to run as automatic robots, and can be used in testing robots, for example, so that you can follow the robot's steps on the screen.

Robot runs that do not end normally send a message to ASPECT4 EEM (Event and Exception Manager). You subscribe to the messages by signing up to the system area "Robot (RPA)".

In error situations, you will be able to receive mail, for example, for each failed robot run, containing information about the robot name, time and what parameter values it was run with – including error messages and technical details.

2.2 Attachments

Attachment management is a new and general feature in ASPECT4 that allows enriching ASPECT4 business objects with separate information in the form of documents, images and other types of files, including e-mails from Outlook.

Examples could be attachments like item certificates, drawings for production orders, e-mails related to quotations and photos related to freight services.

The solution is divided into three parts for catch (upload), archieving and publish (display).
With regard to catch, the aim has been a very simple and easy to to use interface in which the user can use "drag and drop" to associate (attach) all kinds of files from their PC or from file shares/sites that they have access to. A special option is to extract an e-mail from the inbox or other e-mail folders. The file is then "dropped" on the screen containing the business objects for the attachment. If there are more options, then the user is presented with a pop-up image where they can choose which document category to use.

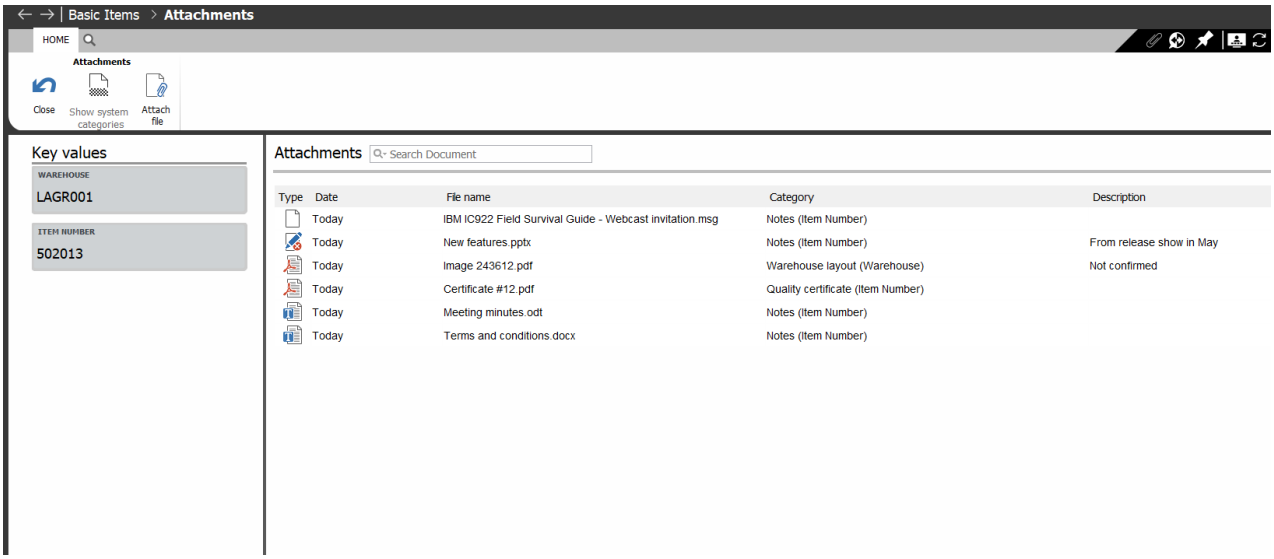
Generally, only a single business object is attached and these are identified using the "stepping stone" concept that was introduced several releases ago, which supports stepping stone links, activity streams, notes and infoboards.

If the customer number is available on the screen, then there will typically also be an alias available with the type CUSTOMERNO and the value corresponding to the customer number.

The attachment is archived under the document category and configured stepping stone key in either ASPECT4's internal document archive or Next from Nextway (formerly Multi-Support).

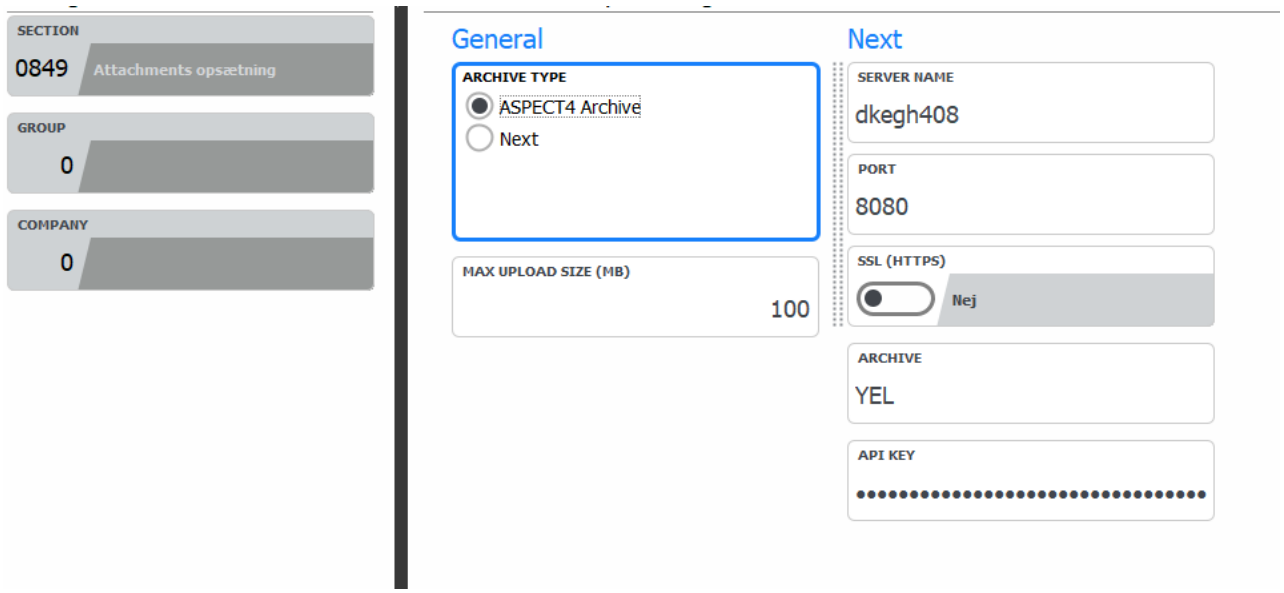
With regard to publishing and subsequent accessibility, attachments can be easily displayed in a list from the same screen where they were archived, or in other applications and screens where the same business objects are displayed. The list is in the clients' "Quick access bar" under a paper clip illustrating an attachment. From the list, individual attachments can be downloaded, deleted, renamed or associated with a description. This applies to both ASPECT4 Client and ASPECT4 Client for Web. In the classic client, attachments can also be opened directly from the list.

From the list of attachments, the user can also choose an "Upload" option, as an alternative to drag and drop and then browse to the desired files. Note that, for both options, the user can select multiple files in the same workflow, if relevant.



