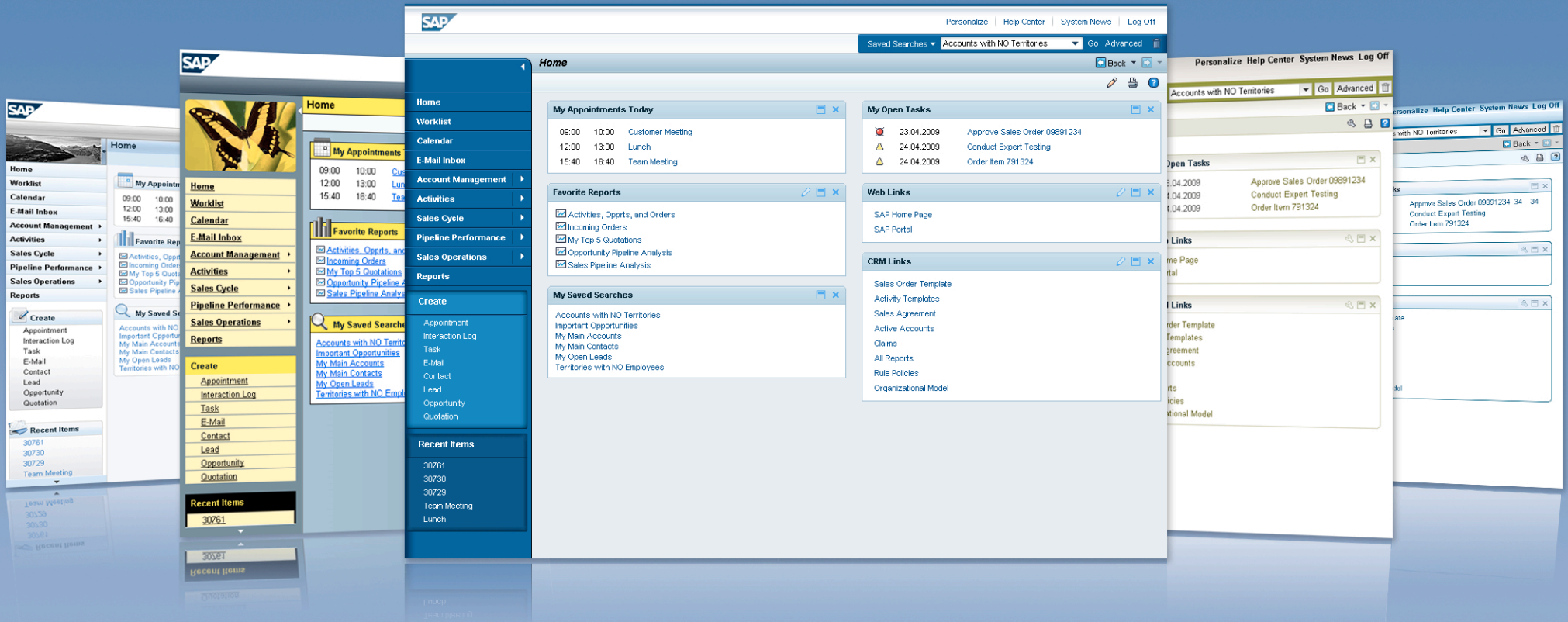


UI Guidelines for CRM WebClient User Interface



UI Guidelines for SAP CRM WebClient User Interface

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1. Introduction

1.1. Overview

This document provides an overview of the on-premise as well as the off-premise versions of the SAP CRM Web Client User Interface (UI). **It contains the properties and principles of the SAP CRM Web Client UI that are already committed and available. For planned features, refer to the corresponding specification documents.**

In order to cover both the on-premise and the off-premise versions of the CRM UI, each section contains a *Specific Guidelines for SAP CRM On-Demand Solution* section, where special properties of the CRM on-demand user interface are described, wherever applicable.

Guideline changes that have been made are entered in a list at the beginning of the document; this list is maintained by the guideline editors.

In some CRM areas, exceptions to the UI guidelines have been approved for specific applications due to important business reasons. These approved exceptions can be found under UIC_Exceptions.xls. This list is subject to change due to the continuous refinement of the SAP CRM WebClient UI.

