SAP for Utilities

SAP
Engineering
Change Management

POWERED BY SAP HANA

SAP S/4 HANA

A Business and Technical Roadmap to Deploying SAP

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INTRODUCTION

Welcome to the fascinating world of SAP. This book helps you crack the tricks of mastering SAP HANA Customization

Engineering Change Management

Here, you define settings for engineering change management. You define the following:

Statuses in engineering change management

Revision levels

Change types for the change master and for change objects

Status profiles

Number ranges for internal and external number assignment -   Matchcodes for finding change master records

Set Control Data

In this work step, you define central settings for engineering change management:

Affectivity

Parameter affectivity
In the standard R/3 System, the affectivity of a change is determined by the *valid-from* date.
You can also activate parameter affectivity, and this define affectivity using affectivity types.
The following affectivity types are supported in the standard R/3 System:

DATE (time interval)

SERNR (serial number interval)
You can define other affectivity types.

Rank active
You define whether you can enter a rank in the change master record (change header).

Affectivity Profile
You can define an affectivity profile that is valid for every client.

Revision level

By activating the revision level you can indicate the different processing statuses of materials and documents.
You can also make the following additional settings:

You can define an **external** revision level number assignment for materials.

You can define that a higher revision level must always be assigned from the predefined revision level sequence. This means that the new revision level always has the **highest** value.

You can define **automatic** assignment for internal revision level assignment.

If you want the revision levels to be assigned in the predefined sequence, set the *Extended sequence check* indicator.

Release key

Activate release procedure
If you only want changes to become effective after they have been released for successive work areas (for example, production), set the Release procedure active indicator. In the change master record

(change header), you define which areas the changes are to be taken into account in using the Release key.

Lock change number
You can use the Lock change number with release key indicator to define whether change numbers should be locked against changes that have already been released for one or more areas.

If required, set the following indicators:

Late packages allowed

"Always effective" active

Object management record

Display transaction goes to object maintenance

 This indicator is only relevant to BOMs and documents.
You use this indicator to allow you to change BOMs and documents from the object overview (display mode of the change master record).

Assign Alternative Date
You use this indicator to allow direct assignment to an object management record when creating or changing an object.

Change number

If change numbers with alpha fields are also to be checked during external number assignment, set the *Number range check for alpha fields* indicator.

Date shift

If the Date shift indicator is set, the protected time interval can be checked when a change master record or a change object is being processed.

You can determine whether the user receives a warning or an error message. The base date for the check is the current date. The system calculates the warning or error time that has been entered (in calendar days) from the current date. The key date and all the days before it are counted in the protected time interval (see the example for warning time.

Note:
If you enter a negative value (for example, -10), the system calculates the protected time interval in the past, starting from the *valid-from* date.

Warning time in days
Processing is allowed in this time interval. However, the system sends a warning so that the change objects are checked.

Error time in days
Processing is not allowed in this time interval.

Only error messages (relevant to BOMs and routings)
You use this indicator to control how messages are displayed when a date shift is performed, and due to this date shift, the sequence of effectivity time periods for BOMs and routings changes.

Standard settings

Aktivitäten

Set the control data to meet your requirements.

Parameter Effectivity

These settings are only required if you want to define the effectivity of a change using parameter effectivity.

You can process the following objects with reference to a change number whose effectivity conditions are determined by an effectivity type:

BOMs

Characteristics

Characteristics of class

Classification

Define Parameters

In this step, you define the effectivity parameters for effectivity types.

These parameters are allocated to an effectivity type in the work step Define effectivity type assigned values in the change master record

Requirements

If you want to use parameter effectivity to control the effectivity of object changes, activate the new effectivity types in the work step: Set up control data.

Standard settings

In the standard R/3 System, the following parameters are defined:

DATE (date)

SERNR (serial number)

MATNR (material number)

Activities

To define effectivity parameters, proceed as follows:

Choose *Create*.

Enter an *effectivity parameter* key. This key is not language-dependent.

Enter the data element that defines the properties of the parameter.

Enter the data type.
The type determines which values you can enter for effectivity.

Enter a language-dependent description in your logon language.

If required, enter the check table.

If required, enter the check field.

Save your entries.

Further notes

Perform the following work steps:

Describe parameters

Define effectivity types
   Allocate the effectivity parameters to the effectivity type.

Describe Parameters

You can describe the effectivity parameters language-dependently in this work step. When you define the parameters in the work step Define parameters, just enter the description in your log-on language. The text for the parameters is displayed when you define a new effectivity type Define effectivity types.

Requirements

You must have defined the effectivity parameters (work step: Define parameters).

Standard settings

The table automatically contains all the parameters and their descriptions that have been created in the appropriate log-on language in the work step Define parameters.

