

WORK CYCLE

Configuration Guide

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What is WORK CYCLE?

WORK CYCLE is the workflow component for Kofax ReadSoft PROCESS DIRECTOR Accounts Payable™. It allows users to approve invoices. SAP users can perform these tasks inside the SAP environment. Non-SAP users can use the ReadSoft Web Application.

Note: WORK CYCLE is the workflow component for ReadSoft PROCESS DIRECTOR Accounts Payable only. For information on configuring workflows for other process types, see the *PROCESS DIRECTOR Configuration Guide*.

Open the IMG

To open the WORK CYCLE IMG, complete the following step.

- Go to transaction /COCKPIT/WI.

Configure workflows

What is a workflow?

Users can use workflows to send documents electronically to other people to obtain or provide additional information, clarification and approval.

To build a workflow, complete the following procedures.


1. [Create a workflow](#).
2. [Create one or more workflow steps](#).
3. [Assign workflow steps to the workflow](#).
4. [Activate the workflow](#).

Create a workflow

To create a workflow, complete the following steps.

1. Go to transaction /COCKPIT/WI2.
2. In change mode, add a new entry.
3. Type a **Workflow ID** and a **Workflow description**.


Workflow recipients see the workflow description in the **Start workflow** dialog box, so choose a helpful description that indicates the purpose of the workflow.

4. In the **Workflow type** list, select the type of documents for which the workflow will be available.
5. Optional. Specify values for the other settings.
6. Click the **Save**  button.

Create a workflow step

Workflow steps are the basic units of work that you use to compose workflow processes. Workflow steps always involve a human task such as data entry or approval. Defining steps independently of a workflow means that you can use them in different workflows.


To create a workflow step, complete the following steps.

1. Go to transaction /COCKPIT/WI3.
2. In change mode, add a new entry.
3. Type a **Workflow step** ID and a **Step description**.
4. In the **Workflow type** list, select the type of workflow step. The workflow type determines whether users can edit the document, or only release it.
5. In the **Processor** section, select at least one check box to specify which type of users can process the workflow step.
6. Optional. Specify values for the other settings.
7. Click the **Save**  button.

Add workflow steps to a workflow

You can add a workflow step to more than one workflow. For example, if you create a general approval workflow step for a manager, you can use this step in multiple workflows without having to recreate the same step for each workflow.


To add workflow steps to a workflow, complete the following steps.

1. Go to transaction /COCKPIT/WI4.
2. In change mode, add a new entry.
3. Select a **Workflow ID**.
4. In the **Workflow step ID** field, select the workflow step that will be the first step in the workflow.
5. In the **Pos** field, type 1 as the position of the workflow step in the workflow.
6. Repeat these steps for each step in the workflow, increasing the **Position** number by 1 for each subsequent step.
7. Click the **Save**  button.

Activate a workflow

You must activate a workflow to make it available for use.

To activate a workflow, complete the following steps.

1. Go to transaction /COCKPIT/WI7.
2. In change mode, add a new entry.
3. Optional: Select a **Company Code** or a **PD document type** to restrict the workflow to one or both of these parameters.
4. Select **FI** or **MM**. To make the workflow available for both types of documents, create two entries, one for **FI** and one for **MM**.
5. Select the **Workflow ID**.
6. Click the **Save**  button.

Configure automatic workflow start

About automatic workflow start

You can configure settings to automatically start workflows when one of the following conditions is met.

- Document transfer
- Document posting
- Document approval

You can also configure settings to delay the start of a workflow by determining the baseline date from one of the following:

- Document transfer date
- Invoice date
- Document delivery date

Automatic workflow start on document transfer

When a document is transferred to ReadSoft PROCESS DIRECTOR Accounts Payable, if so configured, the system automatically starts a workflow.

If the workflow has a delay set, it is not started. If a follow-up flag is configured, a follow-up icon is set, regardless of the workflow start.

To automatically start a workflow on document transfer, complete the following steps.

1. Go to the /COCKPIT/WI35 transaction.
2. In change mode, add a new entry.
3. In the **Automatic workflow start configuration table**, fill in all the required fields.

The **Start at Process** field is where you have to select the **01 Transfer** check box to allow the workflow to automatically start on document transfer.

4. Click the **Save**  button.

Automatic workflow start on document posting

When a document is posted in ReadSoft PROCESS DIRECTOR Accounts Payable, if so configured, the system automatically starts a workflow.

If the workflow has a delay set, it is not started. If a follow-up flag is configured, a follow-up icon is set, regardless of the workflow start.

To automatically start a workflow on document posting, complete the following steps.

1. Go to the /COCKPIT/WI35 transaction.
2. In change mode, add a new entry.
3. In the **Automatic workflow start configuration table**, fill in all the required fields.

The **Start at Process** field is where you have to select the **03 After Posting** check box to allow the workflow to automatically start on document posting.

4. Click the **Save**  button.

Automatic workflow start on document approval

When a document is approved or rejected in WORK CYCLE, if so configured, the system automatically starts a workflow.

If the workflow has a delay set, it is not started. If a follow-up flag is configured, a follow-up icon is set, regardless of the workflow start.

To automatically start a workflow on document approval or rejection, complete the following steps.

1. Go to the /COCKPIT/WI35 transaction.
2. In change mode, add a new entry.
3. In the **Automatic workflow start configuration table**, fill in all the required fields.

The **Start at Process** field is where you have to select the **04 After WF approved** check box to allow the workflow to automatically start on document approval or rejection.

4. Click the **Save**  button.

Workflow recipients

About workflow recipients

You can assign users as recipients of workflow steps in the following ways.



- Manually, either in ReadSoft PROCESS DIRECTOR Accounts Payable or WORK CYCLE, when starting or continuing a workflow.
- Automatically and statically, through recipient assignment to a workflow step.
- Automatically and dynamically, through recipient determination.
- Automatically and dynamically, through a User Exit.

Note: Invalid users are automatically removed from the step for assigning workflow recipients (not displayed).

Assign workflow recipients

You can restrict which users are available for manual assignment to a workflow step, and also assign default recipients to the step. WORK CYCLE automatically adds default recipients to the workflow step's recipients list.

To assign default recipients to a workflow step, complete the following steps.

1. Go to transaction /COCKPIT/WUM2.
2. Select the workflow step and double-click the **Workflow processor** dialog structure menu.
3. In change mode, add a new entry.
4. For each recipient, select a **User type** and a **Workflow processor**.
5. Optional. To specify the processor as a default recipient, select the **SetDefault** check box.
6. Click the **Save**  button.
7. Go to transaction /COCKPIT/WI3.
8. In change mode, double-click the workflow step.
9. In the **Processor** section, in the **Pre-assign processors** list, select an option to determine which processors can be assigned to the step, and which processors WORK CYCLE automatically adds to the workflow step's recipients list.
10. Click the **Save**  button.

Determine recipients

ReadSoft PROCESS DIRECTOR can automatically determine workflow recipients from the purchase order, purchase requisition, purchasing group, or SAP HR.

To configure automatic recipient determination for a workflow step, complete the following steps.

1. Go to transaction /COCKPIT/WUM2.
2. Select the workflow step.
3. Double-click the **Recipient Determination functions** dialog structure menu.
4. In change mode, add a new entry.
5. Select one or more **Function Modules** that will determine the recipients.
6. For each function module, enter a **Sequence** number to specify the order in which the function modules determine recipients.

WORK CYCLE only calls each subsequent function if the previous function does not return one or more recipients.

7. Click the **Save**  button.

Line item approval

What is line item approval?


Line item approval can be used for documents where different persons are responsible for different items on an invoice. Different recipients can then approve individual line items and accounting lines for MM and FI invoices in the same workflow step.

Workflow recipients see only items that are assigned to them, as well as any unassigned items. After the different recipients approve or reject all items, the workflow step finishes.

Note: You must activate line-item approval for the workflow step. However, you should only activate line-item approval for one step per workflow.

Activate line item approval

To activate line item approval for a workflow step, complete the following steps.

1. Go to the /COCKPIT/WI3 transaction.
2. In change mode, double-click the workflow step.
3. In the **Optional settings** section, select the **All recipients must process** and **Line item/account approval** check boxes.
4. Click the **Save**  button.

Assign users to items

There are three ways users can be assigned to an item:

- **Manual assignment post-workflow start**

As no items are pre-assigned to anyone, the workflow recipients can initially view all the items in the document, and then approve one or more items. Whenever a user selects the **Approve** check box for an item and clicks the **Approve** button, that item is cleared, and the other workflow recipients can then no longer view or approve it.

- **Automatic assignment**

The recipients are determined via [Step User Exit 2 - Determine processor of step](#).

Note: This method is recommended as the best practice.

- **Manual assignment pre-workflow start**

Before starting a workflow, ReadSoft PROCESS DIRECTOR Accounts Payable users can manually assign recipients to each line item in the invoice document. When a user starts the workflow, WORK CYCLE automatically adds the users assigned to individual invoice items to the workflow step's recipients list.

Note: Manual assignments override the automatic assignments done via the User Exit.


Workflow step conditions

About workflow step conditions

Workflow step conditions are rules that determine whether a workflow step starts. For example, in a typical two-step FI approval workflow, you may only want to start the second approval step if the value of an invoice is above a certain amount. You create conditions based on the values of certain fields. You can create more than one condition for a step.

Apply workflow step conditions

To apply conditions for a workflow step, complete the following steps.

1. Go to transaction /COCKPIT/WI4.
2. Select a workflow step and double-click the **Define step condition within workflow process** dialog structure menu.
3. In change mode, add a new entry.
4. In the **Sequence** field, enter 1.
This is the condition that executes first. Subsequent conditions have the sequence numbers 2, 3, 4, and so on.
5. Select the **Structure** and the **Internal field** that the condition is based on.
6. In the **Inclusion/Exclusion** list, select whether to include or exclude the values in the **From value** and **To value** fields from the step condition.
7. Select the **Comparative options**.
For example, to create a condition based on an amount exceeding the value in the **From value** field, select **GE – Greater than or equal to from-value**.
8. Type a **From value** and a **To value** in SAP internal format. For example, for cost center 1000, type 0000001000, for vendor 2500, type 0000002500, and so on.
The **From value** and **To value** must have the same length as the field, otherwise the step condition will not activate. Add leading zeros to make these values the same length as the field. For example, the cost center field *KOSTL* has a length of 10, so for cost center 2500, type 0000002500.
You only need a **To value** if you use **BT – Between from-value and to-value**.
9. If there are multiple step conditions and you want to perform two or more conditions together before performing another, select the **Opening bracket** or **Closing bracket** check box.
10. If you create more than one condition, in the **Boolean operator** list, select **AND** or **OR**, as appropriate.
11. Click the **Save**  button.

Workflow step conditions example

To create a step condition for a gross amount exceeding 1000 EUR or 1400 USD, in COCKPIT/WI4, add the following four conditions.

Setting	Value
Item/Sequence	1
Structure	HEADER (header data)
Internal field	GROSS_AMOUNT
Inclusion/exclusion	Including
Comparative options	GT – Greater than from-value
From value	1000
Opening bracket/Closing bracket	Opening bracket
Boolean operator	AND
Setting	Value
Item/Sequence	2
Structure	HEADER (header data)
Internal field	CURRENCY
Inclusion/exclusion	Including
Comparative options	EQ – Same as from-value
From value	EUR
Opening bracket/Closing bracket	Closing bracket
Boolean operator	OR
Setting	Value
Item/Sequence	3
Structure	HEADER (header data)
Internal field	GROSS_AMOUNT
Inclusion/exclusion	Including

Setting	Value
Comparative options	GT – Greater than from-value
From value	1400
Opening bracket/Closing bracket	Opening bracket
Boolean operator	AND
Setting	Value
Item/Sequence	4
Structure	HEADER (header data)
Internal field	CURRENCY
Inclusion/exclusion	Including
Comparative options	EQ – Same as from-value
From value	USD
Opening bracket/Closing bracket	Closing bracket
Boolean operator	[Blank]

Field statuses

What is a field status?

Field statuses control field display and access in a document. A field status specifies the field attributes, such as editable, read-only, hidden, or mandatory, for individual fields or all fields of a specific type, such as all header data or all invoice line items fields.


You can apply field statuses WORK CYCLE workflow steps to control which fields users can display and change, and for which fields they must enter a value before completing the workflow step.

Create a field status

You can apply a field status to individual fields or to all fields of a specific type, such as all header data. Attributes of individual fields override the attributes of all fields of a specific type. For example, you can set all header fields to read-only, but allow editing of individual header fields.

Mandatory fields prevent users from saving the document if the field is empty. This is not the same as the mandatory field setting in /COCKPIT/C3, which prevents users from posting the document if the field is empty.


To create a field status, complete the following steps.

1. Go to transaction /COCKPIT/C23.
2. In change mode, add a new entry.
3. In the **Field status** field, type a name for the field status.
4. To make all fields of a specific type read-only, such as all header data fields, in the **Field status identification** section, select the appropriate check box.
5. If you select the **No acc. assignment line with MM invoices** check box, the entire **Acct.assgt.data** section does not appear in MM documents.
6. Double-click the **Characteristic value of status** dialog structure menu.
 1. To specify attributes for individual fields, complete the following substeps.
 2. In change mode, add a new entry.
 3. Select the **Structure** and the **Internal field name**.
 4. In the **Display** list, select the field attribute.
7. Click the **Save**  button.

Apply a field status to a workflow step

When you apply a field status to a workflow step, it only affects the document in WORK CYCLE, not in ReadSoft PROCESS DIRECTOR Accounts Payable. You activate field statuses for ReadSoft PROCESS DIRECTOR Accounts Payable in /COCKPIT/C24.

To apply a field status to a workflow step, complete the following steps.

1. Go to transaction /COCKPIT/WI3.
2. In change mode, double-click the workflow step.
3. In the **Field status** field, select the field status.
4. Click the **Save**  button.


Configure one-time vendor fields in the Web Application

Workflow processors can save information about one-time vendors, for which no master data record exists. In the SAP GUI, WORK CYCLE users can add this information on the **Vendor** tab.

You must configure which one-time vendor fields to display to WORK CYCLE users in the ReadSoft Web Application. The **Name** (NAME1) and **City** (ORT01) fields display by default.

To configure one-time vendor fields for the ReadSoft Web Application, complete the following steps.

1. Go to transaction /COCKPIT/WI29.
2. In change mode, add a new entry.
3. Optional. To display the field only for a specific one-time account, in the **Vendor** field, select a one-time account number.
4. Select the WORK CYCLE **Field name**.
5. In the **Display** field, select a display option for the field.

6. In the **Priority** field, type a number to determine the order in which the fields display. The lowest values display at the top.
7. Click the **Save**  button.

Post after workflow approval

You can activate automatic posting for workflows. After users approve the last workflow step, the system attempts to post the document.

To activate automatic posting for a workflow, complete the following steps.