2.2.1 Configuring Attachments

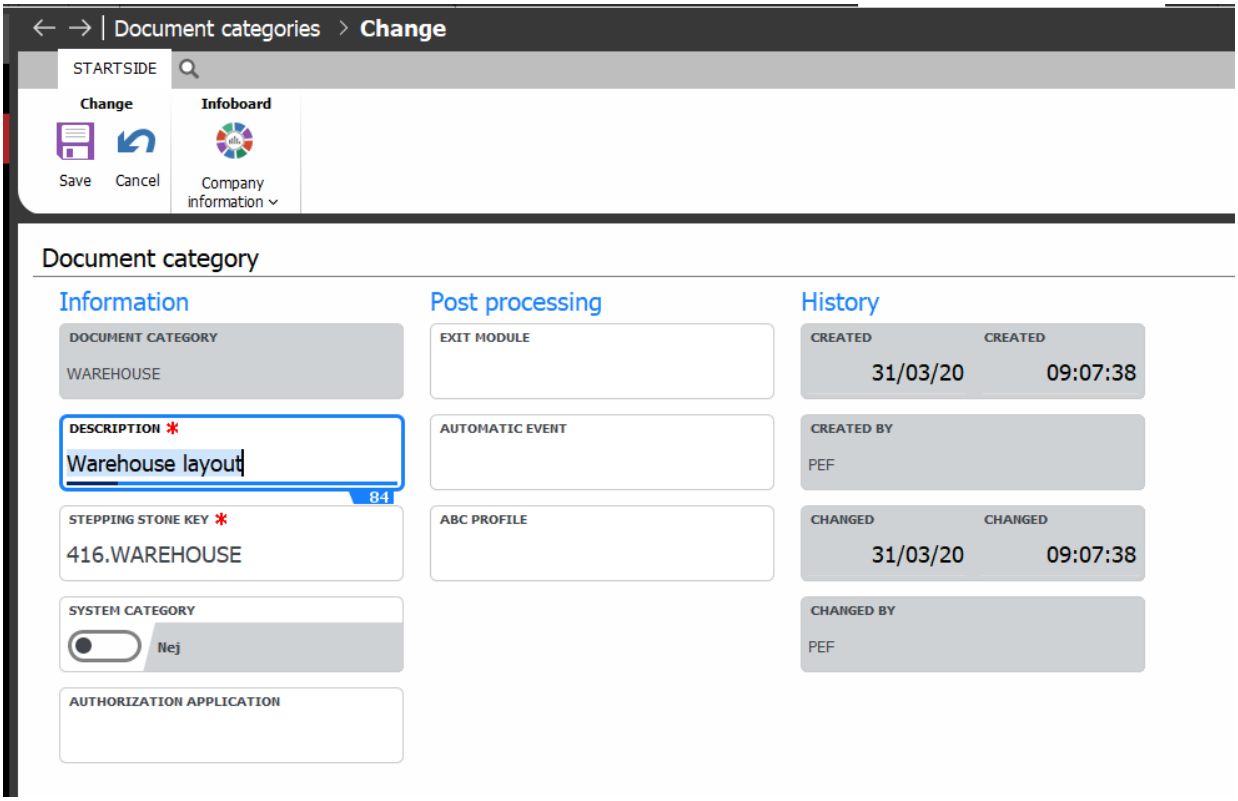
In the general files section 849 'Attachments set-up', you will find a basic configuration for attachments, including which backend solution is used for storing attachments. You can choose between ASPECT4's internal archive or Next from Nextway (formerly Multi-Support).



In the application permissions for appl. 0X00 'ASPECT4 Client' you can specify whether the feature is permitted per function group or user.

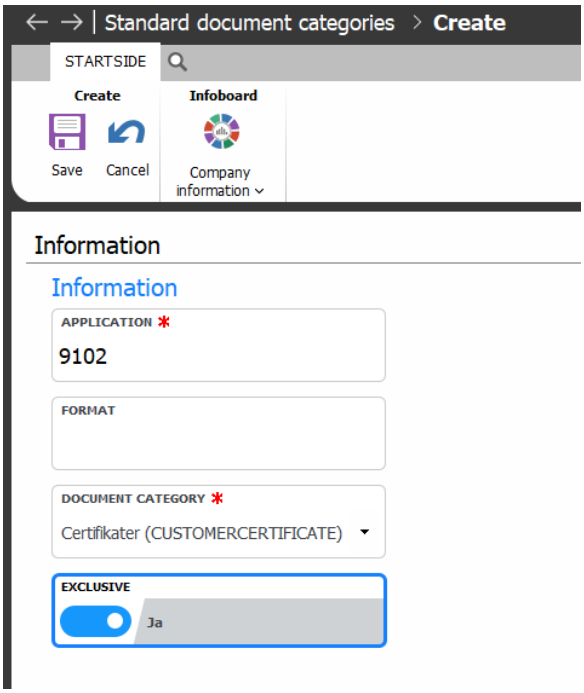
In application 0261 'Document categories', the categories that the company wants are defined in relation to the relevant grouping. A document category is associated with a stepping stone key by specifying the alias (and any related aliases) and therefore the document category also serves as a definition of where files are linked and uploaded to the category in question. Several other attributes are used to fine-tune the solution, for example, reference to an application from which authorisation permission is inherited for the given document category. If the user does not have permission for this application, they will not be able to attach or view files in that category.

In application 0261 'Document categories', mapping rules can also be set up for the archive solution Next as well as DocManager, with regard to the concept of system documents.



Finally, there is a configuration option when using application 0262 'Standard document categories'. For each application (or each format per application) you can define which document category is "most important" in relation to a given application, provided the configuration also allows the application to have several possible document categories. The purpose is to make it as simple as possible for the user to create attachments in a particular application.

A default category will appear at the top of a selection list when an attachment is created. A further option is to define the default category as the only possible one. In doing so, you'll be able to add attachments to the simplest possible operation, since only one choice is possible, thereby omitting the choice dialogue. Creating attachments then becomes simply a question of 'drag and drop'.



2.3 Services

Services have been a topic of focus for release 7. A service is understood as:

- A well-structured method for systems to communicate with each other electronically
- A communication protocol in which communication is broken down into precise messages such as:
  - "create this item",
  - "give me information about this shipment" or
  - "make this change for this customer"
- A standardised architecture protocol for the messages where we have focused on REST

Focusing on services provides more opportunities for synchronous communication to and from ASPECT4. This section will contain the new steps related to the topic that are not described in other sections. For example, the possibility of displaying robots or queries via QueryManager as services will not be described here.

2.3.1 Business modules as services

All ASPECT4 business modules can be enabled to act as a REST service. There are a wide range of business modules in each industry to support different types of functionality. Business modules are characterised by starting with EAxxxxx and, among others, are the type used in ASPECT4 destination in ASPECT4 Business Connector (ABC). This means that the things that you have been accustomed to creating, such as an order, can now be created via a REST service.

The method for displaying available REST services, how to call them, how they respond and where to try them out, is through an open source tool called Swagger. Swagger is installed on the machine as part of release 7 and can be accessed through the browser. Through different views in Swagger you can see the different REST services you can call, be it a business module, robot, or query.

Available services and functions in each service are controlled via ASPECT4 configurations. For robots it is managed in application 0163 'Robots', for queries through QueryManager, and for business modules through the application 0MSA 'Microservices authority'. In principle, there is no external access, regardless of where the web service is created and managed. Opening up to external consumers of services must therefore be an active choice.

For business modules, 0MSA 'Microservices authority' provides the ability to allow/deny access to business modules and the underlying functions such as REST services. These permissions can be open to everyone or, alternatively, only for a specific user.

3 New features within existing areas

3.1 ASPECT4 Client

In addition to supporting new topics such as RPA and Attachments, ASPECT4 Client includes a major change. As of release 7, ASPECT4 Client only runs ASPECT4 Launcher, which means a final end to Oracle's Java and Java Web Start. The new method for executing the ASPECT4 Client has been available in parallel with newer versions of both release 5 and release 6 with great success.

3.1.1 ASPECT4 Client and ASPECT4 Launcher

In release 7 ASPECT4 Client can only be run with the ASPECT4 Launcher, phasing out the need for Java to be installed on the machine separately. This change has a number of advantages in relation to the former solution.

One of the primary reasons for the change was Oracle's new licensing structure, requiring a licence for new Java 8 updates. The change in release 7 means that you are exempted from this licence as the ASPECT4 Client does not use the licensed Java from Oracle.