The target groups of these guidelines are:

- Members of development, solution management, quality management, and user experience teams should use this document to become familiar with the CRM WebClient user interface.
- Members of application development should use this document to learn about mandatory UI behavior, including UI look and feel, and use their discretion wherever degrees of freedom in UI construction are required.
- Members of quality management who have to plan or conduct acceptance tests for SAP CRM should use this document. These guidelines serve as a definitive basis for all the principles that have to be followed during testing. (It would be ideal if we had specific checklists for such an audience. But until such checklists are available, these guidelines will have to suffice).

1.2. How to Read This Document

The information in the guidelines starts with general topics, followed by details. The sections are organized with high-level topics like *Page Types* and *Navigation Schema*

first, followed by the consecutive sections describing which building blocks and elements of the UI populate the various pages.

A section typically starts with one or more screenshots of a central UI element with a generic explanation. The subsequent sections explain the detailed aspects of each element.

Note: While the purpose of using such a structure is to avoid redundancies as far as possible, there are cases where different section structures were used.

Principles that are not directly associated with described UI elements or have more to do with a general UI building rule are listed in sections called *General Principles*.

Recommendations, with specific tips for application development, may be included.

As noted above, the *Specific Guidelines for SAP CRM On-Demand Solution* sections cover particular aspects as applicable to the CRM on-demand UI.

To avoid repetitions, many of the sections include cross-references to other sections. The **main section** of a UI property or building block is where the comprehensive explanation is found. All other sections refer to the main section.

2. Page Types

The CRM WebClient user interface (UI) consists of various UI elements that enable the user to easily display, search for, and maintain information. These UI elements are used to provide, in every use case, the best support for the user's needs.

In this section, we briefly introduce the main elements of the CRM WebClient UI. Further details about all UI elements mentioned here can be found in later sections of this document; this section only provides an overview.

Besides the navigation bar and header, all other UI elements are referred to as pages. Pages can generally show up in their respective places in the CRM WebClient or as dialog boxes in an additional window.

The main UI elements of the CRM WebClient are:

- Header and navigation bar
- Home page
- Work center page
- Search page
- Overview page
- Edit page
- Edit list page
- Freestyle application page
- Search help dialog box
- Value help dialog box
- Personalization dialog box

2.1. Header and Navigation Bar

The navigation bar provides easy global navigation through the entire CRM application and its components. Functions often used for fast data entry or access are also included.

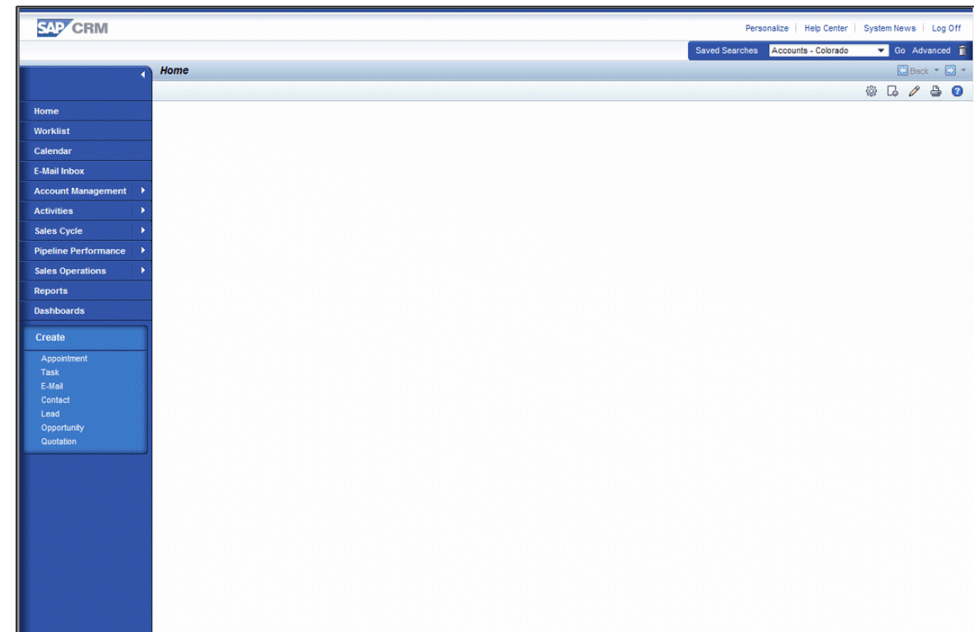


Figure 2-1. Header and Navigation Bar

2.2. Home Page

The home page is the starting point for every user in his or her daily work. It contains the most important personal information and provides access to the most frequently used tools. In addition to links, entire reports may also be included directly on this page.