1. Go to transaction /COCKPIT/WI2.
2. In change mode, double-click the workflow.
3. In the **Posting settings** section, select the **Posting attempt after WF** check box.
4. Optional. In the **Follow-up flag ID for failed auto posting** field, select a follow-up flag. The system sets this follow-up flag if the posting attempt fails.

You can define follow-up flags in /COCKPIT/C50. See the *PROCESS DIRECTOR Accounts Payable Configuration Guide* for more information.

5. Click the **Save**  button.

Delete a workflow

Before deleting workflows or workflow steps, ensure that no documents are currently active in them. You must either wait for the workflow for these documents to finish, or recall the documents from the workflow.

1. To find out which documents are currently active for a specific workflow or workflow step, complete the following substeps.
 1. Go to transaction /COCKPIT/1.
 2. In the **Workflow ID** or **Workflow step ID** field, select the workflow or workflow step and click the **Execute**  button.
2. To delete the workflow, complete the following substeps.
 1. Go to transaction /COCKPIT/WI2.
 2. In change mode, select the workflow and click the **Delete**  button.

Configure email notifications

What are email notifications?

WORK CYCLE sends email notifications to users at various times, such as when they start or recall a workflow, or when a workflow is overdue. WORK CYCLE provides built-in templates for email notifications. You can use these templates as they are, or you can copy and modify them to create your own email notification templates. You can use step-specific templates for workflow start, queries and forwarding.

You can send emails in plain text or HTML format. You can display header, line-item, and account assignment data in HTML emails, but not in plain text emails. Before creating email templates, you must specify which format to use in /COCKPIT/WI30. You cannot use both formats.

You can include text variables (also known as aliases or placeholders) in email templates. WORK CYCLE replaces these variables with the relevant text when it sends the email. For example, WORK CYCLE replaces the &WEB_CYCLE_USER_NAME& text variable with the recipient's name.

Built-in email templates

WORK CYCLE provides the following email templates that you can use as they are or copy to create your own templates.

You specify the workflow start template in /COCKPIT/WI3, and the other templates in /COCKPIT/WI9. You specify queries and forwarding templates in /COCKPIT/WI9 for general texts and in /COCKPIT/WI3 for step-specific texts. You specify the subjects of the emails in the same transactions.

Action	Built-in template
Starting a workflow	/COCKPIT/WEB_CYCLE_START for plain text emails /COCKPIT/WEB_CYCLE_TEMPL_HTM for HTML emails
Recalling a document	/COCKPIT/WEB_CYCLE_STOP
Reminders for overdue workflows	/COCKPIT/WEB_CYCLE_REMINDER
Substitute taking over processing	/COCKPIT/WEB_CYCLE_TAKEOVER
Collective email	/COCKPIT/WEB_CYCLE_COLLECT
Starting a workflow – email to active substitutes	/COCKPIT/WEB_CYCLE_SUBST
Answering a query	/COCKPIT/WEB_CYCLE_ANSWER
Sending a query	/COCKPIT/WEB_CYCLE_QUERY
Forwarding a workflow	/COCKPIT/WEB_CYCLE_FORWARD

Email text variables

You can use the following text variables in workflow emails. WORK CYCLE replaces these variables with the relevant text when it sends the email. For example, use &WEB_CYCLE_USER_NAME& to insert the recipient's name.

Variable	Description
&SENDER_EMAIL&	The email address of the person who starts the workflow.
&SENDER_PHONE&	The phone number of the person who starts the workflow.
&SENDER_FAX&	The fax number of the person who starts the workflow.
&SENDER_NAME&	The full name of the person who starts the workflow.
&SENDER_DEPARTMENT&	The department of the person who starts the workflow.

Variable	Description
&SENDER_FUNCTION&	The function of the person who starts the workflow.
&SENDER_COMPANY&	The company of the person who starts the workflow.
&WEB_CYCLE_DESCRIPTION&	The description of the workflow, as specified in /COCKPIT/WI2.
&WEB_CYCLE_STEP_DESCRIPTION&	The description of the workflow step, as specified in /COCKPIT/WI3.
&HEADER-x	The name of the ReadSoft PROCESS DIRECTOR Accounts Payable header field, where x is the field ID in the /COCKPIT/THDR table.
&VENDOR-x	The name of the vendor, where x is a field ID in the BAPI1008_4 table.
&SY-x	The name of a system variable, where x is a field ID in the SYST structure.
&WEB_CYCLE_SINGLE_DOCUMENT_LINK&	The URL of the ReadSoft Web Application to a single document.
&WEB_CYCLE_SINGLE_SIGN_ON_LINK&	The URL of the ReadSoft Web Application logon page.
&WEB_CYCLE_DOCUMENT_LIST_LINK& &WEB_CYCLE_DIRECT_DOCUMENT_LINK&	<p>The URL of the ReadSoft Web Application to the list of documents to approve.</p> <p>Unlike the WORK CYCLE Web Application (the previous version of the PROCESS DIRECTOR Web Application), the document list is not displayed directly. The Web Application login screen appears, and the user must provide a password. If configured, the selection screen is displayed, and then the document list. If the pdweb-app properties "pd_select_last_node = yes" parameter is configured, the document list of the last used Worklist node is displayed.</p> <p>Note: Two variables exist to provide backward compatibility with previous versions.</p>
&WEB_CYCLE_SUBST_DOC_LIST_LINK&	The URL to the list of documents for a substitute.
&WEB_CYCLE_USER&	The ID of the workflow processor.
&WEB_CYCLE_USER_NAME&	The full name of the workflow processor.
&WEB_CYCLE_SUBST_NAME&	The full name of a substitute.
&DUE_DAYS&	The number of days remaining until the processor must approve the document.
&MOBILE_APPROVE&	For ReadSoft Email-based Approval (formerly MOBILE APPROVAL), the <i>mailto</i> URL to approve the document.

Variable	Description
&MOBILE_REJECT&	For ReadSoft Email-based Approval, the <i>mailto</i> URL to reject the document.
&MOBILE_NOTE&	For ReadSoft Email-based Approval, the <i>mailto</i> URL to add a note the document.

Variables for HTML emails

You can only use the following variables in HTML emails, not in plain text emails.



If no document data exists in the line item, account and multi-account assignment tables, the email does not include these tables.

Variable	Description
&HEADER_DATA&	Displays the document header data in a table.
&ITEM_DATA&	Displays the document line item data in a table.
&ACCOUNT_DATA&	Displays the document account assignment data in a table.
&MULTI_ACC_ASS_DATA&	Displays the (MM) document account assignment data in a table. Note: If Add multi acc. ass. to items is active in /COCKPIT/WI30, the account-assignment data appears in the line item table.
&WORKFLOW_HISTORY&	Displays the workflow log, including any notes that users create in WORK CYCLE. Note: The workflow history table does not appear in the email for the first step of a workflow.
&MOBILE_BUTTONS&	For ReadSoft Email-based Approval, displays the Approve , Reject and Note buttons for ReadSoft Email-based Approval. ReadSoft Email-based Approval must be active for the workflow step in /COCKPIT/MAI2.

Create a plain text email template

We recommend copying one of the built-in templates and modifying the copy.

To create a plain text email template, complete the following steps.

1. In transaction SE61, copy one of the built-in templates to create a new documentation object with the **General text** document class.
2. Edit the text and click the **Save**  button.
3. Go to transaction /COCKPIT/WI30.
4. In change mode, in the **Format** list, select **P Plain Text**.
5. Click the **Save**  button.

Create an HTML email template



WORK CYCLE provides the /COCKPIT/HTML_START and /COCKPIT/HTML_END templates for HTML emails, which you can use as they are, or copy and modify. You define the CSS styles in the /COCKPIT/HTML_START template.

For ReadSoft Email-based Approval (formerly MOBILE APPROVAL), the default template is /COCKPIT/HTML_MOBILE_BUTTONS. We recommend copying the built-in templates and modifying the copy.

To use a background image in HTML emails, you must upload the image to the SAP Web Repository.

Note: Use plain text when creating the template. The text is formatted as HTML when WORK CYCLE sends the email.

To create an email template in HTML format, complete the following steps.

1. In transaction SE61, copy one of the built-in templates to create a new documentation object with the **General text** document class.
2. Edit the text and click the **Save**  button.
3. Go to transaction /COCKPIT/WI30.
4. In change mode, in the **Format** list, select **H HTML**.
5. In the **HTML templates** section, type the names of the documentation objects to use for the HTML start code, HTML end code, and ReadSoft Email-based Approval links.
6. Optional. Click **Link names** to specify names for document links to the Web Application. These names appear in the email instead of the URL.
7. Optional. To display header, line-item, and account assignment data in tables, in the **Number of fields per row** field, type the number of fields to include in each table row.
The table rows display the label and value for each field.
8. Optional. To include multi-account assignment fields for MM documents in the line item table, instead of in a separate table, select the **Add Multi acc. ass. to items** check box.
9. Optional. If ReadSoft Email-based Approval is active for a workflow step, tables display only one field per table row. To display more fields per row, select the **Ignore MOBILE APPROVAL** check box and type a number in the **Number of fields per row** field.
10. Optional. Click **Field selection** to specify the fields to display in the tables.
11. Optional. To include a background image, in the **Background** field, type the image's SAP Web Repository ID, not the original file name.
12. Click the **Save**  button.

Activate an email template

When you activate an email template, WORK CYCLE uses that template when sending workflow emails.

To activate an email template, perform one of the following actions.






- For general workflow templates, in transaction /COCKPIT/WI9, type the name of your documentation object in the appropriate field. You can also change the default email subject.
- For the workflow start template, in transaction /COCKPIT/WI3, type the name of your documentation object in the **Text for the confirmation email** field.
- For queries and forwarding templates, in transaction /COCKPIT/WI3, in the **Email texts and subjects** section, type the name of your documentation object in the appropriate field.

Add an image to the SAP Web Repository

To use a background image in an HTML email, you must add it to the SAP Web Repository.

There is no requirement for the image file name. It does not have to be *backgrnd.gif*, as it appears in the default HTML start template. WORK CYCLE links your image with this file name automatically.

To add an image to the SAP Web Repository, complete the following steps.




1. Go to transaction SMW0.
2. Select **Binary data for WebRFC applications** and click the **Find**  button.
3. Click the **Execute**  button.
4. Click the **Create**  button.
5. Type an **Object name** and **Description**.
6. Click the **Import**  button.
7. Select the image file and click **Open**.
8. Select a **Package** and click the **Save**  button.


Manage users

Create a user

Provided they have the appropriate authorization, SAP users can log on to WORK CYCLE in both SAP and the ReadSoft Web Application using their SAP user name and password. For non-SAP users, you can create WORK CYCLE users who can log on to the ReadSoft Web Application only.

To create a WORK CYCLE user, complete the following steps.

1. Go to the `/COCKPIT/WUM` transaction.
2. In the **Workflow processor** field, perform one of the following actions.
 - Type a user name
 - Leave the field blank to have the system generate a user name automatically. You can specify the method for automatic user name generation in `/COCKPIT/WI6`.
3. Click the **Create user**  button.
4. In the **User data** dialog box, type the details for the user.
5. Optional. If the setup of user passwords should follow a security policy, under **Password Policy**, enter the name of the security policy that you want to apply, or search for all available policies by clicking the **Search**  button.
6. Click the **Continue**  button.


WORK CYCLE displays an initial password for the user. You can specify a default initial password for new users in `/COCKPIT/WI6`. If you do not specify a default password, WORK CYCLE generates a random password according to the rules defined by the [security policy](#).
7. Click the **Save**  button.
8. Optional. To send an email to newly-created users, in `/COCKPIT/WI6` select the **Create or delete** check box and specify a text for the email.



Import users from a file

To import users from a file, such as a CSV file, you must write a function module to perform the import. The function module must map and save the data to the `/COCKPIT/TWC_UMP` table, which contains the WORK CYCLE users.

You can copy the `/COCKPIT/WC_MAP_IMP_EXAMPLE` function module and modify it to your requirements. This example function module works with CSV files.

To import users into WORK CYCLE from a file, complete the following steps.

1. Write a function module to perform the import.
2. Go to transaction `/COCKPIT/WI6`.
3. In the **Mapping module** field, type the name of your function module.
4. Click the **Save**  button.
5. Go to transaction `/COCKPIT/WUM`.


6. Click the **Import user**  button.
7. In the **Import user** dialog box, select the file to import and click the **Continue**  button.

Import users from an LDAP directory

The SAP LDAP transaction code is the control mechanism for the communication outside SAP ERP.

Before importing users from an LDAP directory, you need to map the LDAP attributes to WORK CYCLE user fields. The [/COCKPIT/WC_USER_UPDATE](#) program then uses this mapping to import the user data from the LDAP directory to WORK CYCLE.

To map the LDAP attributes to WORK CYCLE user fields and then import the LDAP user data, complete the following steps.


1. Go to the [/COCKPIT/WI27](#) transaction.
2. In change mode, add a new entry.
3. In the **Attribute name** field, type the name of the LDAP directory attribute.
4. In the **Internal field name** field, select the WORK CYCLE field.
5. Optional. To modify the imported values, write your own function module and select it in the **Function Module** field.
6. Click the **Save**  button.
7. Go to the SE38 transaction and run the [/COCKPIT/WC_USER_UPDATE](#) program.

Note: Instead of using the [/COCKPIT/WI27](#) transaction, you can also use [LDAP User Exit 1](#) to assign the LDAP attributes to the WORK CYCLE user fields.

Create a user group

You can create user groups consisting of WORK CYCLE users and SAP users. User groups can also contain other user groups. In the SAP GUI, WORK CYCLE resolves user groups to the individual users when a user assigns the group to a workflow step. The Web Application resolves the group to the individual users when a user performs a workflow action, such starting the workflow. WORK CYCLE removes group members with a user type that is not assigned to the workflow step.




To create a user group, complete the following steps.

1. Go to transaction [/COCKPIT/WUM1](#).
2. In change mode, add a new entry.
3. Type a **Work group** ID and description.
4. Select the group and double-click the **Assigned processors** dialog structure menu.
5. In change mode, add a new entry.
6. Select a **User type** and a **Workflow processor**. Add an entry for each processor or user group to include in the group.
7. Click the **Save**  button.

Assign substitutes

You can assign substitutes for WORK CYCLE and SAP users. Substitutes can process workflows for the users to whom they are assigned as a substitute.

To assign a substitute, complete the following steps.

1. Go to transaction /COCKPIT/WC_SUBS_MGR.
2. Select the **User type** and **User ID**.
3. Click the **Execute**  button.
4. Click the **Insert Row**  button.
5. Select the **Workflow processor** and validity dates.
6. To activate the substitute, select the **Active** check box.
7. Optional. Select a **Substitute profile**.
8. Click the **Save**  button.


Define a substitute profile

When SAP users create a substitutes, they can assign a substitute profile.

In /COCKPIT/WI33, you can specify which substitute profile allows substitutes to process documents in workflow. Only substitutes with that profile can process documents. If no substitutes have the profile, any substitute without a profile can process the documents. You can only assign one profile.