The change also offers other benefits, such as greater control over the execution of the ASPECT4 Client. Previously, ASPECT4 Client was subject to Oracle's Java updates, which could result in some discrepancies, creating new ongoing conditions that the individual ASPECT4 Client was not tested under. From now on, increased control from within the client will also lead to a higher quality of ASPECT4 Client performance. Another obvious advantage is that new ASPECT4 clients automatically include the latest version of Java, and this will be the same for all users in the installation.

The change implies alterations to the way the ASPECT4 Client is installed on the individual user's machine or, alternatively, on a Citrix server through which the ASPECT4 Client is accessed. There are a number of "how to get started" documents describing the new process through the new deployment page. Basically, the approach is very similar to the one you have been accustomed to.

3.2 ASPECT4 QueryManager

3.2.1 Attachments support

QueryManager supports Attachments in release 7. This makes it possible to attach documents, e-mails, etc., to a query definition, allowing you to associate documentation about the query.
Attachments, of course, are also supported in applications made with QueryManager, and this applies both to new as well as existing ones.

3.2.2 REST services

For a long time now, it has been possible to use QueryManager+ to create XML based web services for queries based on SOAP, and now it is also possible to create REST services. The web services you may

have already created will automatically be referred to as REST services, and any future web services you create will function as both XML web services and REST services.

3.2.3 Value processing

Comparison and continuous accumulation of values across rows can be complicated. This is made much easier in release 7 in the form of a new option in calculated fields called "Value processing". There are three options for value processing:

- Accumulated for rows up to the current row
- Previous row value
- Next row value

Common to the 3 options is that the calculation expression you have specified will be processed based on your selection.
For example, if you have created a calculation field in DEBREGT1 containing the expression KIASL that would normally return the current row value of KIASL, similarly for "Accumulated for rows up to current row" it will return the accumulated balance to the current row:

	Customer number	Balance	Accumulated balance
1	10	129,68	129,68
2	1021	2.272,50	2.402,18
3	2121	851,75	3.253,93
4	3221	11.200,25	14.454,18
5	3222	1.811,25	16.265,43
6	3223	8.500,00	24.765,43

For 'Previous row value', it will return the balance of the previous customer:

	Customer number	Balance	Previous balance
1	10	129,68	÷
2	1021	2.272,50	129,68
3	2121	851,75	2.272,50
4	3221	11.200,25	851,75
5	3222	1.811,25	11.200,25
6	3223	8.500,00	1.811,25

And for 'Next Row Value', it will return the balance for the next customer:

	Customer number	Balance	Next balance
1	10	129,68	2.272,50
2	1021	2.272,50	851,75
3	2121	851,75	11.200,25
4	3221	11.200,25	1.811,25
5	3222	1.811,25	8.500,00
6	3223	8.500,00	157.125,47

With these options you can both accumulate as well as make calculations across rows in an easy way.

3.2.4 More search options

The search has been expanded so that it is now possible to search for workflow events, e-mail recipients and also uses of the different types of actions. And when you search for a table, you also find queries that form the table and not just queries that use it as the basis for a table.

3.3 ASPECT4 Workflow Management

In addition to a number of enhancements and additions, a major new feature within ASPECT4 Workflow Management is that otherwise manual tasks can be extensively converted to automatic tasks by executing the task through a robot.

3.3.1 Execute robot from workflow

There are several options for launching a robot from a workflow task:

- Via module call (synchronous)
- Via event (asynchronous)

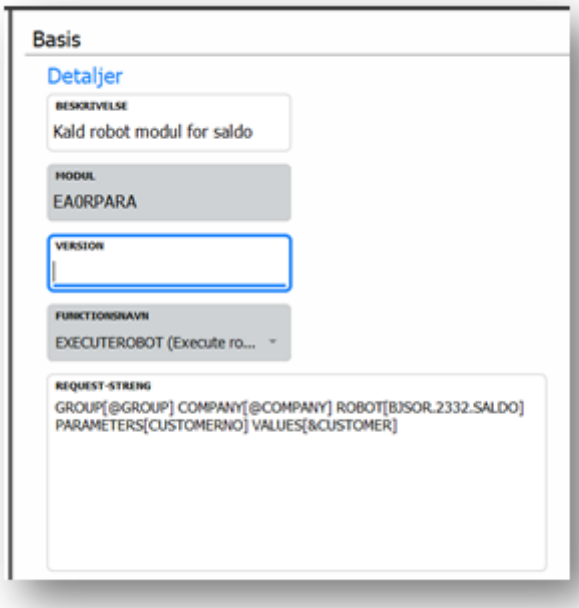
Via module call

The module call is created in application 0W09 'Module call' and calls the module EA0RPARA and the function EXECUTEROBOTE.

The request syntax is:

GROUP [@GROUP] COMPANY[@COMPANY]
ROBOT[<robotnavn>]
PARAMETERS[<robotparameternavn1> <robotparameternavn2> …]
VALUES[&<workflowparameter1> &<workflowparameter2> …]

If a robot parameter has a fixed value from the current module call, the value can of course be entered directly instead of the indirect &-reference to workflow parameter.
Example from 0W09 'Module call':



See also the documentation for module calls in Workflow.

Via event

The workflow automatic tasks from application 0W52 'Process definitions' can activate events and events can activate robots. For the task, you need to do parameter mapping from the task to the event.
The logical flow is:

Checklist (application and task):

- **0163** Create robot with parameters
- **0W00** Create event parameters (corresponding to robot input parameters)
- **0W16** Create active event
- **0W16** Associate created event parameters with the event
- **0W52** Create workflow process definition (with tasks, parameters, etc.)
- **0W52** Create automatic task with Start Event of the created event
- **0W52** In the task, create mapping between workflow and event parameters
- **0163** Create event relation on the robot (Advanced -> Event relation)
- **0163** Create mapping between event and robot parameters (Advanced -> Event relation -> Parameters)
- **0163** Validate robot/Event mapping (Advanced -> Event relation-> Validate)

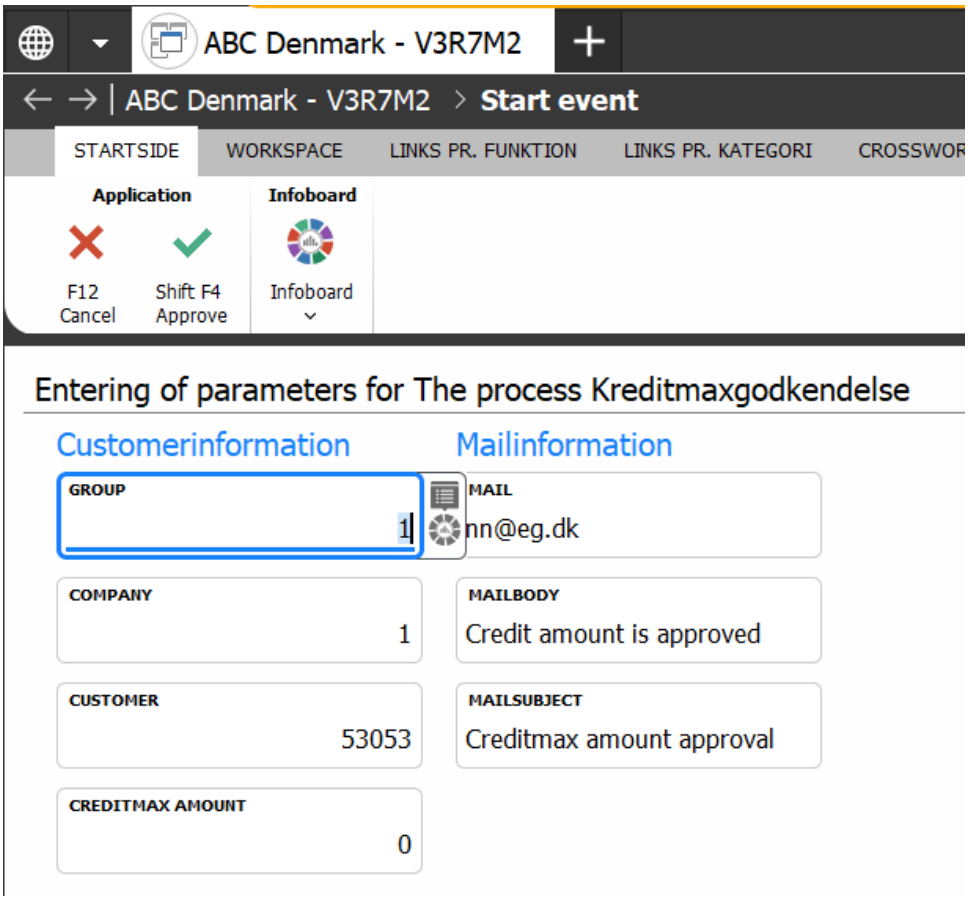
Refer to the event trigger documentation in Workflow.