Further notes

You define the effectivity parameters as follows:

Choose *New entries*.

Enter the key for the *effectivity parameter*. This key is language independent.

Enter the language that the description is valid for.

Enter the language-dependent description.

Save your entries.

Enter Titles for Parameter Maintenance

In this activity you enter the headings that are displayed on the effectivity parameter maintenance screens, in the change master record, according to the language.

Requirements

You have defined the effectivity parameters (Define parameters activity).

Standard settings

How many headings you maintain for each language depends on the type of effectivity parameter:

For effectivity parameters with the *single value (S)* type you maintain one heading per language, with the suffix *_LO.*

For effectivity parameters with the *closed interval (I)* type you maintain two headings per language, with the suffixes *_LO* and *_HI.*

For effectivity parameters with the *open interval (O)* type you maintain three headings per language, with the suffixes *_LO, _HI* and *_OI.*

Activities

You enter a language-dependent heading as follows:

Choose *Edit -> New entries.*

Enter the key for the effectivity type.

Enter the key for the effectivity parameter.

Enter the suffix as described above.

Enter the language you want the heading to be valid for.

Enter the language-dependent heading

Save your entries.

Define Effectivity Types

In this step, you define effectivity types.

You can change an object (for example, BOM) with various effectivity types, so you must define a means of prioritizing these effectivity types. Effectivity parameters define the properties of the effectivity type.

Requirements

Before you can use effectivity types to control object changes, you must perform the following steps:

Define control data Activate the new effectivity types.

Define effectivity parameters Define
  effectivity parameters.

Standard settings

In the standard R/3 System, the following effectivity types are defined:

DATE (time interval)

SERNR (serial number interval)

Recommendation

In order to be able to keep the change conditions visible at a glance, you should not allocate more than four effectivity parameters to an effectivity type.

Activities

You define the effectivity types as follows:

Choose *Create*.

Enter a key for your *effectivity type*. This key is not language-dependent.

Enter a language-dependent description in your logon language.

Define the priority of the effectivity type.

In the *Effectivity parameters* dataset, select the parameters you require.

Save your entries.

Further notes

There is the following restriction for the <DS: GLOS.Application Link Enabling>ALE distribution of change numbers:
The effectivity type cannot have more than ten self-defined effectivity parameters allocated to it.

Enter Descriptions of Effectivity Types

In this step you enter the language-dependent descriptions of effectivity types.

Requirements

To be able to work with parameter effectivity, you have set the *Parameter effectivity* indicator in the Set up control data step of engineering change management.

In the Define effectivity types step you have defined effectivity types.

Standard settings

Headings already exist in the standard system for the pre-defined R/3 effectivity types SERNR (serial number) and DATE.

Activities

You enter language-dependent descriptions of effectivity types as follows:
Choose *Edit -> New entries.*

In the first column enter the language-independent key.

In the second column enter the key for the language, such as *EN* for English.

In the third column enter the language-dependent description.

Save your data.

Maintain Effectivity Profiles

In this step you maintain effectivity profiles. You use effectivity profiles to limit the effectivity types available, client-wide or for particular materials.

Requirements

In the Set up control data step you have set the *Parameter effectivity* indicator.

In the Define effectivity types step you have defined effectivity types.

Activities

You define a new effectivity profile as follows:

Choose *New entries.*
   A screen appears with a table in which all effectivity types that have been defined in the system are listed.

Enter a name and a description for the new effectivity profile.

For all effectivity types that you want to be included in the effectivity profile, set the *Active* indicator.

You define a client-wide effectivity profile as follows:

In Customizing for engineering change management, choose the Set up control data step.

In the *Effectivity profile* field enter its name and save it.

You define an effectivity profile for a material as follows:

Choose *Logistics -> Central functions -> Engineering change management -> Parameter effectivity -> Assign material to profile.*

Choose *New entries.*

Under *Finished prod.* Enter the material number and under *Effectivity profile* enter the name of the effectivity profile. Then save your data.

Further notes

In an effectivity profile you can set a maximum of ten effectivity types as active.

Release Key

You make settings for the release key in this work step.

These work steps are only required if you have activated the release procedure (work step: Set up control data).

Define Release Key

In this work step, you define release keys that you can allocate to a change master record (change header). You define which areas of the company the changes are to be taken account in.

As soon as you allocate a release key to a change master record, you can no longer change the definition for the release key.

Requirements

Activate the release procedure in the following work step: Set up control data.

Standard settings

The following release keys are available in the standard R/3 sSystem:

No release: leave blank
    The changes with reference to a specific change number are not released for other areas (for example, production).

Global release: value 1
    The change master record is released for all areas of the company.

Activities

Define the release keys:

Enter the release key.