Web Application users cannot assign substitute profiles, so WORK CYCLE automatically assigns the specified profile to substitutes that users create in the Web Application.

To define a substitute profile, complete the following steps.

1. Go to transaction /COCKPIT/WI33.
2. In change mode, add a new entry.
3. Select a **Substitute profile**.
4. Click the **Save**  button.

Set up security policies

What are security policies?

With security policies, you can define sets of rules for creating and changing passwords of WORK CYCLE users. These rules are used to validate the passwords that are automatically created by the system, as well as those entered by users during a password change.

You can also define login restrictions, such as the maximum number of failed login attempts and the validity period of initial passwords.

To set up and apply security policies, complete the following steps.



1. [Set up the required security policies.](#)
2. [Activate a security policy for WORK CYCLE users.](#)
3. [Assign the security policy to a new WORK CYCLE user.](#)

Set up security policies

To set up security policies, you first have to create the security policy that you want to use. Then, define the policy attributes or the logic according to which the user passwords should be created.

Create a security policy

To create a security policy, complete the following steps.

1. Call the SECP0L SAP transaction.
2. Click the **Display <-> Change**  button and click **New entries**.
3. In the **Security Policy** table, enter a name and short description for the new policy. The policy name can be up to 40 characters long.
4. Click the **Save**  button.


Assign policy attributes

To assign policy attributes to the security policy, complete the following steps.

1. Select the policy you just created.
2. Double-click the **Attributes** dialog structure menu and click **New entries**.
3. In the **Attributes** table, set up the password security rules, as required.

Example: If a password should have a minimum length of eight characters, contain two upper case letters, one special character, and should expire after 60 days, it should have the following settings:

```
MIN_PASSWORD_DIGITS = 8
MIN_PASSWORD_UPPERCASE = 2
MIN_PASSWOR_SPECIAL = 1
PASSWORD_CHANGE_INTERVAL = 60
```

4. Click the **Save**  button.
5. [Activate the security policy for WORK CYCLE users.](#)

Integrate with SAP Business Workflow

About SAP Business Workflow integration

You can integrate WORK CYCLE workflows in SAP Business Workflow. If a user sends a WORK CYCLE workflow step to an SAP user, it also appears as a new work item in the **Workflow** category of the recipient's SAP Business Workplace Inbox in transaction SBWP. Users can also access the WORK CYCLE step from the Universal Worklist (UWL).


To integrate with SAP Business Workflow, complete the following procedures in transaction SWDD.

1. [Create a new workflow definition.](#)
2. [Create a container element.](#)
3. [Set up the workflow start event.](#)
4. [Add a container operation to delete superfluous attachments.](#)
5. [Add an activity for the WORK CYCLE workflow step.](#)
6. [Activate the workflow definition.](#)
7. Optional. [Configure access from the Universal Worklist.](#)

Create a new workflow definition

The first step in integrating WORK CYCLE in SAP Business Workflow is to create a new workflow definition.

To create a new workflow definition, complete the following steps.

1. In transaction SWDD, in the Workflow menu, click **New**, then save.
2. In the **Give your new workflow template a name here** dialog box, type an abbreviation and a name and click the **Continue**  button.
3. In the **Create Object Directory Entry** dialog box, select a **Package**, then save.


Next, [create a container element](#).

Create a container element

A container element maps a WORK CYCLE workflow step to an SAP Business Workflow step.

To create a container element, complete the following steps.

Prerequisite: You have created a workflow definition.

1. In transaction SWDD, below the **Navigation Area**, select **Workflow Container** tab and double-click **<Double-Click to Create>**.
2. In the **Create Container Element** dialog box, type an element, a name, a description and the object type `/COCKPIT/W`.
3. On the **Properties** tab, select the **Parameter settings > Import** check box.
4. Click the **Continue**  button.


Next, [set up the workflow start event](#).


Set up the workflow start event

The workflow start event starts an SAP Business Workflow when a WORK CYCLE workflow step starts.





To set up the workflow start event, complete the following steps.

Prerequisite: You have created a container element.

1. In transaction SWDD, click the **Basic data**  button.
2. On the **Version-Independent (Task) > Start Events** tab, add the following entries, then press ENTER.
 - **Object Category:** *BO BOR Object Type*
 - **Object Type:** */COCKPIT/W*
 - **Event of the object:** *STARTED*

3. Click the **Activate**  button to activate the event linkage. The system prompts you to enter a customizing request.

Note: In some customer implementations, you may have to activate the event linkage manually in every client and system.

4. Click the **Binding**  button to configure the event binding.
5. In the **Change Binding for Workflow** dialog box, drag and drop the `_EVT_OBJECT` event container field onto the `SingleDocumentLink` entry of your new workflow container.
6. If an event is raised, the instance of the object that raised the event is available in the `_EVT_OBJECT` event container field. You must copy this field into the corresponding field in the workflow container. This is the field `SingleDocumentLink`, which was created in the workflow step. It is the only available field for event binding, because it is the only field marked as an input field.
7. Click the **Continue**  button.
8. To specify how the work item recipients will be determined, complete the following substeps.
 1. Click the **Agent Assignment for task**  button.
 2. In the **Maintain Agent Assignment** dialog box, click the **Attributes** button.
 3. Select the **General task** option and click the **Transfer** button. This setting allows all SAP users as possible work item recipients.
 4. Click the **Update Index**  button to activate the assignment.


Next, add a [container operation](#) to delete superfluous attachments.

Add a container operation

Any actual step processing occurs in WORK CYCLE, so only the work item itself should appear in SAP Business Workflow. You must therefore add a container operation to remove superfluous attachments. Because you do not need to transport any attachments from WORK CYCLE into SBWP, you can simply delete them from the workflow. When the user selects the work item, WORK CYCLE opens.

To add a container operation, complete the following steps.

Prerequisite: You have set up the workflow start event.

1. Click the **Back**  button to return to the overview.
2. In the workflow visualization, double-click **Undefined- Double-click**.
3. In the **Step Selection** dialog box, double-click the **Container Operation** step type.
4. In the **Control** tab, type the following settings.

Field	Setting
Step name	<i>Delete useless attachments</i>
Outcome name	<i>Attachments deleted</i>
Step not in workflow log	Select the check box.
Result element	<i>_Attach_Objects</i>

5. Click the **Continue**  button.

Next, [add an activity for the WORK CYCLE workflow step](#).

Add an activity for the WORK CYCLE workflow step

Adding an activity creates a step in the SAP workflow for the WORK CYCLE step.

To add an activity for the WORK CYCLE workflow step, complete the following steps.

Prerequisite: You have added a container operation.







1. Right-click **Workflow completed**, then select the context menu item **Create**.
2. In the **Step Selection** dialog box, double-click the **Activity** step type.
3. In the **Control** tab, in the **Task** dropdown menu, select **Create task**.
4. In the **Task: Create** dialog box, in the **Basic Data** tab, type the following settings.

Field	Setting
Abbr	<i>PDWCPProcess</i>
Name	<i>WORK CYCLE process</i>
Object Category	<i>BO BOR Object Type</i>

Field	Setting
Object Type	/COCKPIT/W
Method	DISPLAY

- Optional. In the **Description** tab, add documentation for the task.
- In the **Terminating events** tab, define a terminating event with the following settings. This ensures that the work item disappears from the SAP Business Workplace if a user cancels, recalls or finishes it from within PROCESS DIRECTOR Accounts Payable or WORK CYCLE.

Field	Setting
Element	_WI_OBJECT_ID
Object Category	BO BOR Object Type
Object Type	/COCKPIT/W
Event	FINISHED

- Save your settings.
- In the **Create Object Directory Entry** dialog box, type an appropriate Z package.
Important: Check that everything is correct before returning to the activity definition. You will no longer be able to edit the task after returning to the activity definition.
- Click the **Back**  button to return to the activity definition dialog box.
- The system displays a proposal for a binding. Click the **Continue**  button to confirm.
- In the **Control** tab, in the **Agents** section, use the search help to select an expression for the **Agents** assignment.
- In the **Expression for step agent** dialog box, select the expression **Container > SingleDocumentLink > User**.
- Click the **Continue**  button.
- In the **Control** tab, in the **Task Properties** section, click the **Agent assignment for task**  button.
- In the **Maintain Agent Assignment** dialog box, click the **Attributes** button.
- In the **Task** dialog box, select the **General Task** option and click the **Continue**  button.
- Click the **Back**  button twice to return to the Workflow Builder.

Next, [activate the workflow definition](#).

Activate the workflow definition

Activating the workflow definition finalizes the configuration and takes it into production.


To activate the workflow definition, complete the following step.

Prerequisite: You have added an activity for the WORK CYCLE workflow step.

- Click the **Activate**  button.

Configure access from the Universal Worklist

Users can access SAP Business Workflow tasks through the SAP Universal Worklist (UWL). To access WORK CYCLE workflows from UWL, in addition to the steps for integrating WORK CYCLE with SAP Business Workflow, you must also create a binding from the workflow container to the task container so that users can access the WORK CYCLE URL from UWL. See the SAP documentation for information on configuring UWL.

1. In transaction SWDD, double-click the WORK CYCLE activity.
2. In the **Task** field, double-click the task number to open the task details.
3. Select the **Container** tab or the **Container** button on the toolbar (depending on your SAP version).
4. In change mode, on the tab toolbar, click the **New**  button.
5. Select **ABAP Dictionary Reference** and type the structure `/COCKPIT/SWC_DUMMY` and the field `URL`.
6. Save and go back.
7. In the **Activity** screen, click the **Binding (Exists)** button.
8. Expand the **SingleDocumentLink** workflow container on the left-hand side and drag and drop the **DocumentSingleLink** field to the **SingleDocumentLink** task container on the right-hand side.

A new entry appears in the **Binding Workflow -> Step 'WORK CYCLE process table'**.

9. Click the **Continue**  button and then the **Save**  button.

Programs and functions

[/COCKPIT/ARCHIV_DELETE_META](#)

The `/COCKPIT/ARCHIV_DELETE_META` program, which is called within the [/COCKPIT/RFC_WC_DEL_ATTACHMENT RFC](#), returns an error or success message (about the attachment deletion) to the Web Application.

[/COCKPIT/ARCHIV_NOTE_LATE](#)

The `/COCKPIT/ARCHIV_NOTE_LATE` program archives internal notes and all notes that users add to the document after completion of the workflow.

WORK CYCLE automatically archives all notes relevant to the workflow when the workflow finishes.

Workflow recipients can create and view workflow notes in WORK CYCLE and the ReadSoft Web Application. ReadSoft PROCESS DIRECTOR Accounts Payable users can create internal notes in `/COCKPIT/1` which are not visible in WORK CYCLE or the ReadSoft Web Application.

[/COCKPIT/ARCHIV_WCLOG_REPAIR](#)

The `/COCKPIT/ARCHIV_WCLOG_REPAIR` program archives workflows for which archiving has failed, for example, due to the archive being offline as a result of incorrect configuration.

If this program also fails to archive the workflow, complete the following steps.

1. Run the `/COCKPIT/WC_SET_NOT_ARCHIVED` program.

This program resets the **ARCHIVED** flag so that you can archive the workflow again.

2. Run the `/COCKPIT/ARCHIV_WCLOG_REPAIR` program again.

[/COCKPIT/DUE_DATE_CHECK](#)

The `/COCKPIT/DUE_DATE_CHECK` program sends reminder emails for overdue workflows. Individual emails are sent to both the step processors and their substitutes.

Selection parameters

Document number

The range of PROCESS DIRECTOR Accounts Payable documents to process.

Workflow due date

The program only runs for workflows whose due date is past this date.

Overdue to specified date

Select this check box if you have specified a workflow due date.

Activate email dispatch

Select this check box to send reminder emails.

Send collective emails**Send collective emails**

In the workflow step settings, you can specify that WORK CYCLE sends a collective email, instead of one email for each workflow step. The DUE_DATE_CHECK program checks for processors who have received a workflow step and sends a collective email to these processors and their substitutes.

Workflow processor

The user you specify here is the sender of collective emails.

User type

The type of user for which the program will send reminder emails.

Application log**Create application log**

Select this check box to create messages in the SAP application log.

Show application log on finish

Select this check box to display the SAP application log after the program runs.

Object & Sub-object

Type the object and sub-object to include in the SAP application log messages. The object and subobject classify the log, so it is best to use custom (Z*) ones.

/COCKPIT/RFC_WC_DEL_ATTACHMENT

The /COCKPIT/RFC_WC_DEL_ATTACHMENT function module receives information about which attachment in the Web Application needs to be deleted.

/COCKPIT/RFC_WC_PO_HISTORY_GET

The /COCKPIT/RFC_WC_PO_HISTORY_GET RFC displays the purchase order history (for MM invoices) in the ReadSoft Web Application. As input parameters, the purchase order number and the purchase order item number are provided. As table parameters, the purchase order history and messages are returned.

/COCKPIT/RFC_WC_UPLOAD_CONF

The /COCKPIT/RFC_WC_UPLOAD_CONF RFC returns the list of data providers that have been configured for a workflow step in the /COCKPIT/IMPORT_C1 transaction. The workflow ID and the workflow step ID are the import parameters for this Function Module.

For details about the /COCKPIT/IMPORT_C1 transaction, see the *PROCESS DIRECTOR Accounts Payable Configuration Guide*.

/COCKPIT/WC_AS_AMOUNT_MISMATCH

The /COCKPIT/WC_AS_AMOUNT_MISMATCH function module determines if a [price mismatch](#) exists, which is one of the conditions for automatically starting a workflow.

/COCKPIT/WC_AS_FI_DOC

The /COCKPIT/WC_AS_FI_DOC function module determines if an [FI approval is required](#), which is one of the conditions for automatically starting a workflow.

/COCKPIT/WC_AS_NO_GR

The /COCKPIT/WC_AS_NO_GR function module determines if a [goods receipt is missing](#), which is one of the conditions for automatically starting a workflow.

/COCKPIT/WC_AS_QUAN_MISMATCH

The /COCKPIT/WC_AS_QUAN_MISMATCH function module determines if a [quantity mismatch](#) exists, which is one of the conditions for automatically starting a workflow.

/COCKPIT/WC_AUTO_START

The information about the delay date set for an automatic workflow start is stored in the /COCKPIT/TWCAUTO table and picked up by the /COCKPIT/WC_AUTO_START report.

This report has the parameter that defines the number of days after which the record from the table will be deleted. Those days are added to the new start date, which is the date on which the automatic workflow start was to be triggered plus the number of days of delay.

/COCKPIT/WC_AUTO_START_SAMPLE

The /COCKPIT/WC_AUTO_START_SAMPLE function module allows you to develop your own custom functions to automatically start a workflow. You can use the template to set specific criteria and conditions.

/COCKPIT/WC_BASE_DATE_SAMPLE

The [configuration settings for automatically starting a workflow](#) have the option to delay the workflow start. The baseline date for this delay cannot always be retrieved from a fixed field. Therefore, it is required to dynamically determine the date by using a function module. The /COCKPIT/WC_BASE_DATE_SAMPLE function module allows you to do this determination.