3.3.2 Requisition during process start-up

Release 7 offers much greater opportunities for controlling the appearance of the requisition image. Fields can now be arranged in field groups and the order of fields can be controlled.

New information on process parameters:

- Specifies the order in which the parameters should be displayed in the requisition.
- Specification of field group text (text or text identifier) for grouping parameters in requisition. It is only necessary to specify field group text for a new field group. Otherwise it is inherited from the previous parameter (cf. the order in which the parameters are displayed in requisition).



Validation:
Validation of the parameter values is now done in the requisition. However, the rule is that it assumes that SQL expressions/requests for module calls contain only the parameter on which a validation is made.

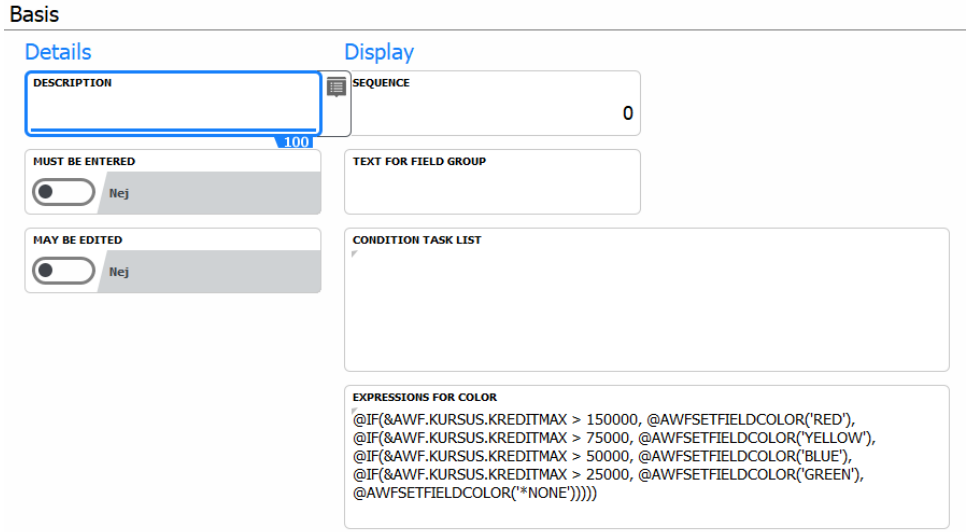
3.3.3 Display of task parameters in the task list

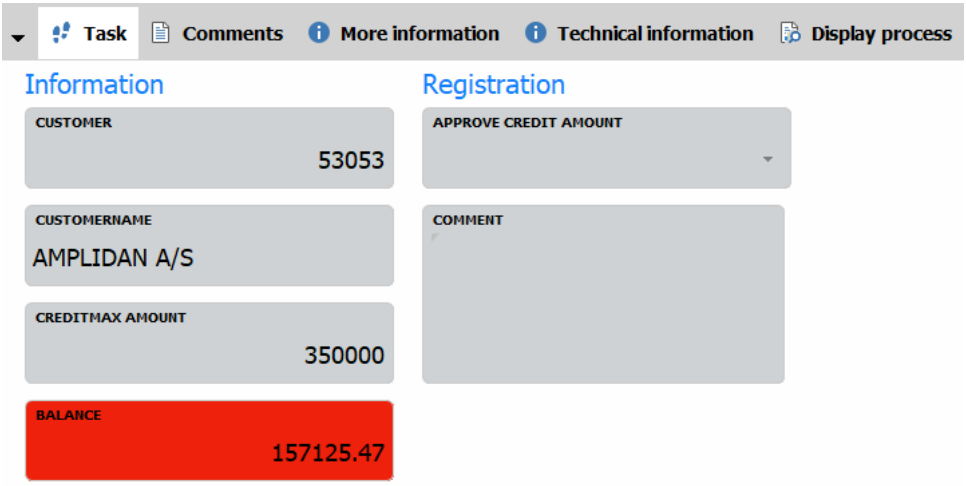
Just as with the new features for requisition images, there are many more options for controlling the appearance of the task list's right side. Fields can now also be arranged into field groups and the order of fields can be controlled. Furthermore, it can be made conditional upon whether or not to display a field.

New information on task parameter reference info:

- Specification of field group text (text or text identifier) for grouping parameters in task list (client, Web authentication, and CrossPad). It is only necessary to specify field group text for a new field group. Otherwise it is inherited from the previous parameter (cf. the order in which the parameters are displayed in the task list)
- Condition that determines whether the parameter is displayed in the task list.
- Expression specifying that a parameter should have a colour in a task list. Specified via an expression using the function @AWFSETFIELDCOLOR.

For further information see the function description AWF_FUNK and the application description for maintenance of process definitions (application 0W52 Process Definitions).