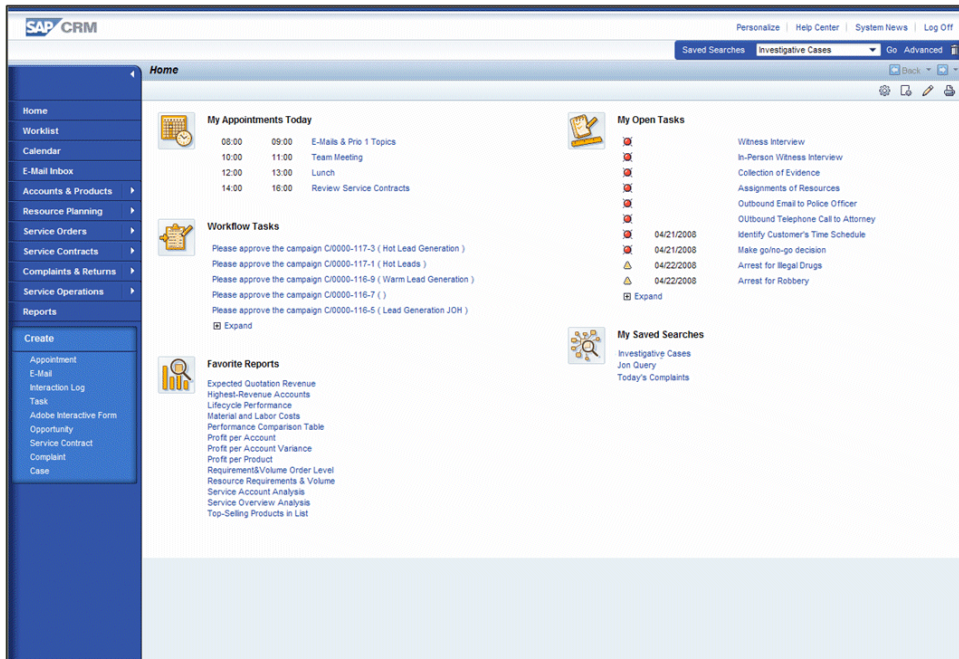


Figure 2-2. Home Page

2.3. Work Center Page

Every top-level menu item has an individual work center page. This work center page contains a set of shortcuts and provides access to all CRM components related to the work center. In addition to links, entire reports may also be included directly on this page.

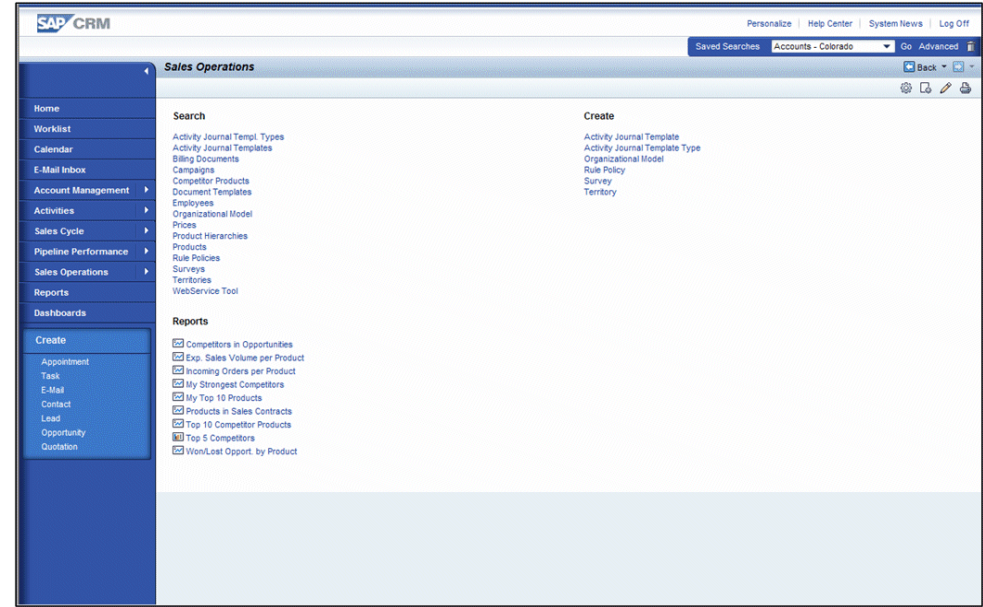


Figure 2-3. Work Center Page

2.4. Search Page

The search page provides users with comprehensive search capabilities for every CRM component.