/COCKPIT/WC_BD_INVOICE_DATE

The /COCKPIT/WC_BD_INVOICE_DATE function module allows you to delay the start of a workflow by determining the baseline date from the invoice date. The function module returns the invoice date (from the PROCESS DIRECTOR Accounts Payable document) as the baseline date.

/COCKPIT/WC_BD_TRANSFER_DATE

The /COCKPIT/WC_BD_TRANSFER_DATE function module allows you to delay the start of a workflow by determining the baseline date from the transfer date. The function module returns the transfer date (from the PROCESS DIRECTOR Accounts Payable document) as the baseline date.

/COCKPIT/WC_CHK_DEL_USRS program

The /COCKPIT/WC_CHK_DEL_USRS program checks whether any of the following items has a user assigned that no longer exists.

- User groups
- Workflow steps
- Substitute assignments

/COCKPIT/WC_DEBUG program

The /COCKPIT/WC_DEBUG program enables the creation of log entries for ReadSoft PROCESS DIRECTOR and WORK CYCLE RFC calls, including those from the Web Application and User Exits. You can use it for debugging purposes. You can record log entries for calls made by specific users.

/COCKPIT/WC_DELETE program

The /COCKPIT/WC_DELETE program deletes workflow data for selected documents. You can use this program to remove a document from workflow, for example, if users cannot recall the document because the workflow is no longer valid due to changes in the workflow customizing.

/COCKPIT/WC_RFC_LOG program

The /COCKPIT/WC_RFC_LOG program displays all the RFC log entries stored in the /COCKPIT/TWC_LOG table, that is, it displays all log entries created by the /COCKPIT/WC_WEB_LOGGING function. RFC log entries are a record of RFC calls made by the Web Application.

Show RFC log

Select this check box to display the RFC log file saved in the /COCKPIT/TWC_LOG table.

Put separator after seconds

Enter a number to displays a horizontal line between entries after each specified period.

Delete all RFC log entries

Select this check box to delete all RFC log entries saved in the /COCKPIT/TWC_LOG table.

/COCKPIT/WC_SET_NOT_ARCHIVED program

The /COCKPIT/WC_SET_NOT_ARCHIVED program resets the **ARCHIVED** flag so that you can archive the workflow with /COCKPIT/ARCHIV_WCLOG_REPAIR.

You can use this program for workflows that are marked as archived, but actually have the archive missing.

/COCKPIT/WC_SUBST_MANAGER

You can use the /COCKPIT/WC_SUBST_MANAGER program to globally manage substitutes for WORK CYCLE and SAP users. It calls the /COCKPIT/WC_USER_TYPE_GET Function Module to determine the user type.

/COCKPIT/WC_UMA_PASSWD_INIT program

The /COCKPIT/WC_UMA_PASSWD_INIT program resets passwords for WORK CYCLE users, or forces them to change their passwords when they next log on.

Selection Criteria Line

Workflow processor

The WORK CYCLE user.

Email in uppercase letters

The email address of the WORK CYCLE user.

Language key

The language setting for the WORK CYCLE user.

Full name

The WORK CYCLE user's full name.

Telephone

The telephone number of the WORK CYCLE user.

Department

The department of the WORK CYCLE user.

New password

Test run

Displays a log of users whose passwords will be reset, without actually performing the reset operation. Reset may mean generating a new password, or forcing the user to change their password.

Password is being regenerated

Generates a new password for the WORK CYCLE user.

User must change password

Forces the WORK CYCLE user to change their password the next time they log on.

/COCKPIT/WC_USER_TYPE_GET

The /COCKPIT/WC_USER_TYPE_GET Function Module returns the user type: SAP or WORK CYCLE user.

/COCKPIT/WC_USER_UPDATE program

The /COCKPIT/WC_USER_UPDATE program imports users from an LDAP directory.

LDAP server: symbolic name

The LDAP server name. You can view and manage LDAP servers in the LDAP transaction.

Search filter

Allows you to use search criteria to import only selected users.

The default search filter is *(&(objectclass=user)(mail=*))*, which selects all users.

For example, to select only users from a user group called Sales, type *(&(objectCategory=group)(description=Sales))*.

System user or domain user

System user active

Uses the current SAP system user to log on to the LDAP server. If you clear this setting, you must specify which user name and password to use for the LDAP domain account.

User ID for logon

User name of the LDAP domain account used to log on to the LDAP server.

Password for logon

Password of the LDAP domain account used to log on to the LDAP server.

Actions

Send email

Sends an email notification to existing users whose data the program updates.

Retrieve WORK CYCLE

Recalls all workflows that are currently being processed by users whose data the program updates.

No duplicate user check

Checks whether a duplicate email address exists (for example, if an LDAP user is already an SAP user, with the same email address).

Exclude from update

Enables you to select users whose data the program will not update, even if updated data exists in LDAP.

Identification of deleted users

Attribute name

The name of the LDAP field. You must map this field to a WORK CYCLE field in */COCKPIT/WI27*.

Attribute value

The value of the LDAP field. If the program finds this value in any of the existing users, it delete those users.

Note: The */COCKPIT/WC_USER_UPDATE* program searches for the value in the WORK CYCLE field to which the LDAP **Attribute name** is mapped in */COCKPIT/WI27*.

Delete all others

Deletes existing users whose data the program does not update.

Exclude from delete

Enables you to select users that the program does not delete. This option is only valid if you select the **Delete all others** check box.

Commit database changes

Saves the imported data to the database. If you clear this check box, the program performs a test run only and does not import or change data.

Application log

Create application log

Creates an application log of the import.

Show application log on finish

Select this check box to display the SAP application log after the program runs.

Object & Subobject

Type the object and sub-object to include in the SAP application log messages. The object and subobject classify the log, so it is best to use custom (Z*) ones.

/COCKPIT/WC_WEB_LOGGING function module

The /COCKPIT/WC_WEB_LOGGING function module records all RFC calls that the Web Application makes. You should activate it in the /COCKPIT/WC_DEBUG program. You can view the resulting log messages by running the /COCKPIT/WC_RFC_LOG program.

/COCKPIT/XPRA_V720_SP0 program

If you have upgraded from a version of PROCESS DIRECTOR Accounts Payable prior to 7.2 and created ReadSoft Web Application users in /COCKPIT/WUM in that version, you must run the /COCKPIT/XPRA_V720_SP0 program to ensure that users can search for ReadSoft Web Application users by email address.

IMG reference

Set the Web Application URL

In /COCKPIT/WI1 you activate WORK CYCLE and specify a URL for the ReadSoft Web Application.

Active

Activates or deactivates WORK CYCLE.

SAP system ID

The ID of the SAP system on which WORK CYCLE is active.

URL of WORK CYCLE Web Application

The URL used in email templates for workflow starts, reminders, and so on.

Note: This URL does not affect the setup or configuration of the ReadSoft Web Application.

Define workflow

In /COCKPIT/WI2 you configure the following settings for a workflow.

Workflow ID

The name of the workflow.

Workflow settings

Workflow description

The description of the workflow appears in ReadSoft PROCESS DIRECTOR Accounts Payable and WORK CYCLE.

Maximum processing time, in days

The period within which processors must complete the workflow. After this period expires, WORK CYCLE sends daily reminder emails to the processors.

Selection list order

A number that determines the position of the workflow in the PROCESS DIRECTOR Accounts Payable workflow selection list. 0 (zero) places the workflow at the top of the list.

The values for this field do not have to be in sequential order. For example, you can define Workflow1 = 5, Workflow2 = 0, and Workflow3 = 20. The workflows will appear in the selection list in the following order: Workflow2, Workflow1, Workflow3.

Workflow type

The type of documents that users can send to the workflow.

Note: All documents means that users can send all documents except rejected documents to the workflow.

Save notes in archive

Saves WORK CYCLE notes in the archive.

Calculate length of validity

Omit Friday/Saturday/Sunday

Determines whether the calculation of the **Maximum processing time** excludes Fridays, Saturdays and Sundays.

Factory or Holiday calendar ID

Determines whether the calculation of the **Maximum processing time** excludes non-working days defined in a specific factory or holiday calendar.

If you select both a factory calendar and a holiday calendar, the calculation uses the only factory calendar. If you want to use both a factory calendar and a holiday calendar, in OY05, assign a holiday calendar to a factory calendar, and then in /COCKPIT/WI2, select the factory calendar.

Document creation settings (optional)

PD document type for document creation

The PROCESS DIRECTOR document type assigned when users create documents in WORK CYCLE.

Mandatory note**Before workflow start**

Determines whether users must create a WORK CYCLE note before they start the workflow.

Posting settings**Posting attempt after WF**

Activates automatic posting after workflow approval.

Follow-up flag ID for failed auto posting

Sets a follow-up flag for a failed automatic posting attempt. You can define follow-up flags in /COCKPIT/C50. See the *PROCESS DIRECTOR Accounts Payable Configuration Guide* for more information.

Define workflow steps

In /COCKPIT/WI3 you configure the following settings for a workflow step .

Workflow step

The name of the workflow step.

Mandatory settings**Step description**

The description of the workflow step appears in ReadSoft PROCESS DIRECTOR Accounts Payable and WORK CYCLE.

Workflow type

Determines whether users can edit the document, or only release it.

- **1 - Release:** WORK CYCLE users can only approve, reject and add notes. They cannot edit the document. ReadSoft PROCESS DIRECTOR Accounts Payable users cannot edit the document while it is in workflow.
- **2 - Correction:** WORK CYCLE users can edit, approve and reject. ReadSoft PROCESS DIRECTOR Accounts Payable users cannot edit the document while it is in workflow.
- **3 - Release and correction:** WORK CYCLE users can edit, approve and reject. ReadSoft PROCESS DIRECTOR Accounts Payable users cannot edit the document while it is in workflow.
- **4 - For information purposes:** WORK CYCLE users can edit the document. The **Approve** and **Reject** buttons are not available. Users must click the **Note** button to release the document. We recommend applying a field status to the workflow step to prevent editing, as PROCESS DIRECTOR Accounts Payable users can edit the document while it is in workflow. A workflow step of this type must be either the only step in workflow, or the last step a multi-step workflow.

Text of release function

The text label of the **Approve/Release** button in the Web Application.

Note: In the SAP GUI, the tooltip text is always **Approve document**.

Subject of notification email

The subject of the email sent to the workflow step recipients.

Text for the confirmation email

The content of the email sent to the workflow step recipients. WORK CYCLE provides templates, such as /COCKPIT/WEB_CYCLE_START, that you can use as they are, or copy and edit.

Field status

The field status to apply to the document when users open it WORK CYCLE.

If you leave the **Field status** blank, users cannot edit the document.

Validity period

The period within which processors must complete the workflow step. After this period expires, WORK CYCLE sends daily reminder emails to the processors.

The sum total of the validity periods for all workflow steps assigned to the workflow must equal the **Maximum processing time** in the workflow configuration.

Interval for reminder emails

For overdue workflow steps, the interval in days for reminder emails. For example, if you enter 3, WORK CYCLE sends reminder emails every three days.

Optional settings

Forward

Determines whether processors can forward the document and send queries to other users.

- **Not allowed**
Processors cannot forward the document or send queries.
- **X - Allowed**
Processors can forward the document, but cannot send queries.
- **1 - Only queries without document handover**
Processors cannot forward the document, but they can send queries. After sending a query, the document remains in the sender's Worklist.
- **2 - Only queries with document handover**
Processors cannot forward the document, but they can send queries. After sending a query, the document disappears from the sender's Worklist until the user has answered the query.
- **3 - Allowed, also queries without document handover**
Processors can forward the document and send queries. After sending a query, the document disappears from the sender's Worklist until the user has answered the query.
- **4 - Allowed, also queries with document handover**
Processors can forward the document and send queries. After sending a query, the document remains in the sender's Worklist.

All recipients must process

All recipients of the workflow step must release the document before it can move to the next workflow step, or before the workflow can finish, if the step is the last workflow step.

Line item/account approval

Allows different processors to approve individual line items for MM documents and accounting lines for FI documents.

You must also select the **All recipients must process** check box.

Send emails

Determines whether recipients of the workflow step receive an email notification.

- **Individual email without image attachment**
WORK CYCLE sends a single email to each step recipient, without attaching the document image.
- **A - Individual email with image attachment**
WORK CYCLE sends a single email to each step recipient, and attaches the document image.
- **X - No email**
WORK CYCLE does not send an email. Recipients must manually check their WORK CYCLE Worklists for new documents.
- **S - Collective email**
WORK CYCLE uses the DUE_DATE_CHECK program to send a collective email to each recipient of the workflow step. A collective email contains all workflow step notifications for that processor since the last program run.

Reject

Determines what happens when a user rejects the workflow step. WORK CYCLE cancels the workflow completely, or returns the document to the first or previous workflow step recipient or processor.

A recipient is the person that receives the workflow step. A processor is the person who actually approves or rejects the workflow step. In most cases, this will be the same person. However, if the recipient forwards the document to another person, or the recipient's substitute processes the document, the processor is not the same person as the recipient. Thus it is possible to specify whether the document should be returned to the person who received the workflow step or to the person who actually processed it.

Important: If this step can be the first step of a workflow, you *must* select *1 Cancel the workflow*.

- **Back to PROCESS DIRECTOR processor**
The document remains in the workflow, but a ReadSoft PROCESS DIRECTOR Accounts Payable user must determine what action to take, such as cancelling the workflow, or sending the document to another recipient.
- **X - Back to previous workflow recipient**
WORK CYCLE sends the document to the recipient of the previous step in the workflow.
- **1 - Cancel workflow**
WORK CYCLE cancels the entire workflow.
- **2 - Back to first workflow processor**
WORK CYCLE sends the document to the processor of the first step in the workflow. This is the default behavior.
- **3 - Back to first workflow recipient**
WORK CYCLE sends the document to the recipient of the first step in the workflow.
- **4 - Back to previous workflow processor**
WORK CYCLE sends the document to the processor of the previous step in the workflow.

Note: For invoice documents that users create in the Web Application, the following rules apply when you set the **Reject** setting for the first workflow step to **Cancel workflow**.

- If the first workflow processor rejects the document and other users have not processed it, WORK CYCLE deletes the document.

- If the first workflow processor rejects the document and other users have processed it, WORK CYCLE does not delete the document.
- Processing can include forwarding the document, sending a query, returning the document to the first workflow processor by rejecting all subsequent steps, or processing by a substitute.

Email archive

Determines whether WORK CYCLE archives notification emails, and whether users can edit the email texts before sending the document to workflow.

- **Do not archive as a note**
WORK CYCLE does not archive notification emails as notes. WORK CYCLE users cannot edit emails.
- **X - Archive as a note**
WORK CYCLE archives notification emails as notes. WORK CYCLE users cannot edit emails.
- **A - Do not archive as a note, changeable in WORK CYCLE**
WORK CYCLE does not archive notification emails as notes. WORK CYCLE users can edit emails.
- **B - Archive as a note, changeable in WORK CYCLE**
WORK CYCLE archives notification emails as notes. WORK CYCLE users can edit emails.