Set one or more indicators:
    Simulation

    Release for costing

    Release for planning

Release for production

In the following work step you can define whether change numbers can be locked against changes that have already been released for one or more areas: Set up control data.

Describe Release Key

In this activity you define the language-dependent descriptions for the release keys.

Requirements

You have defined the release keys in the Define release key activity.

Activities

You can enter a language-dependent description for a release key as follows:

Choose *New entries.*

Enter the language-dependent release key in the first column.

Enter the language key (such as EN for English) in the second column.

Enter the language-dependent description in the third column.

Save your data.

Define Statuses for Change Master Records

In this step, you define the properties of the change master record and describe these properties using statuses:

For each status, enter a numeric key and a descriptive short text.

Define whether a change number with this status can be used for making changes.

Specify whether the **valid-from** date can be changed.

If you are using distribution for ID PDM, define whether the status allows distribution to other ALE systems.

Default settings

In the standard R/3 System, the following statuses are defined:

Active

Not active

Actions

Define the settings for the allowed statuses for change master records.

Revision Levels

Define Revision Levels for Materials

In this step, you define the revision levels for materials. You also define the sequence in which the revision levels are to be assigned.

Note

Once a revision level has been assigned, you can no longer delete it.

Each revision level can only exist once within the sequence.

Requirements

You must process the step "Set up control data" first.

Default Settings

Various revision levels are included in the standard SAP R/3 System.

Actions

Define the revision levels for materials and the sequence in which these revision levels are to be assigned.

Define Revision Levels for Documents

Use

In this work step, you define the revision levels for documents. You also specify the order in which the revision levels are to be assigned.

Note

Once a revision level has been assigned, you can no longer delete it.

Each revision level can only exist once in the sequence.

Requirements

You must have carried out the Set Control Data work step.

Standard settings

A number of different revision levels are delivered with the standard system.

Activities

Define the revision levels for documents and specify the order in which they are to be assigned.

Change Type

You only need to make the settings here if you want to control the change process with different change types of change requests / change orders.

Approval

During the change process, different statuses are set for the ECR/ECO by either one or more than one person in order to allow the next processing step to take place. The affected person(s) must make a digital signature.

If more than one signature is to be required to set the status, make settings for the approval procedure.

Maintain Basic Settings for Digital Signature

You can specify that the setting of a status in a change request/order with a digital signature has to be approved.

The basis application component *Secure Store and Forward (SSF)* is used to realize digital signatures in the SAP System. This section tells you how to make the following settings:

SSF settings for the digital signature
>Which settings you make here depends on the signature method you use (see Specify
>Signature Method for Approval Using Simple Signature and Define Signature Strategies)

The complete names of the users that are supposed to execute the signatures as well as their personal time zones
>When a signature is executed, the system copies the signatory name together with the local time according to the signatory's personal time zone to the signed document.

Caution

All users can maintain their address data and defaults by choosing *System* -> *User profile* -> *Own data*. The general user settings along with the SSF settings for the user are part of this data. Therefore if you use digital signatures, do not assign the authorization to maintain own data to all users.

Requirements

If you use the user signature as your signature method, you need an external security product that is linked to your SAP System by way of SSF.
Note that you should not store the users' Personal Security Environment (PSE) in a file system but rather, for example, on a smart card. The PSE software does not comply with legal requirements for digital signatures.

Standard settings

The SSF settings for the system signature are contained in the standard system.

Activities

SSF Settings for the User Signature

Go to Customizing for *Basis Components*, choose *System Administration* -> *Digital Signature* and carry out activity *Application-Dependent Parameters for SSF Functions.*

Enter the SSF information for the users that are supposed to execute digital signatures. If you want, you can also make the general user settings now (see below).

Go to user maintenance.

Enter the user ID of the user whose data you want to maintain and choose *Change.*

Go to the *Address* tab page.

Choose *Other communication* and double-click *SSF (Secure Store & Forw.).*

Enter the user's SSF information.
How the entries must be structured depends on the security product you use.

Choose *Continue* and save your entries.

SSF Settings for the System Signature

Check and, if required, maintain the standard settings. To do so, go to Customizing for *Basis Components*, choose *System Administration* -> *Digital Signature* and carry out the following activities:

Application-Dependent Parameters for SSF Functions

SAPSECULIB Maintenance Information

General User Settings

Go to user maintenance.

Enter the user ID of the user whose data you want to maintain and choose *Change.*

Go to the *Address* tab page and enter the user's first and last names.

Go to the *Defaults* tab page and enter the user's personal time zone.

Save your entries.

Define authorization group

You define the authorization groups for the digital signatures in this work step.

You can use the authorization groups to help you restrict the authorizations for approving ECR/ECOs as follows:

You define different authorization groups for users who work in different task areas.