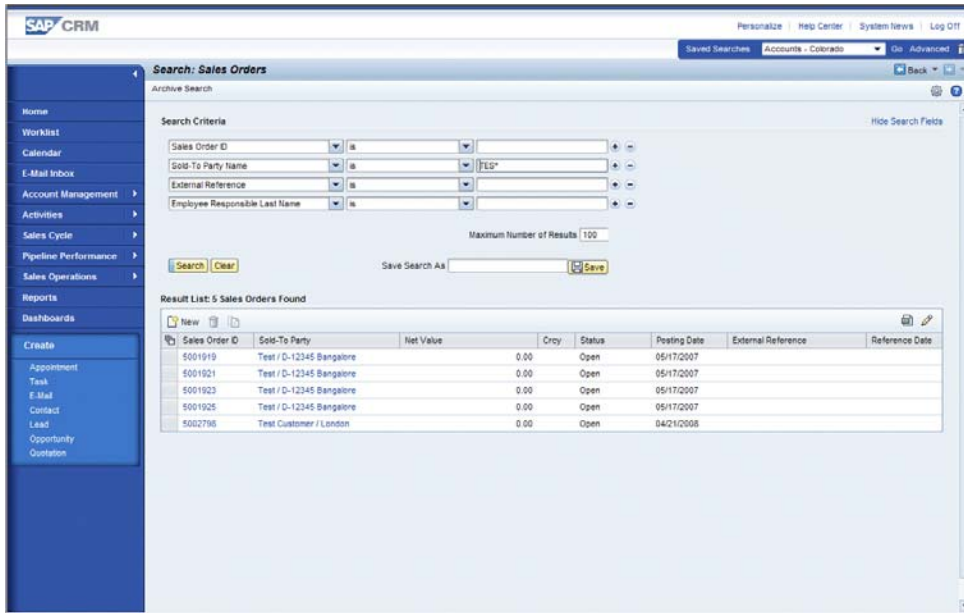


Figure 2-4. Search Page

2.5. Overview Page

The overview page is a user-friendly interface for viewing and editing object-related information. This is the most important element in the CRM WebClient UI. Overview pages consist of a main assignment block (*Details*) that allows object identification based on header data, and a set of assignment blocks that show related information.