Executability

Determines whether a processor must complete a workflow step.

Note: This option cannot be used for the first step in a workflow.

Doc. upload

Determines whether processors can attach additional files to the document in the Web Application.

Recall documents in WA

Determines whether processors can recall documents in the Web Application.

Processor

Any email address

Email users can be recipients of the workflow step.

SAP users

SAP users can be recipients of the workflow step.

Internet users

WORK CYCLE Web Application users can be recipients of the workflow step.

User groups

User groups can be recipients of the workflow step.

Pre-assign processors

Determines which users can be recipients and whether WORK CYCLE automatically adds default processors as recipients to the workflow step. Default processors are those for which you select the **SetDefault** check box in /COCKPIT/WUM2.

- **Default assigned processors only**
Only processors specified in /COCKPIT/WUM2 or in a User Exit can be recipients. WORK CYCLE adds default processors as recipients.
- **X - All assigned processors**
Only processors specified in /COCKPIT/WUM2 or in a User Exit can be recipients. WORK CYCLE adds all processors specified in /COCKPIT/WUM2 or in a User Exit as recipients.
- **A -Default assigned, any other processor**
Any user can be a recipient. WORK CYCLE adds default processors as recipients.
- **B - All assigned, any other processor**
Any user can be a recipient. WORK CYCLE adds all processors specified in /COCKPIT/WUM2 or in a User Exit as recipients.

Assignment of processors

- **In PROCESS DIRECTOR Accounts Payable**
ReadSoft PROCESS DIRECTOR Accounts Payable users manually assign processors.
- **1 - In WORK CYCLE**
WORK CYCLE users manually assign processors. If you select this option, users cannot recall the workflow step.
- **2 - In PROCESS DIRECTOR Accounts Payable or WORK CYCLE**
PROCESS DIRECTOR Accounts Payable users or WORK CYCLE users manually assign processors.
- **3 - In background (automatic, without manual intervention)**
WORK CYCLE assigns processors automatically. Select this option for automatic workflow starts, and when the step is in the second or subsequent position in the workflow, and the previous workflow step processor must not select the recipients of the next step. If you select this option, users cannot recall the workflow step.

User Exits

You activate User Exits at the following points to add custom logic for workflow steps. Type the User Exit name in the appropriate field.

- **Check if the WORK CYCLE step can be started**
- **Define possible processors and parallel steps**
- **Logic after the step action has been performed**
- **Logic after the step has been released**
- **Check recipients of the step**

Email texts and subjects

These fields specify the subject and email text for sending and answering queries and forwarding workflow steps.

If you do not specify email texts and subjects here, WORK CYCLE uses the general email texts and subjects.

Optional settings for WORK CYCLE steps

In /COCKPIT/WI17 you configure the following optional settings for workflow steps.

Workflow step

The name of the workflow step.

Note settings

Note required

Determines whether users must create a note before performing the following actions.

- Replying to a query
- Sending a query
- Forwarding the workflow step
- Approving the workflow step
- Rejecting the workflow step

Note: Do not select these check boxes for workflow steps of the type **4 - For information purposes**.

Cover sheet settings

Print cover sheet?

Displays a **Print cover sheet** button when users open the document in the Web Application. When users click the **Print cover sheet** button, a dialog box displays a cover sheet in PDF format, which users can print.

Cover sheets enable users to attach scanned paper documents to a PROCESS DIRECTOR document. Cover sheets contain the PROCESS DIRECTOR document number and a barcode, which ReadSoft PROCESS DIRECTOR uses to identify the correct document for the scanned attachments.

Form name

The name of the PDF form to use for the cover sheet.

Recipient settings

Single recipient of workflow step

Specifies that only one user can be the recipient of the workflow step.

Permitted recipient check

Specifies which users can be recipients of the workflow step.

- **S – New recipient (not the current processor)**
- **X – Principle of dual control (recipient not previous processor)**
- **– None**
- **F – None, forwarding permitted to oneself**
- **I – Sender/initiator cannot be processor of the workflow**

Any user for forwarding

Users can forward the document to any other user.

This setting only applies if you set the **Pre-assign processors** setting in /COCKPIT/WI3 to **All assigned processors** or **Default assigned processors only**.

Any user for queries

Users can send queries about the document to any other user.

This setting only applies if you set the **Pre-assign processors** setting in /COCKPIT/WI3 to **All assigned processors** or **Default assigned processors only**.

PD message type start/continue

Determines whether ReadSoft PROCESS DIRECTOR Accounts Payable checks for steps without assigned recipients when users start or continue a workflow.

If no recipient is assigned to a workflow step and the workflow step settings only allow a PROCESS DIRECTOR user to assign recipients, WORK CYCLE can display a dialog box to inform the user that recipients are not assigned. Depending on which option you select in the **PD message type start/continue** list, the dialog box opens and the user can or must correct the assignment, or they can start or continue the workflow without assigning users.

- **EE Error when start, error when carry on**
Users must assign recipients when starting and continuing a workflow.
- **ES Error when start, no notification when carry on**
Users must assign recipients when they start a workflow. The dialog box does not open when they continue a workflow.
- **ES Error when start, warning when carry on**
Users must assign recipients when they start a workflow. The dialog box opens when they continue a workflow, but they do not have to assign recipients.
- **SE No notification when start, error when carry on**
The dialog box does not open when users start a workflow. The dialog box opens when they continue a workflow, and they must assign recipients.
- **SW No notification when starting, warning when carry on**
The dialog box does not open when users start a workflow. The dialog box opens when they continue a workflow, but they do not have to assign recipients.
- **WE Warning when start, error when carry on**
The dialog box opens when users start a workflow, but they do not have to assign recipients. The dialog box opens when they continue a workflow, and they must assign recipients.
- **WS Warning when starting, no notification when continuing**
The dialog box opens when users start a workflow, but they do not have to assign recipients. The dialog box does not open when they continue a workflow.
- **WW Warning when starting, warning when carry on**
The dialog box opens when users start a workflow, but they do not have to assign recipients. The dialog box opens when they continue a workflow, but they do not have to assign recipients.
- **No notification**
PROCESS DIRECTOR Accounts Payable does not check for steps without assigned recipients.

Note: Recipients must be entered in the first item when a workflow is started, and in the next item when a workflow is continued. If this is not done, an error message will appear, which cannot be overruled by any of the settings described here.

No auto takeover if substitute of a parallel processor

Activate this check box to suppress automatic processing if the workflow step goes to two processors, and one of the processors is also the substitute of the other processor and takes over processing.

It makes sense to select this check box if all processors must process the workflow step and, in the case of substitutes, manual take over of processing by the substitute should be enforced, even though the substitute is also a recipient of the workflow step.

The prerequisite for this is that the workflow step must be processed by all recipients (All recipients must process).

A workflow step that must be processed by all processors is sent to user A and user B. A is also the active substitute of B.

The step is normally automatically processed by A as well, if this flag is not set. Setting the flag has the effect that, after A has processed the workflow step, B must still process the workflow step and thus it could be processed again by A in the capacity of substitute.

Line item/account approval

Default recipient type

Determines the default recipient type. If you only define one user type in the workflow step settings, this is the default user type. If you define several user types in the step settings, you can define the default user type here.

Show all lines

Determines whether workflow processors see lines assigned to other processors in read-only mode. By default, workflow processors see only those lines that are assigned to them, or lines that are not assigned to anyone.

Attachment deletion

Allow attachment deletion

This configuration option determines whether attachments can be deleted in a workflow step or not.

Messages to the vendor

Allow sending emails to vendor

This configuration option determines whether you can send emails to vendors or not.

Workflow processes and step conditions

In /COCKPIT/WI4 you configure workflow processes and define conditions for workflow steps.

Define workflow processes

Workflow ID

The name of the workflow.

Workflow step ID

The name of the workflow step.

Position

The position of the workflow step in the workflow, where **1** is the first step in a workflow, **2** is the second step, and so on.

Note: You can add a workflow step to more than one workflow.

Define step condition within workflow process

Sequence

When you define several conditions for the same step, the **Sequence** number specifies the order in which the system checks whether the conditions apply.

Structure

The structure containing the field for which the condition applies.

Internal field

The name of the PROCESS DIRECTOR field for which the condition applies.

Inclusion/exclusion

Specifies whether the condition includes or excludes the values in the **From value** and **To Value** fields.

- **I Including** - The condition is fulfilled if the values are present.
- **E Excluding** - The condition is fulfilled if the values are not present.

Comparative options

Specifies the function used to compare the **From value** and **To value**.

From value/To value

The values to use in the evaluation of the condition.

Note: To avoid errors, type the values in SAP internal format. For example, for cost center 1000 type 0000001000, for vendor 2500 type 0000002500.

Opening bracket/Closing bracket

If there are multiple step conditions and you want to perform two or more conditions together before performing another, select the **Opening bracket** or **Closing bracket** check box.

Boolean operator

The operator used to join conditions.

Activate workflows

In /COCKPIT/WI7 you activate workflows to make them available for use.

Company code

Company code for which the workflow is available.

FI/MM

Type of invoice for which the workflow is available.

To make the workflow available for both types of invoice, create two entries, one for **FI** and one for **MM**

PD document type

PROCESS DIRECTOR Accounts Payable document type for which the workflow is available.

Note: Workflows to which you assign a document type are available in the **Invoice type** selection list when users create a new invoice.

Workflow ID

The name of the workflow.

Workflow steps, assign processors

In /COCKPIT/WUM2 you assign recipients to workflow steps.

Workflow processor

Workflow ID

The name of the workflow.

Workflow step

The name of the workflow step.

Workflow processor

The user name of the user assigned as a recipient to the workflow step.

User type

The type of user. You can assign SAP and WORK CYCLE users, and user groups.

Set default

Specifies that the user is a default processor for the workflow step. The **Pre-assign processors** setting in the workflow step configuration determines whether WORK CYCLE automatically assigns default and non-default users to the step.

Recipient determination functions

You can automatically determine workflow recipients from the purchase order, purchase requisition, purchasing group or SAP HR.

Workflow ID

The name of the workflow.

Workflow step

The name of the workflow step.

Function Module

The name of the **Function Module** that determines the recipients.

Sequence

The order in which the defined **Function Modules** determine recipients.

WORK CYCLE only calls each subsequent function if the previous function does not return one or more recipients.

Set up general workflow texts

In /COCKPIT/WI9 you specify the subjects and texts of workflow emails for the following purposes.

You specify the text for emails sent to workflow recipients in the **Text for the confirmation email** field in the workflow step configuration.

WORK CYCLE provides built-in templates for the email texts that you can use as they are or modify.

For forwards and queries, you can define step-specific email texts in the workflow step configuration.

WORK CYCLE general texts

Recalling a workflow

Sent when users recall a workflow step or the entire workflow.

Reminders for overdue workflow steps

Sent when a workflow step or an entire workflow is overdue.

Processing by a different user

Sent to the original recipient of a workflow when a substitute takes over processing of a document.

Collective emails

The /COCKPIT/DUE_DATE_CHECK program sends collective emails. A collective email contains all workflow step notifications for that processor since the last program run. You activate collective emails in the workflow step configuration.

In the **Sender of accum. email** field, you can specify any SAP user as the sender of the email.

Active substitutes at workflow start

Sent to active substitutes of workflow processors when a user starts a workflow.

Answering queries

Sent when a user answers a query about a document.

Sending queries

Sent when a user sends a query about a document to another user.

Forwarding a workflow

Sent when a user forwards a workflow to another user for processing.

Activate authorization checks in WORK CYCLE

In /COCKPIT/WI13 you assign an authorization object to control user access to WORK CYCLE.

Authorization object

The name of the SAP authorization object that permits access to WORK CYCLE. If you do not specify an authorization object, all SAP users can access WORK CYCLE.

Message transformation for checks

In /COCKPIT/WI22 you can change the type of messages for different checks, and you can also suppress messages completely. This applies to both PROCESS DIRECTOR and SAP messages. Changing or suppressing messages is useful, for example, if coding block (COBL) error messages should not appear for documents where no cost center has been assigned. You can apply rules for all workflow steps, or restrict them to specific workflow steps.

Message check time

The time when the check runs.

Workflow step ID

The name of the workflow step.

Type

The type of check.

Message ID

The message class. See SE91. The message class contains a collection of messages (see **Message No.**, below).

All PROCESS DIRECTOR message classes are saved in /COCKPIT/ *.

Message No.

The message ID. The actual message you wish to change or suppress. See SE91 for a list of message numbers and the message text.

Any message

If active, the rule applies to all messages for the **Message ID** and the **Message No.** is ignored.

Action

The change to the *type* of message or error that is generated. Or, whether the message is suppressed/ignored.

Limit attachment visibility in applications

In /COCKPIT/WI28, you specify which types of attachments are not visible in the ReadSoft Web Application. You can limit the visibility for a specific workflow step or a specific PROCESS DIRECTOR Accounts Payable archive document type.

Web application

The part of the Web Application in which the attachment is not visible.

- **WORK CYCLE (history):** When viewing documents that have already been processed.
- **WORK CYCLE (document selection):** When viewing the document detail.
- **WORK CYCLE (worklist selection):** When viewing the document list.

Workflow step ID

The name of the workflow step.

Document type

The PROCESS DIRECTOR Accounts Payable archive document type. You define the document types in transaction 0AC2.

Email settings

In /COCKPIT/WI30 you configure the following settings for workflow emails. All settings except the **Format** setting apply only to HTML emails.

Format

Specifies the format for workflow emails.

If you do not select a value, WORK CYCLE sends plain text emails.

HTML templates

HTML start

The template for the start of the HTML email, from the <HTML> tag to the <BODY> tag. The default template is /COCKPIT/HTML_START. You define the CSS styles in the /COCKPIT/HTML_START template.

HTML end

The template for the end of the HTML email, from the </BODY> tag to the </HTML> tag. The default template is /COCKPIT/HTML_END.

MOBILE APPROVAL links

The template for formatting the ReadSoft Email-based Approval (formerly MOBILE APPROVAL) links for approving, rejecting and adding notes to documents. The default template is /COCKPIT/HTML_MOBILE_BUTTONS.

Link names

A shortcut to /COCKPIT/WI31, where you specify names for document links in WORK CYCLE emails. These names appear in the email instead of the URL.

Field display

Number of fields per row

The number of fields that appear in each table row of HTML tables included the email.

A field consists of the field name and the field value, so if you specify 4 fields, the row consists of 8 cells.

Note: If ReadSoft Email-based Approval is active for a workflow step, WORK CYCLE ignores this setting and displays only one field per row. You can override this with the **Ignore MOBILE APPROVAL** setting.

Add multi acc. ass. to items

Specifies whether multi-account assignment fields for MM documents appear in the line item table or in a separate table.