In the user master record, allocate each user with the correct authorization for the authorization group that corresponds to his/her task area (authorization object: C_SIGN_BGR).

Define single signatures that have to be entered by users in a specific user group and are used in the signature strategies for the change types of an ECR/ECO.

The authorization groups are **not** taken into account if, in the ECR/ECO, a single signature suffices to approve which system status is set and a signature strategy is not required.

Example

Release of the change order and also release of the object changes (for example, BOM changes) must be approved in your company. You must make the following settings for this:

Define the authorization groups *FECM (Release change master record)* and *FECO (Release object)*.

The boss of production and his/her replacement receive an authorization for the group *FECM*, the engineering/design boss and his/her replacement for the group *FECM*.

Define a single signature for the approval of the object change Allocate this to the authorization group *FECO*.

Activities

Decide which user groups or task areas you have to be able to distinguish between in your company.

Define an authorization group for each user group.

Further notes

Authorization groups take effect in all areas where a digital signature is used. Before you change the authorization groups available, or use them for your own requirements, please check that any the changes you make do not cause problems in other areas.

Define single signature

In this work step, you define the single signatures that users in a specific authorization group must make.

You can then use these single signatures as individual steps in a signature strategy when a status in the ECR/ECO is approved.
If a single signature suffices to approve the status that is set in the ECR/ECO and no signature strategy is required, you do not have to define the single signatures.

Example

In your company, release of the ECR/ECO must be approved by the production manager, the release of object changes (for example, BOM changes) by the engineering/design manager.

You define the following single signatures:

SM with the authorization group *Release change master record*

SO with the authorization group *Release object*

Requirements

Define authorization group

Activities

Define the single signatures that must be entered when your ECR/ECOs are approved.

Further notes

Single signatures also apply in other areas that use the digital signature. Before you change the individual signatures available or use them for your own purposes, please check that no conflicts arise with other areas.

Define signature strategy

In this work step you define signature strategies. Doing this you carry out the following settings:

You group together individual signatures of different user groups into one signature process.

You determine which signature method you use when carrying out the signature process.

Then, for each signature network, you can define which signature strategy is to be followed when you set a system status in the ECR/ECO.

If you only need one signature to approve the setting of the system status in the ECR/ECO, you do not need a signature strategy.

Requirements

Define single signature

Recommendation

If you use the user signature with external security product as the signature method, you always work with verification in the production system. For signatures without verification, the validity of the user certificate is not checked. This signature method should therefore only be used for test purposes.

Activities

To create a signature strategy, proceed as follows:

Choose *New entries* and enter a key and a description for the signature strategy.

Assign individual signatures

Define signature sequence

Define release conditions

Further notes

Signature strategies also apply in other areas where digital signatures are used. Before you change existing strategies or use them for your own purposes, please ensure that you do not cause any confusion in other areas.

Define signature network for change master record

In this work step you define signature networks in which you allocate one signature strategy to the individual system statuses of the ECR/ECO.

When you set the system status in the ECR/ECO (change header), the allocated signature process is started.

Requirements

Define single signature

Define signature strategy

Activities

If you want to create a new signature network, proceed as follows:

Choose *New entries* and enter a key and a description for the signature network.

Enter a signature strategy for each system status that you want a signature process to be started for.

Describe signature network for change master record

In this work step you describe the signature network for the ECR/ECO (change header) language-dependently.

Requirements

Define signature network for master record

This is how you describe the signature network:

Choose *New entries*.

Enter the language that the description applies to.

Enter the key for the *signature network*. This key is language-independent.

Enter the language-dependent description.

Save your entry.

Define signature network for objects

In this work step, you define the signature networks in which you allocate a signature strategy to each of the individual system statuses of an object management record in the ECR/ECO.

The allocated signature process is started when you set a system status in the ECR/ECO (object management record).

Requirements

Define single signature

Define signature strategy

Activities

To create a new signature network, proceed as follows:

Choose *New entries* and enter a key and a description for the strategy network.

Enter a signature strategy for each system status that a signature process is to be started
for.

Describe signature network for objects

In this work step you describe the signature network for the object management record language-dependently.

Requirements

Define signature network for objects

This is how you describe the signature network:

Choose *New entries*.

Enter the language that the description applies to.

Enter the key for the *signature network*. This key is language-independent.

Enter the language-dependent description.

Save your entry.

Maintain Profile

In this step, you define the profiles for default values and settings when you create a change master record.

The information in a profile is standard information that you need to enter frequently in a similar combination in change master records. The profile makes it easier to enter and manage change data.

Recommendation

Before you create a change master record, check whether a suitable Object type profile exists.

See Display object type profile.

Activities

To define a profile:

On the profile overview, choose *New entries*.

On the detail screen, enter a name and description for your profile.