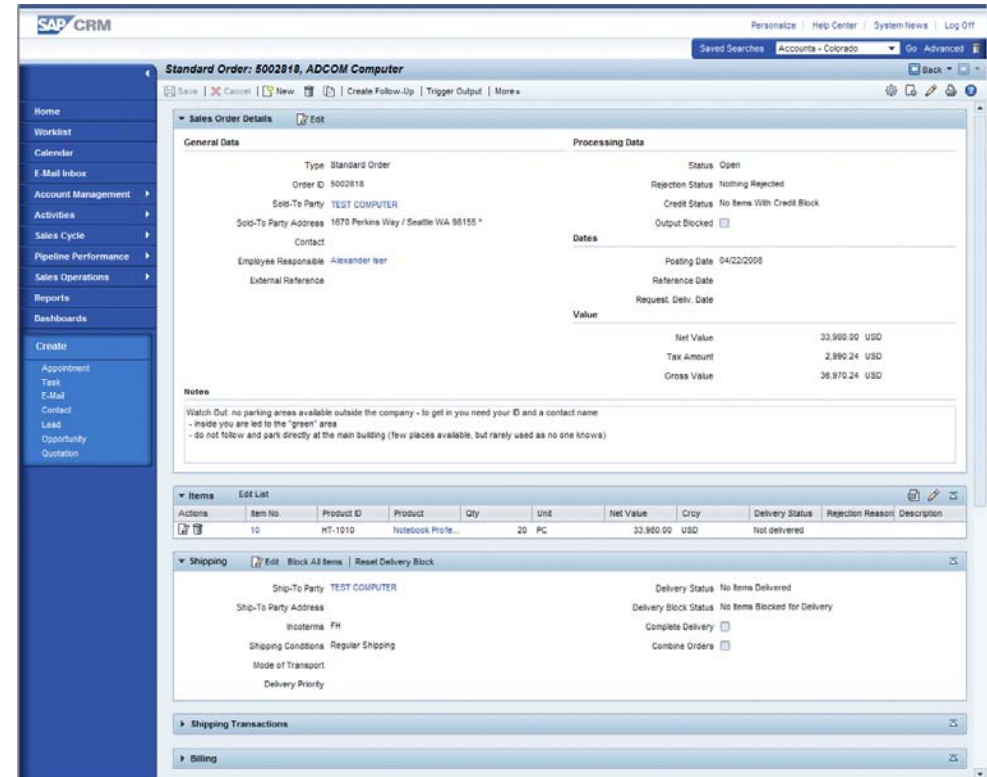


Figure 2-5. Overview Page

2.6. Edit Page

Edit pages allow users to create or maintain CRM content. They are linked to an assignment block on the overview page. Edit pages are designed as form views.

Corporate Account: ADCOM Computer / Seattle WA 98155 - Contacts

Back

General Data

ID:

Title:

Academic Title:

First Name:

Last Name:

Date of Birth:

Language:

Work

Function:

Department:

Address: 1670 Perkins Way / Seattle WA 98155

Main Contact:

Phone/Extension:

Fax/Extension:

Mobile:

E-Mail:

Figure 2-6. Edit Page

2.7. Edit List Page

Edit list pages provide users with a special way to perform list maintenance, in the order entry process, for example.

Appointment: Appointment with client 1 - Attendees

Back

Insert | Address Proposal

Function	Partner ID	Name
Owner	BRIGHTA	Mr. Alex Bright
Contact Person		

Scheduling

Monday 04/21/2008

Name	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00
Alex Bright												

Figure 2-7. Edit List Page

2.8. Freestyle Application Page

Freestyle application pages are used for the display or maintenance of information for applications that do not fit into the “overview page” concept. Here the business use case requires a slightly different concept for visualization while staying in sync with the overall design patterns.

SAP CRM

Personalize | Help Center | System News | Log Off

Saved Searches | My Opportunities | Go Advanced

Target to Date Analysis: Manager US sales, PC4U Sales

Simulate | Quota Planning | Options

Target to Date

Here you can compare your team's sales performance with the sales target to date using the chart below. You can filter the opportunity list by clicking on the chart or the labels for each quarter. To display or edit target information, click Quota Planning.

My Filters: My Team's Performance | Weighted

	Q2 2008	April	May	June
Target	0	0	0	0
Won	30,500,000	23,000,000	0	7,500,000
Expected	20,871,316	3,406,316	11,600,000	5,805,000
Difference	51,271,316	26,406,316	11,600,000	13,305,000

Opportunities

My Filters: My Team's Open Opportunities

Description	Prospect	Sales Stage	Owner	Expected Sales Val.	Currency	Closing Date	Progress	Status
Lead from Customer...	ADCOM Computer	Solution Developme...	Chris Faalabenz	1,500,000.00	USD	05/31/2007	Stalled	In process
Junior investment fu...	Jean Dupont	Information Exchang...	ZBANK_IC_11 1st L...	0.00	USD	09/25/2007	Stalled	Open
bank	Jean Dupont	Identify Opportunity	Goodele Derveaux	0.00	USD	09/25/2007	Stalled	Open
Junior investment w...	Jean Dupont	Identify Opportunity	Goodele Derveaux	0.00	USD	09/25/2007	Stalled	Open
New opportunity	Jean Dupont	Identify Opportunity	Goodele Derveaux	0.00	USD	09/25/2007	Stalled	Open
Media store opportu...	Media Store	Identify Opportunity	Goodele Derveaux	4,500,000.00	USD	09/25/2007	Stalled	Open
Investment	Jean Dupont	Identify Opportunity	Goodele Derveaux	0.00	USD	09/25/2007	Stalled	Open
Investment junior plan	Jean Dupont	Identify Opportunity	Goodele Derveaux	0.00	USD	09/25/2007	Stalled	Open
Junior investment plan	Jean Dupont	Identify Opportunity	Goodele Derveaux	0.00	USD	09/25/2007	Stalled	Open
Junior investment pla...	Jean Dupont	Identify Opportunity	Goodele Derveaux	0.00	USD	09/25/2007	Stalled	Open