Ignore MOBILE APPROVAL

If ReadSoft Email-based Approval is active for a workflow step, WORK CYCLE displays only one field per row in HTML tables. Select the **Ignore MOBILE APPROVAL** check box to use the **Number of fields per row** setting instead.

Field selection

A shortcut to /COCKPIT/WI32, where you specify which fields to display in HTML workflow emails.

Images

Disable email background

Specifies whether a background image appears in the email.

Background

To use a background image in HTML emails, you must upload the image to the SAP Web Repository. Type the SAP Web Repository image ID, not the original file name of the image.

If you do not specify a background image, WORK CYCLE uses *backgrnd.gif*.

The image ID does not have to be *backgrnd.gif*. WORK CYCLE links your image with this file name automatically.

Note: If the email program does not support background images for HTML emails, the background image appears as an email attachment.

Others

Turn off emails for locked substs

Select this check box to disallow workflow emails being sent to locked substitutes. Exceptions are substitutes who have been locked because of too many login attempts with an incorrect password.

Note: When a workflow is sent to a user who has a locked substitute, a warning message stating that the substitute is locked is displayed.

HTML email link names

In /COCKPIT/WI31 you specify names for document links in WORK CYCLE emails. The hyperlink to the document or list of documents displays this name instead of the URL.

Alias

- **&WEB_CYCLE_DIRECT_DOCUMENT_LINK&**: The URL of the list of documents to approve.
- **&WEB_CYCLE_DOCUMENT_LIST_LINK&**: The URL of the list of documents to approve. Two aliases exist to provide backward compatibility with previous versions of WORK CYCLE.
- **&WEB_CYCLE_SINGLE_DOCUMENT_LINK&**: The URL of a single document.
- **&WEB_CYCLE_SINGLE_SIGN_ON_LINK&**: The URL of the ReadSoft Web Application logon page.
- **&WEB_CYCLE_SUBST_DOC_LIST_LINK&**: The URL of the list of documents for a substitute.

Value

The display name for the hyperlink.

Email field selection

In /COCKPIT/WI32 you specify which fields to display in HTML workflow emails.

Structure

The structure that contains the field.

- **HEADER:** Header data
- **ITEM:** Line item data
- **ACCOUNT:** Account assignments for FI items
- **ACCASS:** Account assignments for MM items

Internal field name

The name of the field in ReadSoft PROCESS DIRECTOR Accounts Payable.

Automatic workflow start

Define functions for automatic workflow start

In /COCKPIT/WI34, you define the function modules for automatically starting a workflow. You can also define your own custom functions by using the /COCKPIT/WC_AUTO_START_SAMPLE template.

Workflow start type

The ID of the workflow start type.

Set Function Module for automatic workflow start

Function Module

The unique name of the Function Module you want to use for automatically starting a workflow.

Workflow start

The condition for automatically starting a workflow. The following are available:

- Start function for a price mismatch
- Start function for a quantity mismatch
- Start function for a missing goods receipt
- Start function if an FI approval is required

Define functions for baseline date

In /COCKPIT/WI36, you define the function modules for delaying a workflow start when specific criteria are met.

WC Baseline Date

The ID of the baseline date for the delayed workflow start.

Set Function Module for baseline date

Function Module

The unique name of the Function Module you want to use for delaying the start of a workflow.

Workflow Baseline

The method to determine the baseline date for delaying the start of a workflow. The following are available:

- Baseline date: From transfer date

- Baseline date: From invoice date
- Baseline date: From deliver date

Configure automatic workflow start

In /COCKPIT/WI35, you configure the following settings for automatically starting workflows, or for delaying their start when specific criteria are met.

CoCd

The buying organizational unit.

PD DocType

The PROCESS DIRECTOR document type.

Workflow ID

The name of the workflow.

Sequence

The order in which the Function Modules defined for automatically starting a workflow should be used.

WF type

The ID of the [condition for automatically starting a workflow](#).

Workflow start

The description of the [condition for automatically starting a workflow](#).

Start at Process

The process that should start the automatic workflow start function. The following are available:

- **01 Transfer:** Automatic workflow start on document transfer.
- **03 After Posting:** Automatic workflow start on document posting.
- **04 After WF approved:** Automatic workflow start on document approval.

Delay

The number of days by which the workflow should be delayed.

WC Base

The ID of the [method that should be used to determine the baseline date for delaying the start of a workflow](#).

Workflow Baseline day function

The description of the [method that should be used to determine the baseline date for delaying the start of a workflow](#).

Follow-up

Sets up a follow-up flag for important document alterations or outstanding activity.

Presentation and interface

Maximum number of fields in the Web Application

In /COCKPIT/WI11 you define the fields to display in the Web Application.

You can use the CI_COCKPIT_ORDER include to extend the /COCKPIT/SORDER table with fields from the BAPIEKPO (purchase order) and BAPIEKBES (purchase order history) tables.

Structure

The structure that contains the field.

- **HEADER:** Header data
- **ITEM:** Line item data
- **ACCOUNT:** Account assignments for FI items
- **ACCASS:** Account assignments for MM items
- **TAX:** Tax fields
- **CHECKDATA:** Bank and other data fields.
- **SORDER:** Purchase order fields
- **CPD:** One-time vendor fields

Internal field name

The name of the PROCESS DIRECTOR Accounts Payable field.

Create field status and assigning field characteristics

In /COCKPIT/C23, you create field statuses.

Field status

The name of the field status.

Field status identification

Header data can only be displayed

Displays all header fields as read-only.

Display invoice items only

Displays all line-item fields as read-only.

Only display account assignment

Displays all account assignment fields as read-only.

No account assignment line with MM invoices

Hides the account assignment fields for FI items in MM documents.

Display withholding tax only

Displays withholding tax fields as read-only.

Display tax only (no entry)

Displays tax fields as read-only.

Screen variants

You can assign screen variants for the **Invoice items**, **Account Assignments**, **PO Account Assignments** and **PO Data** grids. See the SAP documentation for information on creating screen variants.

Characteristic value of status

Structure

The structure that contains the field.

- **HEADER:** Header data
- **ITEM:** Line item data
- **ACCOUNT:** Account assignments for FI items
- **ACCASS:** Account assignments for MM items
- **TAX:** Tax fields
- **CHECKDATA:** Bank and other data fields.
- **SORDER:** Purchase order fields
- **CPD:** One-time vendor fields

Internal field name

The name of the PROCESS DIRECTOR Accounts Payable field.

Display

- **D Only display:** Displays the field as read-only.
- **H Hide:** Does not display the field.
- **M Mandatory field:** The user must type a value in the field before saving the document.
- **Normal field:** The user can edit the field value.

Maintain default layouts for the WORK CYCLE transaction overview screen

In /COCKPIT/WI12, you assign variants to specify the default layout of the following grids in the WORK CYCLE document list.

- Document list
- MM invoice items
- FI coding items

Activate WORK CYCLE customer-specific functions

In /COCKPIT/WI14 you configure menu items to execute custom functions. Use PROCESS DIRECTOR Accounts Payable User Exit 12 (/COCKPIT/USEX_CUSTFCT_PROCESS) to link the menu items to functions.

Workflow step

The name of the workflow step.

Activate customer functions

Displays the custom menu in /COCKPIT/WC.

Menu description

The name of the custom menu.

Description

The name of the menu item.

Cust. function icon

Optional. The icon for the toolbar button.

Op. mode

Specifies whether the function locks and updates the document.

- **Lock and update document:** The document is locked for other users and the current user can edit the document.
- **1 Lock but do not update document:** The document is locked for other users but the current user cannot edit the document.
- **2 No lock and no update of document:** The document is not locked for other users and the current user cannot edit the document.

Process several documents together

Specifies whether the function runs on more than one document simultaneously.

Archive document types for document upload in the Web Application

In /COCKPIT/WI15, you specify which document types users can upload in the ReadSoft Web Application.

Document type

The document type, as defined in OAC2.

Attachment description mode

Specifies whether users can view and edit the attachment description. Attachment descriptions are only available in SAP versions ECC600 and higher. To activate attachment descriptions, you must select the **Save File Attributes** check box in transaction OAG1.

Maximum size of attachment (MB)

Specifies the maximum file size for the upload of an attachment.

Define forms for workflow steps for the Web Application

In /COCKPIT/WI16 you can specify which archive document types WORK CYCLE uses when ReadSoft Web Application users fill in and submit forms. If this table is empty, WORK CYCLE uses the first matching entry in /COCKPIT/C15.

Workflow step

The name of the workflow step.

Language

The language of the form.

File form

The file name of the form, as it appears in the ReadSoft Web Application.

Workflow step - Forms

Name of the form

The name of the form.

Document type

The archive document type to use for the form. You define archive document types in transaction OAC2.

Extend selection criteria for workflow history

In /COCKPIT/WI24, you can define additional fields for the **History > New invoice selection** tab, when searching for processed documents. These selection fields appear in the SAP GUI **Workflow > Display releases (history)** dialog box.

The following fields are always available.

- Workflow name
- Last approval/action from/to
- Display approvals only
- Maximum number of rows

The remaining configured fields appear when users click the **Other selection fields** button. Only simple From-To selections are allowed; it is not possible to define ranges or single values.

Table name

The type of field.

- **HEADER** – Header fields
- **WEB_CYCLE** – WORK CYCLE workflow fields

Field name

The name of the field.

Selection type

The type of selection for the field.

- **1 Single parameter** provides one field to enter a single value.
- **2 From/To parameter** provides two fields to enter a range, such as "document number 1000 to 2000".
- **3 Checkbox** allows users to select multiple options.
- **4 Radio button** allows users to select only one of the available options.

Important: Use the **Radio button** selection type only with fields of an applicable type. Using it with fields of the type CHARACTER or INTEGER will result in incorrect search results.

Status description

The display text for the field in the Web Application. If you do not enter text, WORK CYCLE uses the standard field name from the data dictionary.

Sequence

The order in which the fields appear (lowest to highest value).

Web Application search help

Insert or adapt search helps

In /COCKPIT/WI19 you can override the default WORK CYCLE search helps add additional search helps for the ReadSoft Web Application.

Possible search helps

Structure

The structure that contains the field.

- **HEADER:** Header data
- **ITEM:** Line item data
- **ACCOUNT:** Account assignments for FI items
- **ACCASS:** Account assignments for MM items
- **TAX:** Tax fields
- **CHECKDATA:** Bank and other data fields.
- **SORDER:** Purchase order fields
- **CPD:** One-time vendor fields

Internal field name

The name of the PROCESS DIRECTOR field.

Function module

The function module that provides the search help for the specified field.

To suppress a default search help, leave this field blank.

Field name in search help

The name of the field to display in the search results.

You must include the field that you added in the **Possible search helps** table. It may be the same PROCESS DIRECTOR field or the corresponding SAP field.

Example: If you add the PROCESS DIRECTOR *TAX_CODE* field to the **Possible search helps** table, you must add the SAP *MWSKZ* field to the **Search help fields** table. If you add the PROCESS DIRECTOR *FOLLOW_UP* field to the **Possible search helps** table, you can also add the *FOLLOW_UP* field to the **Search help fields** table.

Search help fields

For each field you add, you must specify the fields with which users can search, and the fields that appear in the search results.

Priority

The order of the fields, starting on the left with **1**, then **2**, **3**, and so on.

Note: You must assign priority **1** to the search field. For example, if you added *TAX_CODE* to the **Possible search helps** table, you must add the *MWSKZ* field to the **Search help fields** table and assign priority **1**.

ABAP type

The data type, such as character string, date or time.

No. of characters

The length of the field that displays the field values.

Search/display

Determines whether the field is only available for searching, or also appears in the search results.

Label

The label of the field in the search dialog box and the header of the results list.

Important: If the label is not available in the language in which the user is currently logged on, the field does not appear in the search help.

Optional: SAP search helps

If you add the */COCKPIT/WC_SHLP_GENERAL* function module to the **Possible search helps** table, you must define an SAP search help.

Table name

Any table or structure that contains the field name, and a search help is available for that field. This is usually one of the following structures.

- */COCKPIT/SHDR_DISP*
- */COCKPIT/SITEM_DISP*
- */COCKPIT/SACCT_DISP*
- */COCKPIT/TACCAS*

Search help name

An elementary search help with the search help provided in the table/structure above.

Default search helps

/COCKPIT/WI18 lists the default search helps for the ReadSoft Web Application. This information is for reference only. To change search helps in the ReadSoft Web Application, use */COCKPIT/WI19*.

Structure

The structure that contains the field.

- **HEADER:** Header data

- **ITEM:** Line item data
- **ACCOUNT:** Account assignments for FI items
- **ACCASS:** Account assignments for MM items
- **TAX:** Tax fields
- **CHECKDATA:** Bank and other data fields.
- **SORDER:** Purchase order fields
- **CPD:** One-time vendor fields

Internal field name

The name of the PROCESS DIRECTOR Accounts Payable field.

Function module

The function module that provides the search help for the specified field.

Search help fields

Field name in search help

The name of the field to display in the search results.

Priority

The order of the fields, starting on the left with **1**, then **2**, **3**, and so on.

ABAP type

The data type, such as character string, date or time.

No. of characters

The length of the field that displays the field values.

Search/display

Determines whether the field is only available for searching, or also appears in the search results.

Label

The label of the field in the search dialog box and the header of the results list.

Optional: SAP search helps

Table name

Any table or structure that contains the field name, and a search help is available for that field.

Search help name

An elementary search help with the search help provided in the table or structure specified in the **Table name** field.

Web Application: Document selection

User group for document selection

In /COCKPIT/WI25 you specify the user group that is able to view all PROCESS DIRECTOR Accounts Payable documents in the ReadSoft Web Application, not just documents sent to these users in a workflow. You can only specify one user group.

Work group

Any WORK CYCLE user group.

Criteria for document selection

In /COCKPIT/WI26, you can define the document selection criteria for the **PD documents** tab.

Table name

The type of field.

- **HEADER** – Header fields
- **WEB_CYCLE** – WORK CYCLE workflow fields

Field name

The name of the field.

Selection type

The type of selection for the field.

- **1 Single parameter** provides one field to enter a single value.
- **2 From/To parameter** provides two fields to enter a range, such as "document number 1000 to 2000".
- **3 Checkbox** allows users to select multiple options.
- **4 Radio button** allows users to select only one of the available options.

Important: Use the **Radio button** selection type only with fields of an applicable type. Using it with fields of the type CHARACTER or INTEGER will result in incorrect search results.

Alternative assignment

The display text for the field in the ReadSoft Web Application. If you do not enter text, WORK CYCLE uses the standard field name from the data dictionary.

Sequence

The order in which the fields appear (lowest to highest value).

Maintain default values for document creation

In /COCKPIT/WBI7 you specify default values for the header fields when users create an invoice in the ReadSoft Web Application. Users can only create invoices if you activate the *wb_create* parameter in the *pdweb-app.properties* file.

PD document type

The PROCESS DIRECTOR Accounts Payable document type. If you do not enter a value here, the specified field value will be the default for all documents except those for which a document type specific value exists.