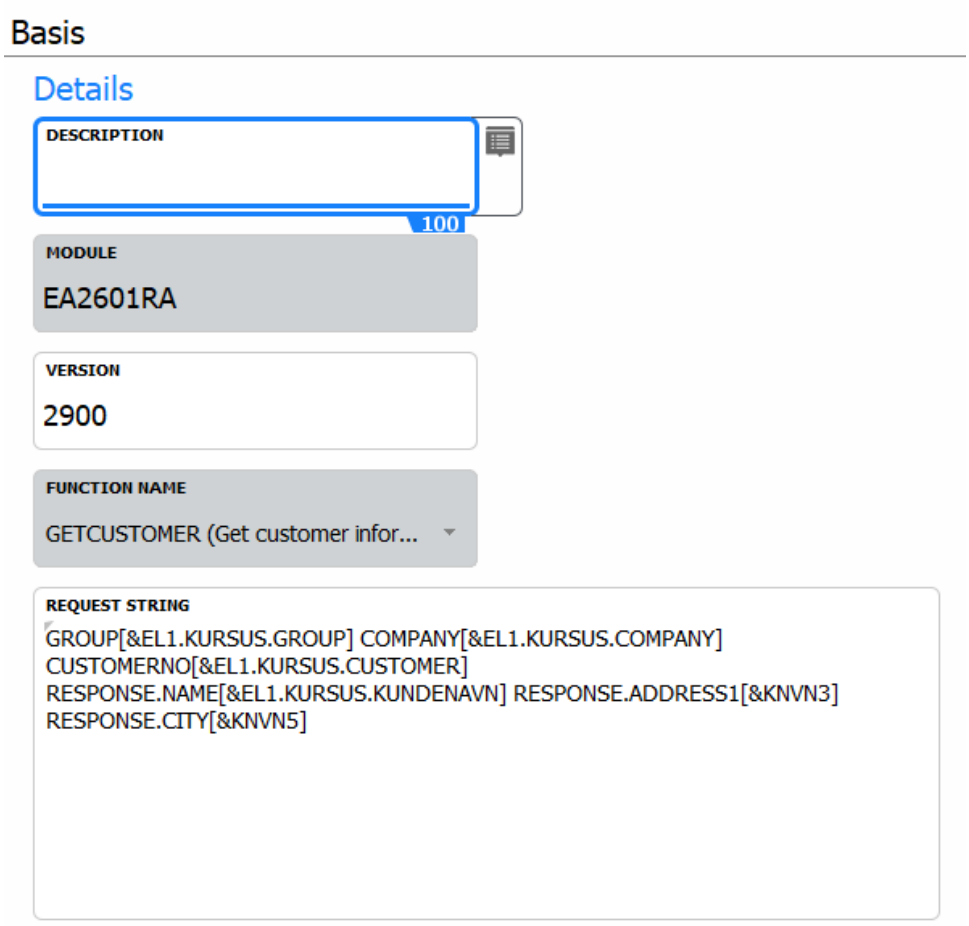


3.3.4 New condition

Using the condition type 'User must not process tasks', you can determine who can process individual or all tasks in a process instance. For example, it might be relevant if a user has corrected the account number of a supplier and a subsequent task manager in the workflow must approve the change before it goes into effect. In this case it would not be appropriate if the user who has changed the account number can also process the tasks that approve the change.
The condition can be created both on the process head and on tasks (if there is a condition on a task, the condition from the process head is NOT used). If the condition is met, the person cannot process the task. The condition should include the function @AWFCURUSERID (which retrieves the current IBM user ID), e.g. &PARAMETER = @AWFCURUSERID

3.3.5 Parameter return from module calls on automatic task

For automatic tasks and parameter relationships that use module calls, it is now possible to receive answers back from the module and store the answer in a parameter. It presupposes that the module that is called can return keywords with answers. The keywords that a module can return are usually documented in the module.
In "request string" the notation is: RESPONSE.KEYWORD[&PARAMETERNAME]. The keywords that a module can return can be found by clicking the 'Get response parameters' button.
For details, see the application description for application 0W09 'Module call'.



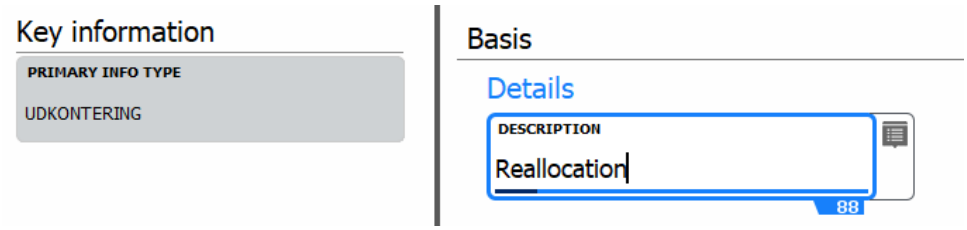
3.3.6 Manual start-up of event via application

You can now trigger a process by simply running an application. You can create an application and link an event to it. The event is specified in the application parameters of the application. Copy application 0W63 'Start manual event via appl.pa' (programme EG0W63RA and basic application 0W63) to the desired new application and then edit event information in the new application.
By setting up 'stepping stone' keys for the requisition, the start-up application can also be used via 'stepping stone' from images with relevant aliases.
See the function description AWF_TRIG for details.

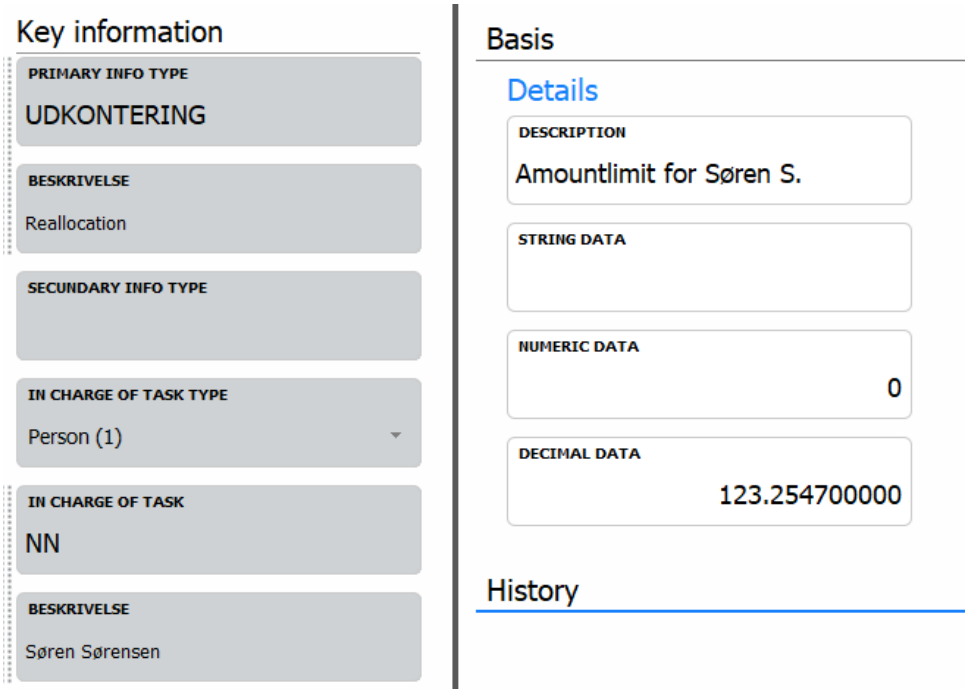
3.3.7 Workflow master data

New applications for maintenance of task manager data. The applications are used to maintain information that can, for example, affect the routing (path) through a process and where the information that controls this process is not found elsewhere. For example, there may be amount limits when approving supplier invoices.

With application 0W58 'Task manager data types', the information can be divided into different info types.



Task manager data is maintained in application 0W59 'Task manager data'. Data is created per task manager and per info type. Also included is the "secondary infotype" which is "key" to the information.



The information is retrieved in a process via module calling, which refers to "primary infotype", "secondary infotype" and the task processors. In this way, data can be included in a conditional expression, for example.
See the function description AWF_OPGBHD for further details.

3.3.8 Other new features

- When displaying tasks in a table, user permissions for application 0X50 'Workflow task list', can now control whether future tasks should be displayed (they are by default).
- In application 0W42 'Event log' view, filtering/sorting now runs via server-side filtering/sorting. This allows for faster searches.
- A new option has been added to the CrossPad task list. If the command prompts for the task parameters are very long (over 40 characters), then the entire command prompt cannot be displayed.

Via the application parameters for application 0M50 'CrossPad task list', the command prompt can be selected as an "extra" field above the parameter itself.

- For process definition tasks, a reference document for a task can be referenced via a URL. Such a URL can now contain substitution codes (e.g. %A4¤, %DTA%).

3.4 ASPECT4 Business Connector

3.4.1 Attachments in ASPECT4 Business Connector

One of the major new features in release 7 is Attachments and there is also the option of attaching relevant places in ABC.
By default, a set-up is sent so that documents can be attached to an ABC document, inbound and outbound profiles, relations, partners and conversion tables. The advantage is that all documentation can be saved to the set-up, so anyone who needs it can easily access them.

3.4.2 Robots in ASPECT4 Business Connector

A set-up can be created in ABC via set-up in 0163 'Robots' (if necessary, see 2.1.6). The set-up is created automatically after selecting columns. We recommend changing display to groups in ABC (see next section) as robots have their own group.

3.4.3 Application ABC - display mode

You can now view ABC documents sorted in different display modes.

1. Alphabetical
2. By group
3. By category
4. Via Document Flow

The defaults are alphabetical or by group according to the set-up in 128 'Attached by application parameters' to 0ABC.

The group: Documents that go together one way or another. The groups are created in section 0ABC
Category: Same type of document, e.g. invoice out. The categories are created in section 0AB1.