Figure 2-8. Freestyle Application Page

2.9. Search Help Dialog Box

This dialog box allows users to select objects they want to assign to the object currently being edited, for example, account search help. Filters can be applied here.

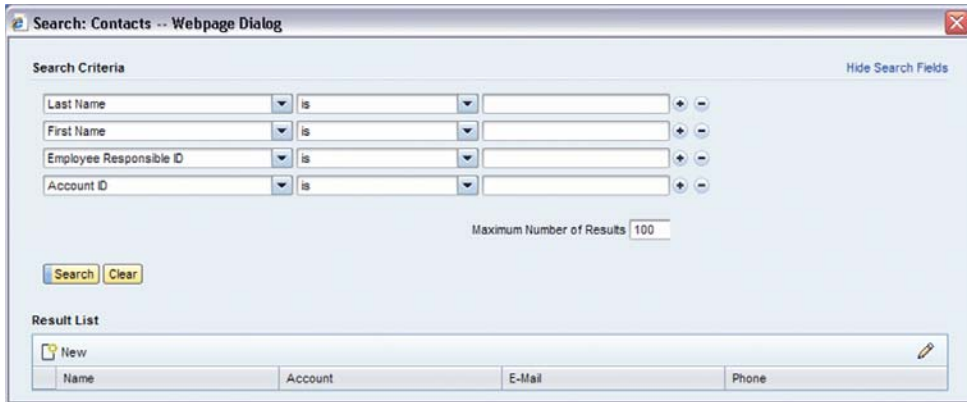


Figure 2-9. Search Help Dialog Box

2.10. Value Help Dialog Box

Value help provides the user with capabilities to select content from a limited number of records such as country, language, or currency. Conflict resolution is also supported using value help dialog boxes.

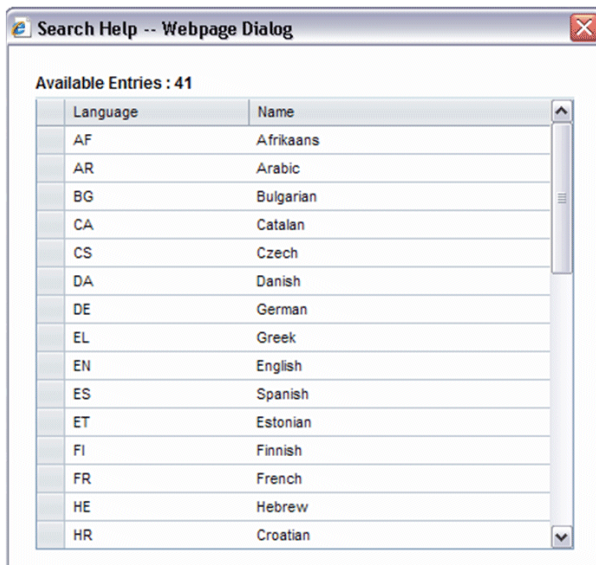


Figure 2-10. Value Help Dialog Box

2.11. Personalization Dialog Box

The personalization dialog boxes display personalization options to allow the user to select or sort columns displayed in a table view, for example.