Enter your default values for the following fields in change master records:

      Change number status

      Authorization group

      Reason for change

      Status profile

Enter an object type profile if required.
      You use the object type profile to define which objects can be processed with the change master record (for example, BOMs, task lists, or documents). For this reason, you cannot use profiles to create a **leading change master record**.

Enter a suitable object type profile, if one exists.

If you want to create a new object type profile, see: Create object type profile.

Save your settings for the profile.

Create object type profile

On the profile overview for change master records (initial screen), choose *Object type overview* in the *Navigation* dataset.

You see an overview where you can enter the object types for change objects that you want to process with a profile. The possible entries function shows you the change object types. For example, if you want to process BOMs and routings, enter object types 2 (material BOM) and 12 (routing). The system find the description of the object type.

Set your default indicators for the object types.

You can use the Can be overridden indicator to allow you to change the default settings for object types when you create a change master record.

Define Number Ranges

In this step, you define the type of number assignment.

You must assign a unique number to each change master record.
You have the following options:

Internal number assignment The SAP
    System assigns change numbers.

External number assignment the user
    assigns change numbers.

Note

For purely numeric change numbers, you can specify whether numbers are to be assigned internally or externally.

In the step Set up control data, you can also define number range checks for alphanumeric fields.

Actions

Create number range 01 for external number assignment.

Create number range 02 for internal number assignment.

Notes for transport:

Number range objects can be transported as follows:

On the initial screen, select the menu options "Interval -> Transport".

Make sure all intervals for the selected number range objects have been deleted in the target system to ensure that only the exported intervals exist after the import. The number statuses are imported with the value they possessed at the time of the export.

Dependent tables are not transported or converted.

Define Output Format for Change Number

In this IMG activity, you define the following:

Input and output length of change number the length can be up to 12 characters.

Template for output of change number (screen or print)
>You must enter an underscore character for each character of the change number that is not to contain a template character.

Storage form of change number

Output with/without leading zeros

These settings for the change number can be defined per client.

Activities

Define the length of the change number.

Define a change number template, if required.

Define the storage form of the change number.
For more information on the use of the *Lexicographical* indicator, see the Documentation.

Define whether the change number is output with or without leading zeros.

Note
If the *Lexicographical* indicator is set, the setting for the *Leading Zeros* indicator is ignored.

Authorization Management

You define authorizations for the different authorization objects in this work step.

Define Authorization

You can find out which authorization objects are defined for Engineering Change Management in this work step. You can maintain authorizations for these objects in the SAP system.

Authorization objects

The following list shows which authorization objects are checked for each function.

Change master record create, change, display	C_AENR_BGR Authorization group
Change master record (enhanced check)	C_AENR_ERW Change master record
Revision level cretae, change	C_AENR_RV1 Revision level for material

Revision level create, change	C_AENR_RV2 Revision level for document
Change docouments Display	S_SCD0 Change documents

Standardeinstellungen

In der Standardauslieferung sind für alle Berechtigungsobjekte der Anwendung Berechtigungen vorgesehen.

Sie finden für die Berechtigungsobjekte Pflegeberechtigungen und Anzeigeberechtigungen.

Die Standardberechtigungen gelten für alle Organisationseinheiten.

Aktivitäten

Prüfen Sie, ob die Standardberechtigungen Ihren Anforderungen genügen. Gehen Sie hierzu wie folgt vor:

Wählen Sie die Objektklasse der Anwendung aus. Sie erhalten die Liste der Berechtigungsobjekte.

Wählen Sie ein Berechtigungsobjekt aus.
Sie erhalten die Liste der Berechtigungen zu diesem Objekt.

Legen Sie bei Bedarf neue Berechtigungen gemäß Ihren Anforderungen an. Gehen Sie hierzu wie folgt vor:

Wählen Sie *Berechtigung* -> *Anlegen.*

Geben Sie die Berechtigung und einen Kurztext ein.

Wählen Sie ein Feld aus, um die einzelnen Feldwerte zu pflegen.

Sichern Sie Ihre Eingaben.

Aktivieren Sie die neue Berechtigung.

Hinweis

Mit dem Profilgenerator können Sie Berechtigungen und Profile erstellen.

Diese Funktion vereinfacht das Customizing der Berechtigungsverwaltung erheblich. Sie sollte bei Erstinstallationen verwendet werden.

Die einzelnen Konfigurationsschritte für den Profilgenerator finden Sie unter Basis Systemadministration - Benutzer und Berechtigungen - Berechtigungen und Profile mit dem Profilgenerator pflegen.

Description of authorization objects

Object: C_AENR_BGR Change master record

Definition

This authorization object allows you to protect a change master record, together with all object types and object management records belonging to it.