Clicking on Document set-up provides a table with all the documents. Here you can change the group, category and document flow. The same information can also be changed in the document.
On the document destination level, you can now copy the set-up from one environment to another.

3.4.4 ABC Application

- The description has returned to the Document set-up. This description now appears in the tree as well.

- Enrichment: You can enter transaction and transaction fields for the condition, even if the field does not exist in the XML. You can decide that an enrichment line may only be executed if a field is filled in. An enrichment line can also be disabled.

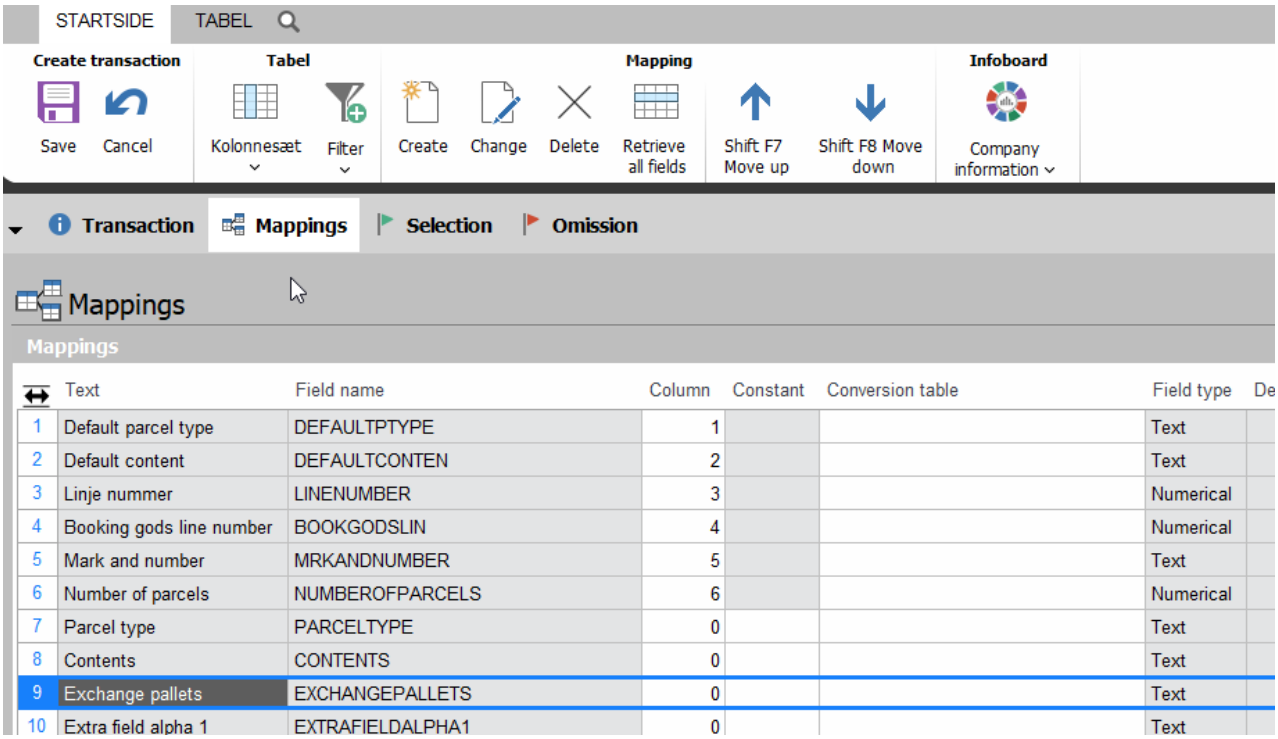
3.4.5 Receiving spreadsheet files

The ABC server now converts spreadsheet files to CSV files, which is in contrast to earlier configurations in which this conversion took place in the source page, either via DocManager or the user's PC. By moving the task to a central function in ABC, clients are offloaded and the user avoids waiting on their own PC. There is also improved control of the conversion, such as previous challenges for spreadsheets with Unicode characters. Furthermore, you will also be able to convert spreadsheet files from the IFS. Conversion is managed via a set-up on the inbound profile.

3.4.6 Retrieve fields on inbound profile (comma)

If the module in the subsystem has been prepared (the example below is from ASPECT4 Transport), you can now retrieve all fields from the module for the various transactions on the inbound profile.

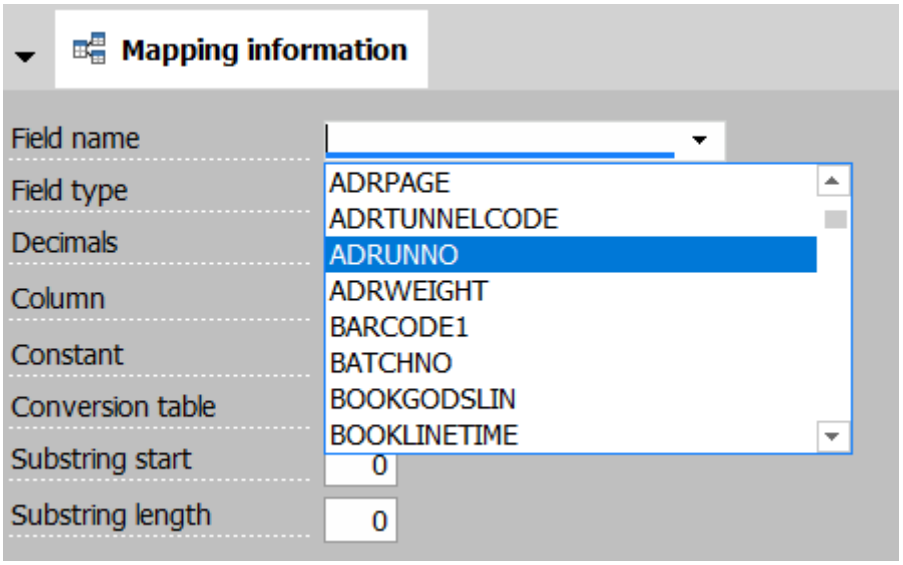
Via 'Retrieve all fields', all fields are retrieved for the selected transaction.



	Text	Field name	Column	Constant	Conversion table	Field type	De
1	Default parcel type	DEFAULTPTYPE	1			Text	
2	Default content	DEFAULTCONTEN	2			Text	
3	Linje nummer	LINENUMBER	3			Numerical	
4	Booking gods line number	BOOKGODSLIN	4			Numerical	
5	Mark and number	MRKANDNUMBER	5			Text	
6	Number of parcels	NUMBEROFPARCELS	6			Numerical	
7	Parcel type	PARCELTYPE	0			Text	
8	Contents	CONTENTS	0			Text	
9	Exchange pallets	EXCHANGEPALLETS	0			Text	
10	Extra field alpha 1	EXTRAFIELDALPHA1	0			Text	

Fields that are no longer used are deleted (use the ASPECT4 Client to find columns with the value 0 when deleting).

Subsequently, individual fields can also be added, and unused fields will appear in the list when creating an individual field.



3.4.7 Improved validation in 0654 handling of flat files

The system checks if the profile is complete and valid. Information is provided if the entered print queue is not active, i.e. there is no running DocManager monitoring the print queue.

3.4.8 Other changes to inbound profiles

- You can receive zip files and extract them from an inbound profile under *NODOC.
- When receiving JSON and XLM files, you can extract the embedded files via the inbound profile set-up.
- All outbound and inbound files (import/export) are now archived. First, information about archiving days is used on the set-up. If it is not completed, the system information uses "No. of days import/export files saved". If that is also not completed, the default is to save it for 90 days.

3.4.9 ABC Operations

- Manual actions are now logged in ABC Operations. Logs can be viewed in ABC Operations in the new tab: "Log". The log displays the following manual actions: prepare, restart and complete, send mail, view XML and show file.

- Group, company and warehouse are saved in the inbound profile, and they are used after restart so that the file goes to the right group, company and warehouse.