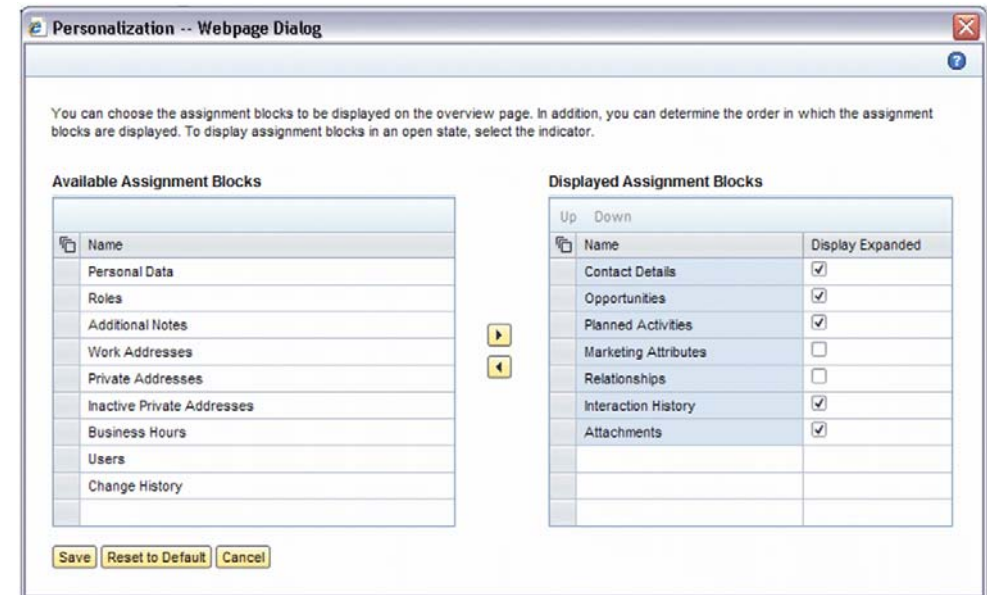
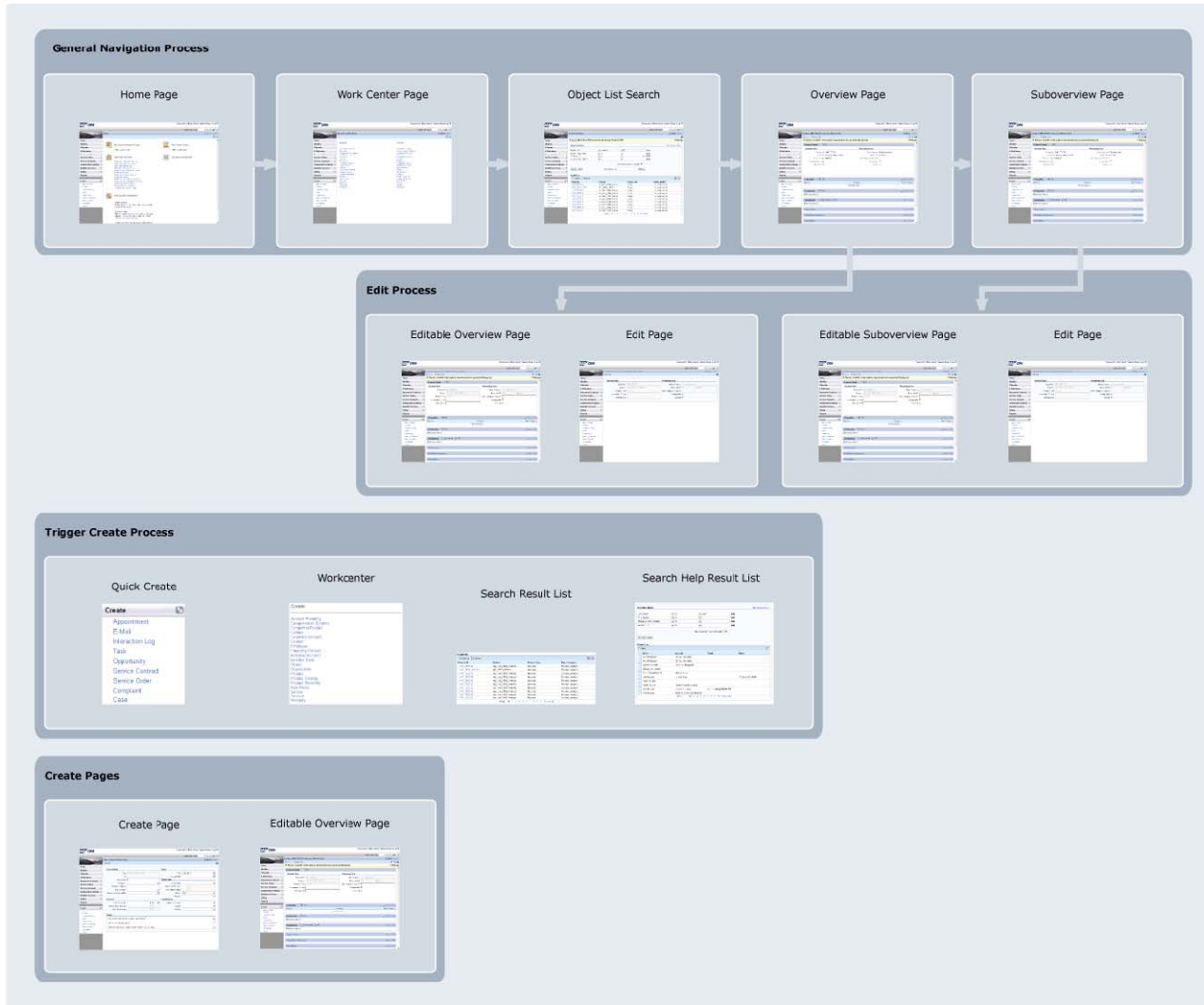