The system checks your authorization:

When you edit a change master record

If the authorization group is changed while you maintain the master record, the system makes another check.

When you change master data with reference to the change number

Defined fields

The table below shows the fields and values covered by this authorization object.

Fields	Possible entries	Meaning
ACTVT (Activity)	01	Create
	02	Change
	03	Display
	06	Delete (change master)
	22	Enter (change number in object)
	81	Set dates (for change number)
BEGRU (Authorization group) (Change header).	0000-ZZZZ	Used to make additional restrictions on access to individual change master records

Object: C_AENR_ERW Change master record - Enhanced check

Definition

This authorization object enables you to protect a change master record with all its object types and object management records.

This check takes place:

When you process a change master record

If the authorization group is changed during change master maintenance, a new check takes place.

When you change master data with reference to a change number

Defined fields

The following table contains the fields and values of the authorization object.

Fields	Possible Values	Meaning
ACTVT (Activity)	01	Create
	02	Change
	03	Display
	06	Delete (change master)
	22	Enter (change number in object)
	81	End (change number)
BEGRU (Authorization	0000-ZZZZ	Used to limit authorizations

group)		For the change master record (change header).
AEFUN (Change number function)	BLANK	Change number without release key
	1	Change number with release key
	2	Change package
	3	Leading change master record
AENST (Change number status) (Change header).	01 - 99	Used to limit authorizations for the change master record

Object: S_SCD0 Change documents

Definition

Authorization for access to change objects and change documents.

Defined fields

ACTVT activity - **06** delete change documents.

08 display change documents.

12 maintain change document objects.

Object: C_AENR_RV1 Revision level for material

Definition

Using this authorization object, it is possible to restrict the creation and change of a revision level.

If the revision level is assigned from processing the material master record or BOM maintenance, an authorization check also occurs.

Defined fields

Maintain the field *Activity* for the authorization object.

Field		Possible Values	meaning
ACTVT	01		Create
(activity)	02		Change

Object: C_AENR_RV2 Revision level for document

Definition

This authorization object allows you to restrict authorizations for creating and changing revision levels for document info records.

If you assign a revision level when processing a document info record, the system checks your authorization, too.

Defined fields

Maintain the *Activity* field for the authorization object.

Field	Possible values	Description
ACTVT	01	Create
(Activity)	02	Change

Define Profile

Profiles contain authorization objects for clearly-defined work areas.

Standard settings

There are default settings for profiles in the SAP standard.

Activities

Check the standard profiles.

If necessary, create new profiles.

Edit Matchcodes

In this step, you can create new match codes or change existing match codes for change master records.

Before you maintain match codes, please read the following sections for further information:

Matchcode Concept
This section describes the structure of match codes in the SAP System.

Create Matchcode
This section describes how to create a matchcode in the ABAP/4 dictionary.

Create matchcode
You can find information on how to maintain match codes in the R/3 library under Basis Components -> ABAP/4 Development Workbench -> ABAP/4 Dictionary -> Maintaining Matchcodes.

Matchcode Utility
This section describes the handling of the matchcode utility. The matchcode utility is used to set up match codes that are physically stored.

Note

To maintain match codes, you need technical knowledge of the ABAP/4 dictionary. Matchcodes should only be maintained by your system administrator.

Note that a large number of match codes can adversely affect the performance of your system. Check which match codes you want to use in your application area. You can deactivate the match codes you do not want to use.

Matchcodes are valid in all clients.
Default settings

The following match codes are supplied as standard for change master records:

Matchcode ID "A" is used to find a change master by its description.

Matchcode ID "B" is used to find a change number for materials.

Matchcode ID "C" is used to find a change number for documents.

Matchcode ID "D" is used to find a change master by the classes to which the change master is assigned.

Actions

Check whether the standard match codes are sufficient for your requirements.

Define new matchcode IDs for existing match codes or create new match codes, if necessary.

Activate Change Sequence Graph

Use

In this process step, you activate the administration for change numbers via the change sequence graph.

Define Selection Profiles

In this work step you define the status selection profile which you use to define the status combinations for the selection of objects (such as change master records, change requests, change orders). A status selection profile is therefore, particularly useful if you repeatedly select a large number of objects according to the same selection criteria.

Selection run

The selection criteria are evaluated from top to bottom. The following rules apply:

Several consecutive lines, linked with an *OR*, are cumulated in a block and are evaluated at the same time. The block must fulfil at least one selection criterion.

AND links such blocks or individual criterion. All blocks or individual criterion linked by *AND* have to be fulfilled. A change number is removed from the evaluation, as soon as a block or individual criterion is not fulfilled. That means that each time a new *AND* is added, brackets are placed around the previous expression. To select the desired selection combination you may have to reshape the selection criteria.