Internal field name

The name of the PROCESS DIRECTOR Accounts Payable field.

Field value

The value that appears in the field when creating a new invoice.

Web Application: Configure fields for one-time vendors

In /COCKPIT/WI29 can specify which one-time vendor fields appear in the ReadSoft Web Application.

Vendor

The name of the vendor. If you leave this field blank, the field setting applies to all vendors.

Field name

The name of the PROCESS DIRECTOR Accounts Payable field.

Display

- **D Only display:** Displays the field as read-only.
- **H Hide:** Does not display the field.
- **M Mandatory field:** The user must type a value in the field before saving the document.
- **Normal field:** The user can edit the field value.

Note: You do not need to add the mandatory fields the NAME1 (**Name**) and OTR01 (**City**) fields, as these appear by default.

Priority

The row position of the field, with **0** being the highest row. If more than one field has the same row number, WORK CYCLE sorts the fields alphabetically.

User management

Map LDAP attributes to user master data

In /COCKPIT/WI27, you map the LDAP attributes to the WORK CYCLE user fields. The [/COCKPIT/WC_USER_UPDATE](#) program uses this mapping to import users from an LDAP directory into WORK CYCLE.

Attribute name

The name of the LDAP directory attribute.

Internal field name

The WORK CYCLE user field. You can select any field in the /COCKPIT/TWC_UMP table.

Function module

Optional. Assign a function module to modify the imported data before WORK CYCLE saves it in /COCKPIT/TWC_UMP. WORK CYCLE does not provide a standard function module, so you must write your own.

Set WORK CYCLE user management

In /COCKPIT/WI6, you configure settings for the creation of new WORK CYCLE users.

Customize user management

User generation

The method WORK CYCLE uses to create the user name if you do not specify a name.

- **Random name:** WORK CYCLE uses random characters to create the user name.
- **1 Generate name from email:** WORK CYCLE uses the first part of email address to create the user name.

Mapping module

The function module WORK CYCLE uses to import user data from a file.

WORK CYCLE provides the /COCKPIT/WC_MAP_IMP_EXAMPLE sample module, which you can use to import users from CSV files.

Initial password

The initial password for all users. Each user must change this initial password when they first log on. If you do not specify an initial password, WORK CYCLE automatically generates a random password.

Note: WORK CYCLE stores this password in encrypted form on the database.

Password Policy

The [security policy](#) that should be applied when creating and changing user passwords.

Use emails

Create or delete

Sends an email to newly created or deleted users.

Create Mail Txt

The email text for new users.

Delete Mail Text

The email text for deleted users.

Mail Text to Subs

The email text for substitutes of new or deleted users.

Lock or unlock

Sends an email to locked or unlocked users.

Mailtext

The email text for locked or unlocked users.

Change password

Sends an email to users when their password changes.

Mailtext

The email text for password changes.

Duplicate check

Check user ID

Checks whether an SAP user with the same user ID already exists.

Check mail address

Checks whether an SAP user with the same email address already exists.

Check name (first name/last name)

Checks whether an SAP user and/or a WORK CYCLE user with the same first name and last name already exists, such as John Smith.

Check name (last name/first name)

Checks whether an SAP user and/or a WORK CYCLE user with the same last name and first name already exists, such as Smith John.










WORK CYCLE User management





Manage WORK CYCLE users

In /COCKPIT/WUM you manage WORK CYCLE users.

In the **Workflow processor** field, type the name of the WORK CYCLE user, then click one of the following buttons.

Caution: Locking or deleting users may result in unfinished workflows. For example, if the locked or deleted user is the only user assigned to the last workflow step, the workflow cannot finish. In this case, you must recall the workflow.

Button	Action	Description
	Create user	Create a new user.
	Change	Change the details of an existing user.
	Display	View the details an existing user.
	Lock user	Lock the user. If the user is logged on when you apply the lock, they can continue to work in the current session.
	Unlock user	Unlock the user.
	Delete	Delete the user.
	Initialize password	Generate a new password for the user. The user must change this initial password when they log on. You can define this initial password in /COCKPIT/WI6. Use the WC_UMA_PASSWD_INIT program to initialize passwords for more than one user at the same time.
	Change password	Manually specify a new password for the user.
	Import user	Specify a file from which to import users. You specify the function module for performing the import in /COCKPIT/WI6.

Button	Action	Description
	User groups and their members	Manage user groups in /COCKPIT/WUM1.
	Assign user processes	Assign users to workflow steps in /COCKPIT/WUM2.
	Assign authorization roles to users	Assign authorization roles in /EBY/ICWC_UM3. This button is only available if PROCESS DIRECTOR is installed. See the <i>PROCESS DIRECTOR Configuration Guide</i> for details.
	Activate SAP user types	Define the SAP user types that are valid for workflow processors.

User group management

In /COCKPIT/WUM1, you can create and manage user groups.

Processor groups

Work group

The name of the user group.

Description group

A description for the user group.

Assigned processors

User type

The type of user. As well as SAP and WORK CYCLE users, you can include other user groups. You cannot include email addresses in user groups.

Workflow processor

The user name.

Manage SAP user types

In /COCKPIT/WUM4, you can activate or deactivate the following supported SAP user types, as well as any customer-defined ones.

- Dialog
- System
- Communications Data
- Reference
- Service

For deactivating an SAP user type, select the **Deactivate** check box. Leaving the check box deselected enables the selected user type.

Define search help for workflow processor

In /COCKPIT/WI5 you can specify which users are available in the SAP GUI search help when users assign processors to a workflow. By default, WORK CYCLE searches for all users of the specified user type.

However, you can restrict which users are searched by:

1. Writing a function for the specific user search you wish to implement.
2. Specifying the **User type** for which this search will be used in the above table.

Note: This configuration only affects user search helps for WORK CYCLE in the SAP GUI. It does not affect user search helps in the Web Application.

User type

The type of user for which the search help function will be used.

- **I – WORK CYCLE user**
- **S – SAP user**
- **G – User group**

Search help name

The search help function to find users.

Define substitute profile

In /COCKPIT/WI33, you can specify which substitute profile allows substitutes to process documents in workflow. WORK CYCLE also assigns this profile to new substitutes in the Web Application.

Set notes

Use WORK CYCLE notes

In /COCKPIT/WI8 you specify whether users can create notes in WORK CYCLE, and specify options for archiving and displaying notes.

Use notes

Enables users to create WORK CYCLE notes.

Document type WORK CYCLE notes

Specifies the document type to use for archiving WORK CYCLE notes. You define document types in transaction OAC2.

If you use a PDF document type, you must specify a Smart Form in the **Form for creating PDFs** field. WORK CYCLE provides the /COCKPIT/TEXT sample form, but you can also use your own form.

Archive as text document

Archives notes in TXT format.

Archive as PDF document

Archives notes in PDF format.

Form for creating PDFs

The form to use to create a PDF from WORK CYCLE notes. You must select a form here if you archive WORK CYCLE notes in PDF format.

Archive as HTML

Archives notes in HTML format.

Document type internal notes

Specifies the document type to use for archiving internal notes. You define document types in transaction OAC2.

Notes in list

Specifies whether users can display notes in the document list view.

Notes in detail

Specifies whether users can display notes in the document detail view. A separate tab with the notes appears in the document header.

Comment symbol for note title

The character to use to denote comments in the note's title. The note's title displays meta data, such as the subject or document creator. In the following example, * is the comment symbol.

```
*** 24 / 24 *****  
* Note type      : Email for workflow start  
* Subject       : Please approve  
* Creator       : John SMITH (SAP User: SMITH)  
* Date / Time   : 16.06.2011 / 15:01:14 (CET)  
*****
```

Maintain WORK CYCLE note types

/COCKPIT/WI10 lists the default WORK CYCLE note types. You must not change these note types. However, you can add new note types for individual extensions, which must exist in the customer's own SAP area, that is, they must begin with Z* or Y*.

Schedule background processing

Schedule reminder emails

The **Schedule reminder mails** IMG activity provides a shortcut to SM36 to define a background job for the /COCKPIT/DUE_DATE_CHECK program.

Schedule archiving of other notes

The **Schedule archiving of other notes** IMG activity provides a shortcut to transaction SM36 to define a background job for the /COCKPIT/ARCHIV_NOTE_LATE program.

Amendments

Activate User Exits

In /COCKPIT/WI23 you activate User Exits.

User Exits

The WORK CYCLE User Exit template.

Function module

The name of the User Exit.

No standard

Specifies whether the User Exit replaces the standard functionality. If you select this check box, WORK CYCLE skips all standard code that follows the User Exit.

Implementation button

Button to view and edit the User Exit.

Deactivate

Deactivates the User Exit.

User Exits

About User Exits

WORK CYCLE comes with User Exit interfaces that you can use to customize the application to suit business requirements.

Function module templates for the User Exits are available in the /COCKPIT/WC_EXIT_SAMPLE function group. To guarantee a stable interface when creating User Exits, copy these function modules and then modify them.

The interface structures and the tables in the local interface of the User Exit function templates start with E, I, and C.


Prefix	Description
E	Data is exported only. Changes are possible.
I	Data is imported only. Changes are not incorporated.
C	Data can be changed. Changes are possible.

Develop a User Exit

The WORK CYCLE User Exit templates are in the /COCKPIT/WC_EXIT_SAMPLE function group.

To develop a User Exit, complete the following steps.

1. In transaction SE37, copy the User Exit template to a new function module.

Note: Be sure to copy the function module to your own custom function group.
2. Develop your User Exit code.
3. Go to transaction /COCKPIT/WI23.
4. In change mode, add a new entry.
5. Select the **User Exit**.
6. Select your **Function Module**.
7. Optional. To replace the standard functionality with your User Exit coding, select the **No standard** check box.
8. Click the **Save**  button.

List of User Exits

User Exit 900 – Before starting/continuing a workflow

WORK CYCLE calls User Exit 900 before users start or continue a workflow in ReadSoft PROCESS DIRECTOR Accounts Payable in the SAP GUI. WORK CYCLE calls the User Exit at the following times.

- After a user has started the **Send to workflow** action and before the **Start Workflow in WORK CYCLE** dialog box opens.

In this case, you use the User Exit to adjust the list of workflows available in the **Start Workflow in WORK CYCLE** dialog box.
- After a user clicks the **Start workflow** button.

In this case, you use the User Exit to prevent a workflow from being started.

The function module template for User Exit 900 is /COCKPIT/WC_USEX_BEFORE_START.

Example

The following example prevents the workflow **TestWorkflow** from starting.

```
FUNCTION Z_BL872_WC_USEX_BEFORE_START.
*-----
*""Local interface:
*  IMPORTING
*      REFERENCE(IB_ONLINE) LIKE BOOLE-BOOLE DEFAULT 'X'
*  EXPORTING
*      REFERENCE(EC_PROC_WC) LIKE /COCKPIT/THIST-PROCESS
*  TABLES
*      IT_ITEM STRUCTURE /COCKPIT/SITEM_IF
*      IT_ACCOUNT STRUCTURE /COCKPIT/SACCT_IF
*      IT_TAX STRUCTURE /COCKPIT/STAX_IF
*      ET_WEBCYCLE STRUCTURE /COCKPIT/SWC_WEBCYCLE
*      ET_MESSAGE STRUCTURE BAPIRET2
```

```

*"      CHANGING
*"          REFERENCE(EC_WEBCYCLE_ID)
*" LIKE  /COCKPIT/SWC_WEBCYCLE-WC_ID
*"          REFERENCE(ES_HEADER) LIKE  /COCKPIT/SHDR_IF
*" STRUCTURE /COCKPIT/SHDR_IF
*"      EXCEPTIONS
*"          ERROR_OCCURED
*"-----
* Dummy entry for user exit cross reference check
IF con_wc_usex_before_start IS INITIAL. ENDIF.
*>>> START OF IMPLEMENTATION >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>
DATA: ls_message TYPE bapiret2.
IF ec_webcycle_id EQ 'TestWorkflow'.
  ls_message-message = 'Error !'.
  ls_message-type = 'E'.
  ls_message-id = 'Error'.
  ls_message-number = '002'.
  APPEND ls_message TO et_message.
  RAISE error_occured.
ELSE.
  ls_message-message = 'Some message'.
  ls_message-type = 'W'.
  ls_message-id = 'Warning'.
  ls_message-number = '001'.
  APPEND ls_message TO et_message.
ENDIF.
*<<< END OF IMPLEMENTATION <<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<<
ENDFUNCTION.

```

User Exit 901 – Change WORK CYCLE message texts

WORK CYCLE calls User Exit 901 at the end of all functions that read a text module, such as an email text template, from the WORK CYCLE configuration. The User Exit can change the text in any way, with the exception of text variables, which WORK CYCLE replaces with the actual values before calling the User Exit.

The function module template for User Exit 901 is /COCKPIT/WC_USEX_TEXT_ADAPT.

User Exit 902 – Determine all WORK CYCLE workflows for one processor

WORK CYCLE calls User Exit 902 at the end of the API function that determines the list of documents that are in workflow for a specific user.

The function module template for User Exit 902 is /COCKPIT/WC_USEX_DOCS_FOR_USER.

User Exit 903 – Change WORK CYCLE notes and releases to be archived

WORK CYCLE calls User Exit 903 immediately before writing the workflow log to the archive. If you select the **No standard** check box in /COCKPIT/WI23, WORK CYCLE skips the standard print functionality that creates an archive document from the actual lines of text.

The function module template for User Exit 903 is /COCKPIT/WC_USEX_ARCHIVE_NOTES.

User Exit 904 – Change subjects of WORK CYCLE messages

WORK CYCLE calls User Exit 904 during the process of email generation, before replacing text variables in the email subject. The User Exit enables you to change the email subject.

The function module template for User Exit 904 is /COCKPIT/WC_USEX_SUBJ_ADAPT.

User Exit 905 – Own reminder function in WORK CYCLE

User Exit 905 allows you to implement a specific due date check on a workflow step. If you select the **No standard** check box in /COCKPIT/WI23, WORK CYCLE skips the standard Send email functionality.

The function module template for User Exit 905 is /COCKPIT/WC_USEX_REMINDER.

User Exit 906 – After starting/continuing a workflow and before saving

WORK CYCLE calls User Exit 906 after a workflow step starts, but before the workflow information changed by the start procedure is written to the database. If you select the **No standard** check box in /COCKPIT/WI23, WORK CYCLE skips the standard database update.

The function module template for User Exit 906 is /COCKPIT/WC_USEX_AFTER_START.

User Exit 907 – Own logic after workflow reminder

User Exit 907 allows you to implement customer-specific logic for a workflow reminder email. You can define rules to control message dispatch.

The function module template for User Exit 907 is /COCKPIT/WC_USEX_AFTER_REMIND.

User Exit 908 – Own logic for email at workflow start

WORK CYCLE calls User Exit 908 before sending the workflow email after a workflow step starts. If you select the **No standard** check box in /COCKPIT/WI23, WORK CYCLE skips the standard Send email functionality.