3.4.10 Adapter

- Several options for sending files with embedded files. Files can be embedded when sending XML files. There are several options for adding files to XML. Section 657 is used or embedded via the set-up.

- The DB2 adapter is expanded with the option to delete records in a DB2 database. Via set-up you control whether you want to store information that has been used when performing 'DELETE'

- RESTSERVICE adapter has been modified and improved to provide more options.

- On the IFS adapter, you can now add a certificate to the outgoing file and receive the outgoing file PGP encrypted via the set-up.

3.4.11 Application 0653 Java synchronous services

A new service has been developed: 0653 'Java synchronous services.' It handles the Apply stylesheet and other Java functions that the ABC server uses.

3.5 ASPECT4 Client for Web

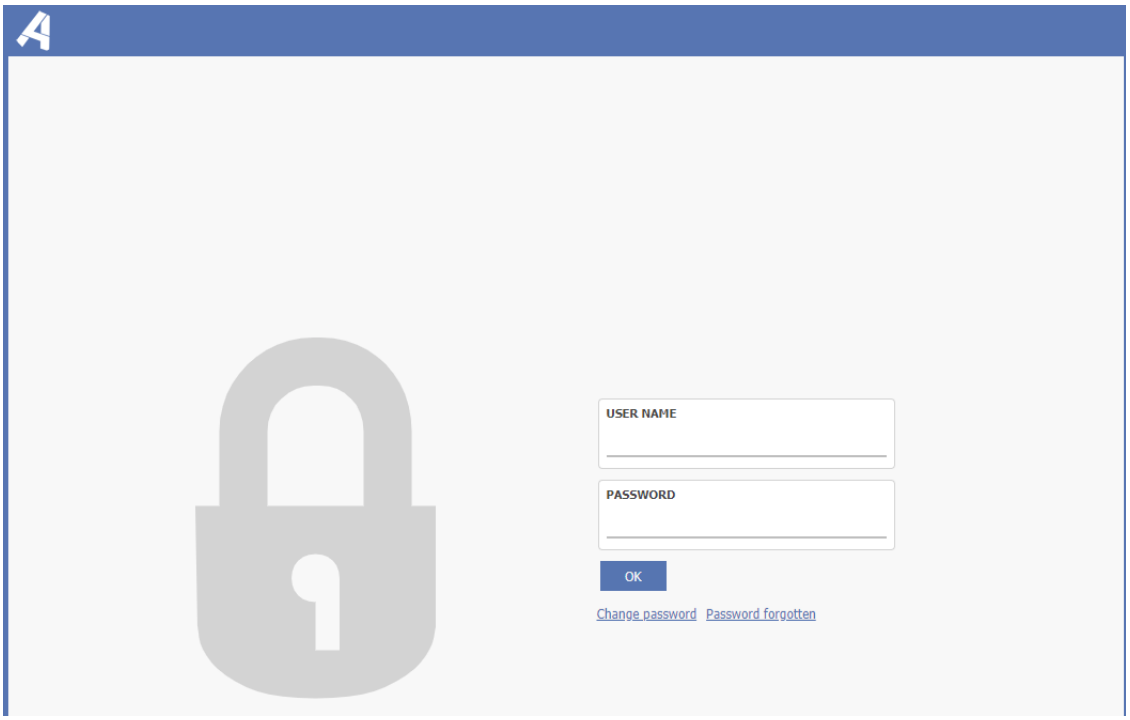
3.5.1 Attachments

One of the major new features in release 7 is Attachments. The attachment functionality described elsewhere in the release presentation is fully supported in the ASPECT4 Client for Web.

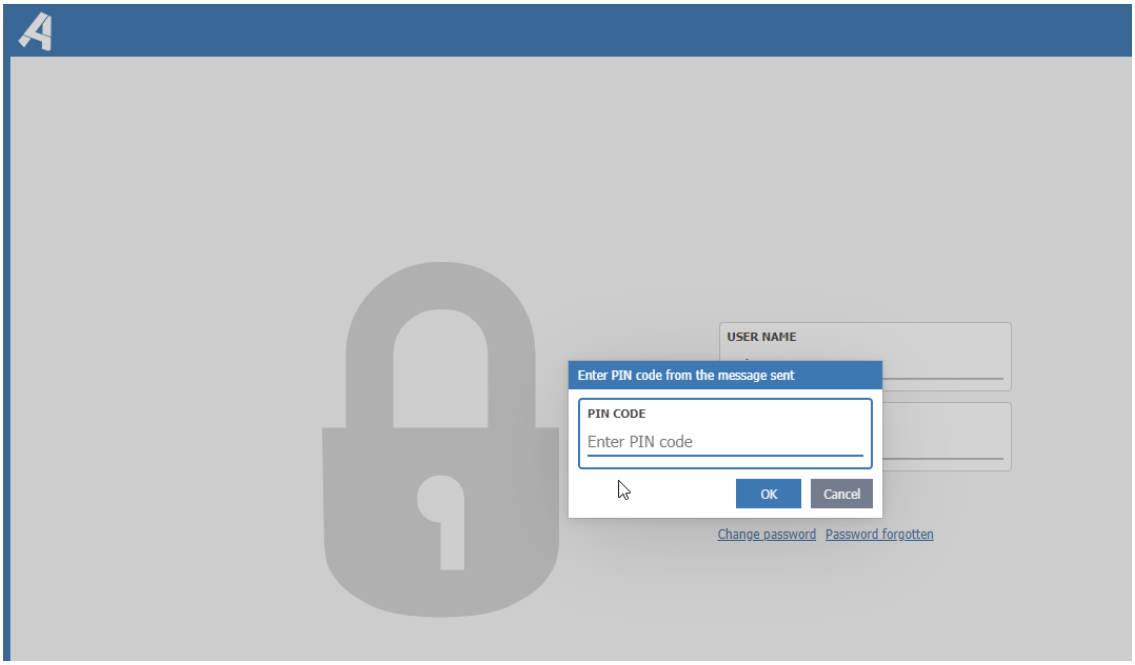
3.5.2 Two-factor authentication

Two-factor authentication is now an option in the ASPECT4 Client for Web when you open the client's application via a secure connection to the "large network". Of course, this is to increase security.

In such cases, the user will first be greeted by the traditional login:



Then another screen appears in which a PIN sent by e-mail must be entered:



3.5.3 Single sign-on

ASPECT4 Client for Web now has support for single sign-on. Access control is placed on a central server, and users can start ASPECT4 Client for Web in their daily operating environment directly without a login, or