In general you can say that: *OR* is a stronger link than *AND!*

Status "Active", "Inactive", or "Never active"

In addition, you can define the level of the status to be selected from:

When the status is set to *active* the system looks for objects for which the given status is currently active.

When the status is set to *inactive* the system looks for objects for which the given status is currently inactive.

When the status is set to *never active* the system looks for change numbers in which the given status was never active.

"Exempt" indicator

In certain cases, this indicator enables you to reduce the input times when maintaining selection criteria. Some selection criteria can be seen more easily by setting the *exempt* indicator.

Example

Selection criteria without *exempt* indicator:

Link text	Exempt	Level
<Status> _		Inactive
OR <Status>_		Never active

Same selection criteria with *exempt* indicator:

Link text	Exempt	Level
<Status> X		Inactive

Recommendation

Criteria that significantly restrict the selection, ought to be set at the start of the status selection profile for performance reasons.

System status/User status

In the status selection profile, you can enter both **system status** and **user status**. If you want to select objects by user status, you have to enter the relevant status profile.

Language dependency of a selection profile

Once a selection profile has been created in a language, it can be used in all the languages defined by the system. However, if the user status is defined in a status selection profile you have to make sure that the user status is translated in the relevant status profile. If no translation exists, you have to enter the user status in the language in which it was created.

Activities

If necessary, define your own status selection profiles.

Logging

Business Add-Ins (BAdIs)

BAdI: Conversion of Values and Key in the Evaluation

Use

Application component: LO

Transaction: AUT10

If an application saves values in internal formats, these cannot be recognized by the generic evaluation tool AUT10. AUT10 formats the tools as they are saved in the database.

You use the Business Add-In (BAdI) BADI_AUT_CONV to convert the values from an internal format to an external format.

The Business Add-In is called in transaction AUT10. You can execute it both in the overview and in the detail view for the table log.

Standard settings

The Business Add-In is not active in the standard set up.

There is no default coding for the Business Add-In.

The Business Add-In is filter-dependent and has filter type TABNAME.

Activities

To activate the Business Add-In, you must create an active implementation. To do this, choose the following path in the SAP Menu: *Tools -> ABAP Workbench -> Utilities -> Business Add-Ins -> Implementation*

For more information about this procedure, see the SAP Library under

Basis Components -> ABAP Workbench -> Changing the SAP Standard -> Business Add-Ins -> Implementing Business Add-Ins.

If you want to use the filter functions of the Business Add-In, enter the desired filter specifications for the implementation.

Example

One example for the use of this Business Add-In is for equipment, where the unique key is converted to an internal format before it is saved, and the converted back to the external format before it is displayed.

Characteristic values are another example. These are saved internally in floating point number format. They are converted to the relevant format before being displayed.

Further notes

You can also call the documentation on the BAdI method via the menu, by carrying out the following steps:

Choose the tab page *Interface*.

Double-click on the relevant method.

Click on the right mouse button and choose *Component documentation*.

Documentation for BAdI Method CONVERT_FIELD

Documentation for BAdI Method CONVERT_KEY

Change Configuration of Logging

Use

In this IMG activity, you can activate and deactivate the logging of data changes for individual table fields or for entire tables. The system then generates *Electronic Records*. If the logging facility is activated, then each data change is recorded in the relevant tables or table fields and saved in another table. The changed data can be evaluated with transaction AUT10 according to freely definable criteria.

Note

As of SAP NetWeaver 7.02 together with SAP ECC 6.0, Enhancement Pack (SAP_APPL 60), the extended Audit Trail functions for the entire Business Suite are available. In place of logging (Electronic Records), you can now use the Audit Trail functions. Parallel use of *Audit Trail* and *Electronic Records* is not possible. For more information, see the SAP *NetWeaver Library* under *Key Areas of SAP NetWeaver --> Key Areas of Information Integration --> Audit Trail.*

Requirements

You must have authorization to change the logging and you require the relevant authorization objects for this purpose. To change the logging of individual table fields, the relevant tables must be linked to the change document creation facility.

Standard settings

When changing the logging status, you should note that setting the logging status of tables is effective across clients, whereas setting the logging status of change documents is client-specific.

If a very large number of tables and table fields are logged, it is possible that system performance will suffer.

Activities

Carry out the Customizing activity *Configuration of Logging: Change* and activate or deactivate the logging facility for the desired tables or table fields.