The function module template for User Exit 908 is /COCKPIT/WC_USEX_START_MAIL.

User Exit 909 – Define further or different substitutions

WORK CYCLE calls User Exit 909 at the beginning of the function that determines the substitution definitions of a workflow processor. If you select the **No standard** check box in /COCKPIT/WI23, WORK CYCLE skips the standard substitution determination procedure.

The function module template for User Exit 909 is /COCKPIT/WC_USEX_SUBST_GET.

User Exit 910 – Own logic for determining user type and email

WORK CYCLE calls User Exit 910 at the beginning of the function that determines the user type from a user ID, or the user type and the user ID from an email address. If you select the **No standard** check box in /COCKPIT/WI23, WORK CYCLE skips the standard procedure for user type determination.

The function module template for User Exit 910 is /COCKPIT/WC_USEX_USRTYPE_GET.

User Exit 911 – Define further or other substitutes

WORK CYCLE calls User Exit 911 at the beginning of the function that determines the substitutes of a workflow processor. If you select the **No standard** check box in /COCKPIT/WI23, WORK CYCLE skips the standard procedure for substitute determination.

The function module template for User Exit 911 is /COCKPIT/WC_USEX_SUBTE_GET.

User Exit 912 – Own or additional logic when sending an email

WORK CYCLE calls User Exit 912 at the beginning of the function that sends emails during workflow processing. If you select the **No standard** check box in /COCKPIT/WI23, WORK CYCLE skips the standard procedure for sending emails.

The function module template for User Exit 912 is /COCKPIT/WC_USEX_SEND_MAIL.

User Exit 913 – When finishing a workflow (release/reject)

WORK CYCLE calls User Exit 913 after a workflow finishes, that is, when users approve or reject the document and it no longer has the **In workflow** status.

The function module template for User Exit 913 is /COCKPIT/WC_USEX_FINISHED.

User Exit 914 – Adjust call of SAP API for sending emails

User Exit 914 allows you to adjust almost every parameter of the email, such as the subject and sender.

The function module template for User Exit 914 is /COCKPIT/WC_USEX_API_MAIL.

User Exit 915 – Adjust/Replace general account assignment block check

User Exit 915 provides an interface to disable or adjust the General Account Assignment Block check (COBL check). This User Exit's main purpose is to disable the COBL check under certain circumstances, such as when users send posted and unposted documents to the same workflow, but the COBL check should only apply for unposted documents. You can also use this User Exit to adjust the COBL check and the messages that the check creates.

The function module template for User Exit 915 is /COCKPIT/WC_USEX_CHECK_COBL.

User Exit 916 – Adjust/Replace account assignment block check for vendor Ps

User Exit 916 provides an interface to disable or adjust the Accounts Payable Coding Block check (COBL_INT check). This User Exit's main purpose is to disable the COBL_INT check under certain circumstances, or to modify the data before the check runs. If you select the **No standard** check box in /COCKPIT/WI23, the User Exit replaces the standard check. If you clear the **No standard** check box, WORK CYCLE calls the User Exit first, and then the standard check.

The function module template for User Exit 916 is /COCKPIT/WC_USEX_CHECK_APCOBL.

User Exit 917 – Data check in the Web Application

User Exit 917 provides an interface to disable, modify or replace the standard data checks that WORK CYCLE performs when a user saves a document in the Web Application. If you select the **No standard** check box in /COCKPIT/WI23, the User Exit replaces the standard checks. If you clear the **No standard** check box, WORK CYCLE calls the standard check first, and then the User Exit.

The function module template for User Exit 917 is /COCKPIT/WC_USEX_DATA_CHECK.

User Exit 918 – File upload via the Web Application

WORK CYCLE calls User Exit 918 when a user uploads an attachment from the document detail view in the ReadSoft Web Application. You can use the User Exit to perform actions on the attachment data, such as evaluating the data to update the document. If you select the **No standard** check box in /COCKPIT/WI23, WORK CYCLE cancels the upload. If you clear the **No standard** check box, WORK CYCLE archives the uploaded attachment and connects it to the document.

The function module template for User Exit 918 is /COCKPIT/WC_USEX_FILE_UPLOAD.

User Exit 919 – Calculate workflow validity period (due date)

User Exit 919 provides an interface to calculate the validity period (due date) of a workflow step. The purpose of the validity date is to check it against the configuration of the workflow in order to declare a workflow step overdue or not. The User Exit is called before the standard calculations are done, so it can either modify the values used for calculation or it can do the calculation completely. In the latter case you must check the **No standard** flag to skip the standard processing.

The function module template for User Exit 919 is /COCKPIT/WC_USEX_GET_DUE_DATE.

User Exit 920 – Amend work item creation for SAP Business Workflow

If you integrate WORK CYCLE with SAP Business workflow, starting a workflow in WORK CYCLE creates a work item in the SAP Business Workplace. You can use User Exit 920 to modify the data used to create this work item. If you select the **No standard** check box in /COCKPIT/WI23, WORK CYCLE skips the standard procedure for creating the work item.

The function module template for User Exit 920 is /COCKPIT/WC_USEX_WORKITEM.

User Exit 921 – Adapt what data the Web Application gets

User Exit 921 is called after the complete document data is read upon a "data get" call from the ReadSoft Web Application. All document data is available and you can modify it in any way. The User Exit call is the last statement in the "data get" RFC. Therefore, ensure that the messages table is properly filled. And do not raise an exception.

The function module template for User Exit 921 is /COCKPIT/WC_USEX_RFC_DATA_GET.

User Exit 922 – Read the overview data in WORK CYCLE

WORK CYCLE calls User Exit 922 at the beginning of the RFC that the Web Application calls to get the list of documents for the currently logged on user.

If document GUIDs are passed here, only the documents matching the GUID exactly appear in the list. If the **No standard** flag is set, the User Exit replaces this standard call. If the flag is not set, the User Exit can be used to modify some changeable parameters.

The function module template for User Exit 922 is /COCKPIT/WC_USEX_GET_MULTII.

User Exit 923 – User check during logon to the Web Application

WORK CYCLE calls User Exit 923 when a user logs in to the ReadSoft Web Application with a user ID and password. You can use this User Exit to authenticate the user.

The user ID is passed as IC_USER_EMAIL, the password as IC_PASSWORD, and the [security policy](#) as the SECPOL changing parameter. If you select the **No standard** check box in /COCKPIT/WI23, the User Exit replaces the standard authentication. In this case, the User Exit must verify the existence of the user and the correctness of the password, and also determine the user ID, user type and user language.

WORK CYCLE also calls User Exit 923 when a user changes the password in the Web Application. In this case, the user ID and type are already known, so they are passed instead of IC_USER_EMAIL. IC_NEWPASSWORD is filled with the new password specified by the user.

If you are using the PROCESS DIRECTOR (blue) Web Application, you must also activate the **User logon** BAdI implementation /EBY/ICWC_USER_LOGON. See the *PROCESS DIRECTOR Advanced Configuration Guide* for information on this BAdI.

The function module template for User Exit 923 is /COCKPIT/WC_USEX_RFC_USER_CHK.

User Exit 924 – Set substitutes for the workflow

WORK CYCLE calls User Exit 924 when a user creates, changes or deletes a substitution setting in the Web Application. A substitution setting consists of **User ID**, **User Type**, **From** data, **To** data, and a flag to indicate whether the substitution type is passive or active. If you select the **No standard** check box in /COCKPIT/WI23, WORK CYCLE skips the standard processing for setting substitutes.

The function module template for User Exit 924 is /COCKPIT/WC_USEX_WEB_SUB_SET.

User Exit 925 – Set substitutes for SAP users

WORK CYCLE calls User Exit 925 when an SAP user creates, changes or deletes a substitution setting in WORK CYCLE in the SAP GUI. If you select the **No standard** check box in /COCKPIT/WI23, WORK CYCLE skips the standard procedure for setting substitutes.

The function module template for User Exit 925 is /COCKPIT/WC_USEX_SAP_SUB_SET.

User Exit 926 – Adapt search help determination for check tables

WORK CYCLE calls User Exit 926 when the ReadSoft Web Application calls a check table based value search. The User Exit can override the search help configuration settings to influence the search behavior.

The function module template for User Exit 926 is /COCKPIT/WC_USEX_SHLP_BYTABLE.

User Exit 927 – After saving the logon timestamp

WORK CYCLE calls User Exit 927 after saving the logon date and time for a ReadSoft Web Application user.

The function module template for User Exit 927 is /COCKPIT/WC_USEX_LOGON_SET.

User Exit 928 – CPD data get

WORK CYCLE calls User Exit 928 at the end of the RFC that the ReadSoft Web Application calls to get the data of a one-time vendor. You can use this User Exit to modify the one-time vendor data.

The function module template for User Exit 928 is /COCKPIT/WC_USEX_CPD_GET.

User Exit 929 – CPD data set

WORK CYCLE calls User Exit 929 at the beginning of the RFC that the ReadSoft Web Application when users save one-time vendor data. You can use this User Exit to modify and save the vendor data.

The function module template for User Exit 929 is /COCKPIT/WC_USEX_CPD_SET.

User Exit 930 – Reset WORK CYCLE user password

WORK CYCLE calls User Exit 930 at the beginning of the RFC that the ReadSoft Web Application calls when users reset their password. You must select the **No standard** check box in /COCKPIT/WI23 for this User Exit, as the standard processing does not use the values that the User Exit returns.

The function module template for User Exit 930 is /COCKPIT/WC_USEX_USER_PW_RESET.

User Exit 931 – Get user data

The function module template for User Exit 931 is /COCKPIT/WC_USEX_USER_GET.

User Exit 932 – Get user data

WORK CYCLE calls User Exit 932 before a user forwards a document or sends it to another processor using the ReadSoft Web Application, and uses the search help to select a processor. The User Exit changes the display format of the names that the search returns, from **Last name, First name** to **First name, Last name**.

When you create new users in /COCKPIT/WUM, only the **Complete name** field exists, and WORK CYCLE does not enforce a format specification. This means that the format in the Web Application may differ from the format in the SAP GUI. You can use this User Exit to present all users' names in the same way.

Note: To have names display in the same way without using this User Exit, type names in /COCKPIT/WUM2 in the format **Last name, First name**.

The function module template for User Exit 932 is /COCKPIT/WC_USEX_USER_GET2.

User Exit 933 – Get approved documents

User Exit 933 enables a user to view another user's approved and rejected documents. This is helpful if the user has more than one user account in SAP.

The User Exit is called when the user clicks the **Workflow > Display releases (History)** menu item. If the User Exit is activated, WORK CYCLE displays all documents of the currently logged-in user and all documents of any other users configured in the User Exit or a user mapping table.

The function module template for User Exit 933 is /COCKPIT/WC_USEX_APPROVED_GET.

User Exit 934 – Manipulate WORK CYCLE flow definition

User Exit 934 allows you to dynamically add a parallel step to a workflow.

The function module template for User Exit 934 is /COCKPIT/WC_USEX_GET_FLOW.

User Exit 935 – Note check

The function module template for User Exit 935 is /COCKPIT/WC_USEX_NOTE_CHECK.

User Exit 936: List of possible substitutes

User Exit 936 allows you to limit the list of users that users can select when assigning substitutes.

The function module template for User Exit 936 is `/COCKPIT/WC_USEX_SUBS_LIST`.

User Exit 938 – Reduce list of documents before WF recall

User Exit 938 allows you to limit the documents that users can be recall from workflow.

The function module template for User Exit 938 is `/COCKPIT/WC_USEX_BEFORE_RECALL`.

LDAP User Exit 1 - Assign LDAP attribute to WORK CYCLE user field

The function module template for LDAP User Exit 1 is `/COCKPIT/WC_USEX_LDAPSIMPLEMAP`.

Search help User Exit – Search help for a field in the Web Application

WORK CYCLE calls the Search help User Exit when users search for a value in the Web Application. The User Exit can override the search help configuration settings to influence the search behavior.

The function module template for Search help User Exit is `/COCKPIT/WC_USEX_SHLP`.

Step User Exit 1 – Check step conditions

Step User Exit 1 allows you to control whether a workflow step should start (by raising the `NOT_VALID` exception). In the workflow step settings in [/COCKPIT/WI3](#), you must select the User Exit in the **Check if the step can be started** field.

The function module template for Step User Exit 1 is `/COCKPIT/WC_USEX_CONDITIONS`.

Step User Exit 2 – Determine processor of step

Step User Exit 2 allows you to determine the recipients of a workflow step. WORK CYCLE transfers the recipients to the `ET_RECEIVER` table. In the workflow step settings in [/COCKPIT/WI3](#), you must select the User Exit in the **Define possible processors and parallel steps** field.

You can also use this User Exit to assign line items and accounting items to workflow processors. Use the `ET_ITM_RCVR` structure for this purpose.

WORK CYCLE calls the function module `/COCKPIT/WC_SET_GLOBALS_SET` before this User Exit, so you can use global workflow data by calling `/COCKPIT/WC_GET_GLOBALS`. For example, you can determine the recipient of a step from the approver of the previous step.

The function module template for Step User Exit 2 is `/COCKPIT/WC_USEX_RECEIVERS`.

Step User Exit 3 – After an action is performed

WORK CYCLE calls Step User Exit 3 all process-related actions, such as saving or approving, from within the SAP GUI or the Web Application. You should raise the `ERROR_OCCURED` exception if there is an interruption to the process.

In the workflow step settings in [/COCKPIT/WI3](#), you must select the User Exit in the **Logic after the step action has been performed** field.

The function module template for Step User Exit 3 is `/COCKPIT/WC_USEX_CHECK_ACTION`.

Step User Exit 4 – After full release

WORK CYCLE calls Step User Exit 4 when users approve a workflow step. You can use it to perform some post processing. Simply raising an exception here will not change the fact that the step is approved.

In the workflow step settings in [/COCKPIT/WI3](#), you must select the User Exit in the **Logic after the step has been released** field.

The function module template for Step User Exit 4 is `/COCKPIT/WC_USEX_AFTER_EXEC`.

Step User Exit 5 – Check the recipient of the step

Step User Exit 5 checks the recipients of a workflow step.

In the workflow step settings in [/COCKPIT/WI3](#), you must select the User Exit in the **Check recipients of the step** field.


The function module template for Step User Exit 5 is `/COCKPIT/WC_USEX_USER_CHECK`.

Other tasks

Copy a form to another client

You import forms as separate transports. You must import them into client 000 and then copy them to the target client.

To copy a form, complete the following steps.

1. Log on to the client to which you want to copy the form.
2. Go to transaction SE71.
3. On the **Utilities** menu, click **Copy from Client**.
4. Type the **Form name**, **Source client** and **Target form**.
5. Click the **Execute**  button.

Support for other languages

WORK CYCLE is available in many languages. To allow users to create workflow notes in Russian and Polish, you must install the following SAP notes.

- SAP note 322998 for Russian
- SAP note 141343 for Polish