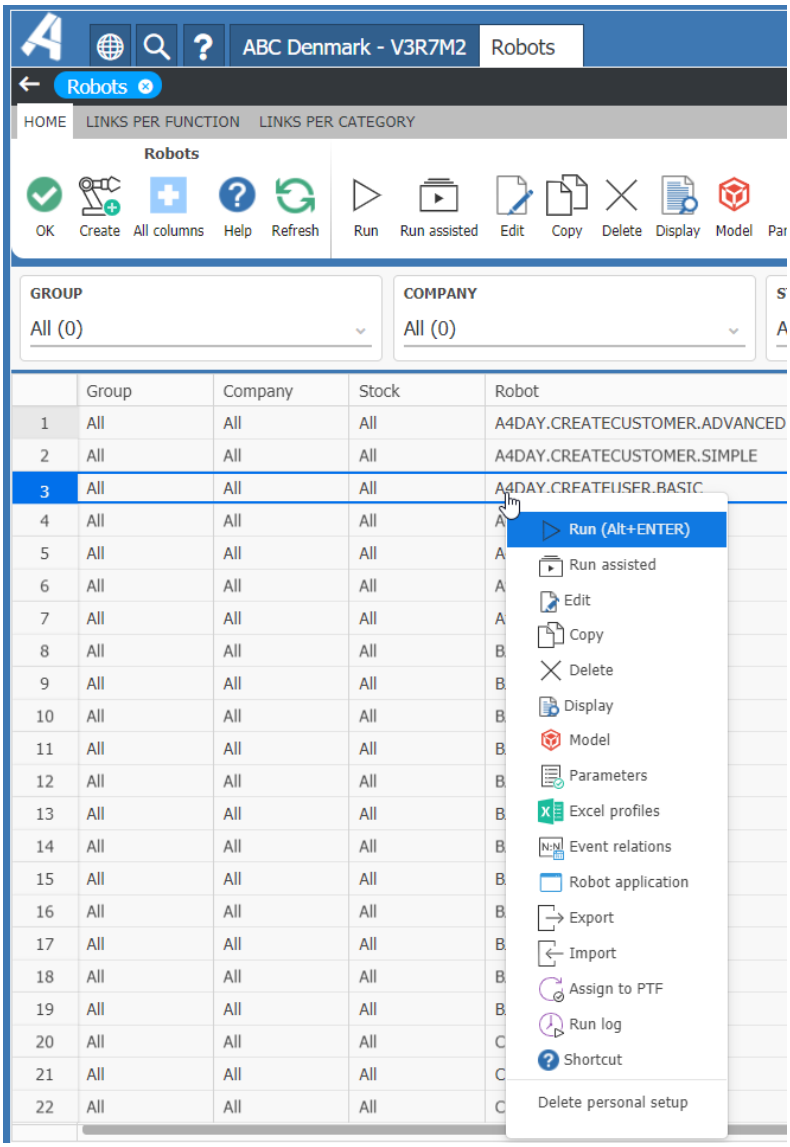
rather, based on their previous Windows domain login. The principles are therefore the same as for the ASPECT4 Client, and the associated licence key covers both clients.

3.5.4 Deep linking

We are all familiar with the stepping stone technology being introduced back into ASPECT4 V3R3. Stepping stone allows for easier navigation around ASPECT4 between related information. The new deep linking in ASPECT4 Client for Web builds on this technology. Put simply, stepping stone links in the web client can now be "gathered together"/copied just like other URL links and shared via e-mails, for example. In this way, you can share a very specific application context with a colleague by simply including a link in an e-mail.
The same deep linking technology also offers entirely new options for creating "glass plate" level integration. An example would be linking directly from a customer in a web solution such as MS CRM to an order summary or similar in ASPECT4.

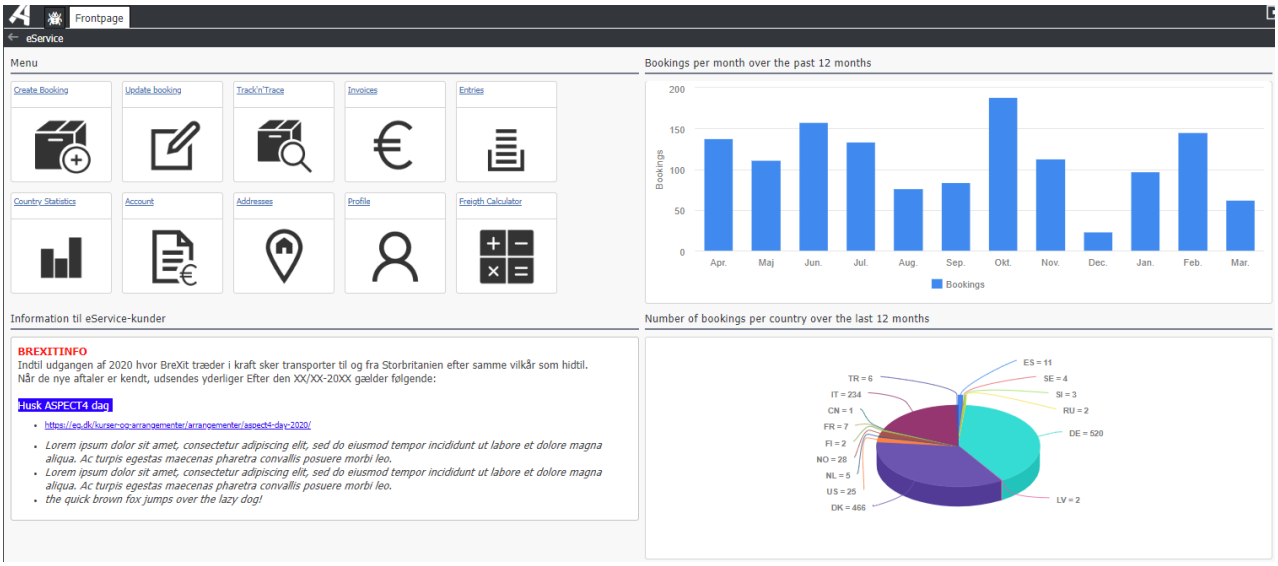
3.5.5 Improved support for using shortcut keys

Faster and more effective navigation is the watchword behind the improved options for using shortcut keys. As a new feature, options in table summaries can now be activated via the shortcut keys also used in ASPECT4 Client.



3.5.6 Other new features

There are a number of developments in ASPECT4 Client for Web in relation to creating stand-alone B2B/B2C solutions. An example of such a solution is ASPECT4 Transport's new self-service solution.



3.6 DocManager

3.6.1 Developments concerning Archiving

In connection with Release 7's new feature Attachments introduces the document category concept. These document categories can be used to replace form names related to archiving in DocManager. Up until now, the form name has been used as an information type, but this can now be overridden by the somewhat "nicer" document categories. This functionality works both when archiving in ASPECT4's internal document archive or in Next.

3.6.2 Other new features

- A large number of improvements for FTP, SFTP and FTPS.
- Improvements in DocManager's PDF interpreter and PDF generator.
- In DocDesigner you can now zoom in and out with the shortcut CTRL + and CTRL-.

4 System technical information

4.1 5250 screen emulation

Release 7 eliminates the option of executing ASPECT4 applications during a 5250 screen emulator session. Some technical system applications will still be able to be executed under 5250. This ensures that ASPECT4 users receive the maximum benefit from the system and that for future software development we do not have to worry about our applications being executable in 5250 with the restrictions that would entail.

4.2 Discontinued applications

4.2.1 The following applications will be discontinued in release 8

ABC/EDIFACT: Application 775 (EDIS) 'Send EDIFACT shipping', application 776 (EDIM) 'Receive EDIFACT shipping' and Application 774 (EDIC) 'Send EDIFACT CONTRL'. These three applications will be discontinued in release 8. These will be replaced by a set-up in ABC and application 654 'Managing flat files'.

4.3 New installation

Please contact your account manager at EG A/S.

If you have any questions regarding the above, please contact the ASPECT4 Hotline on +45 9928 3266, or send an e-mail to hotoko@eg.dk.

4.4 System requirements

In application 361 'Show system level information', verify that the system meets the following requirements:

- Foundation level 6.7.01
- IBM – V7R4M0 or newer
- IBM Power Systems – at least POWER8.

If your installation also includes the archive solution Next (MultiArchive) from Nextway, we recommend that you contact Nextway prior to upgrading to operating system level V7R4. There may be details that require attention when upgrading.

When release 7 is loaded in the application 0590 'Install ASPECT4 software', the system checks that the above system requirements have been met. Furthermore, the system checks that all required IBM licence programs are installed, that CCSID is OK, and that various other system technical parameters have been met. If the test reveals that one or more of these are missing, they will be displayed on the screen.

The computers must meet the minimum system requirements for ASPECT4 Client. Find out more at www.aspect4.dk.

Also please note that a plug-in must be installed and enabled in Outlook in order to use the drag and drop feature from Outlook for ASPECT4 Attachments. For example (https://github.com/tonyfederer/OutlookFileDrag).