Further information on configuring the logging facility is available in the SAP library under *Cross-Application Functions -> Cross-Application Components -> Electronic Records.*

Change Assignment of Transaction to Objects

Use

In this IMG activity, you assign transactions to tables and change document objects. This facilitates navigation help, structures the objects whose logging status you have changed or want to change and makes it easier to find the affected objects again later. The transactions with the assigned objects appear in the transactions *Configuration of Logging: Change (AUT01), Differences System <=> Own Settings: Display (AUT03)* and *Evaluation of Audit Trail (AUT10)* in the Easy Access menu under *Own Assignments.*

Activities

Assign the desired tables or change document objects to the transactions in the table. You can assign either a change document object **or** a table to a transaction **per table line**, but not both.

Configure Long Text Logs

Use

In this IMG activity, you define which long texts are to be deleted from the logging table DBTABLOG (e.g. because they are not logging-relevant). This reduces this table to the appropriate size, since the system initially enters all long texts in the DBTABLOG.

Standard settings

The system stores long texts in the tables STXL and STXH. To link these tables to table logging, the size of the domain LOGDATA must be increased to 8000 characters in the DBTABLOG. In the case of the databases *Oracle*, *Informix*, *SAP DB*, and *DB/400* this is possible without data conversion. In the case of *DB2/390*, *DB2/UDB*, and *MS SQL* servers, the extension of the LOGDATA field leads to a data conversion affecting all the entries of DBTABLOG. Depending on the number of entries in the DBTABLOG, this can take a large amount of time and double the necessary memory space in the database.

The enlargement of the DBTABLOG represents a modification that must be handled accordingly.

Activities

Select the desired long texts in the table and choose *Delete* (to remove the long text from the table DBTABLOG) or *Log* (to include the long text in the table DBTABLOG).

Business Add-Ins (BAdIs)

BAdI: Undo Changes

Use

This Business Add-In (BAdI) is used in component *Engineering Change Management* (*LO-ECH*) to undo changes to objects that have been saved with reference to a selected change number.

Before you actually undo the object changes, you can *simulate* the original state **before** the change with the selected change number.

When you execute the *Undo*, the original data that was saved **before** the change with the selected change number is valid.

The standard system contains several implementations for this BAdI, with which you can undo changes to data for different object types (such as classes, characteristics, and bills of material). **Do not change any implementation of the standard system**.
In the following cases, it can be useful to create new, company-specific implementations:

You want to undo object changes for objects that have no implementation in the standard system.

You want to use groupings or additional checks to influence the undoing of changes. For example, you can restrict the objects for which the *Undo* is executed.

Standard settings

In the standard system, this BAdI is active.

Activities

When you call the IMG activity, you see a list of the implementations in the standard system. **Do not change any implementation of the standard system**.

After you call the IMG activity, the system displays a dialog box where you enter a name for the implementation.

If implementations of this Business Add-In have already been created, the system displays them in a dialog box. You then choose one of them by choosing **Create**, and continue as follows:

In the dialog box, enter a name for the implementation of the Add-In and choose **Create**. The system displays the initial screen for creating Business Add-In implementations.

On this screen, enter a short description for you implementation in the **Implementation Short Text** field.

If you choose the **Interface** tab, you will notice that the system has filled in the **Name of the Implementing Class** field automatically, by assigning a class name based on the name of your implementation.

Save your entries and assign the Add-In to a package.

To edit a method, double-click its name.

Enter your implementation code between the `methods <Interface Name>~<Name of Method>.` And `endmethod.` Statements.

Save and activate your code. Navigate back to the **Change Implementation** screen.
Note: You can also create an implementation for an Add-In and not activate it until later. If you want to do this, do not carry out the following step:

Choose **Activate**.
When the application program is executed, the system carries out the code in the method you wrote.

BAdI: Define Customer Fields for Object Management Record

Use

This Business Add-In (BAdI) is used in component *Engineering Change Management* (*LO-ECH*). You can use this BAdI to define company-specific fields for an object. The fields are processed in the change master, in the detail data of a selected object.

Activities

After you call the IMG activity, the system displays a dialog box where you enter a name for the implementation.

If implementations of this Business Add-In have already been created, the system displays them in a dialog box. You then choose one of them by choosing **Create**, and continue as follows:

In the dialog box, enter a name for the implementation of the Add-In and choose **Create**. The system displays the initial screen for creating Business Add-In implementations.

On this screen, enter a short description for you implementation in the ***Implementation Short Text*** field.

If you choose the ***Interface*** tab, you will notice that the system has filled in the ***Name of the Implementing Class*** field automatically, by assigning a class name based on the name of your implementation.

Save your entries and assign the Add-In to a package.

To edit a method, double-click its name.

Enter your implementation code between the `methods <Interface Name>~<Name of Method>.` And `endmethod.` Statements.

Save and activate your code. Navigate back to the ***Change Implementation*** screen.

Note: You can also create an implementation for an Add-In and not activate it until later. If you want to do this, do not carry out the following step:

Choose ***Activate***.

When the application program is executed, the system carries out the code in the method you wrote