Figure 2-11. Personalization Dialog Box

3. Navigation Scheme

This is a general overview of the navigation scheme of the SAP CRM WebClient.



3.1. Data Loss Dialog Box

One elementary component of the general navigation logic is the existence of a data loss dialog box.

Whenever a user leaves a page (for example, by using a hyperlink or selecting an entry in the navigation bar) and changed, unsaved data exists that is about to be lost by leaving the page, a data loss dialog box has to appear. This data loss dialog box offers the user the following options: continue and save, continue without saving, or cancel the navigation. For more information, see section 8.3.

Leaving a page does not necessarily indicate an automatic loss of changed, unsaved data, so the business use case determines when exactly the data loss dialog box must appear. Technically, the data loss dialog box must appear if the user starts a cross-component navigation while the current page or object still contains changed, unsaved data.

4. Header and Navigation Bar

4.1. Overall Design

The design consists of three areas: header area, navigation bar and work area.

The header area and the navigation bar are introduced in more detail in the following sections. The work area is discussed in other sections of this document.

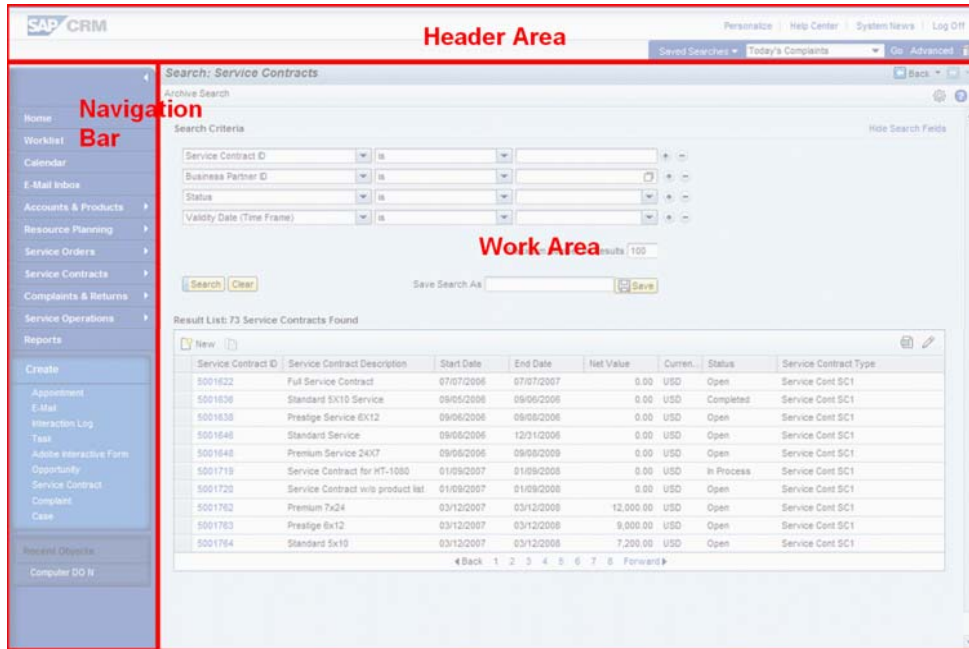


Figure 4-1. Overview of Screen Area

4.2. Header Area

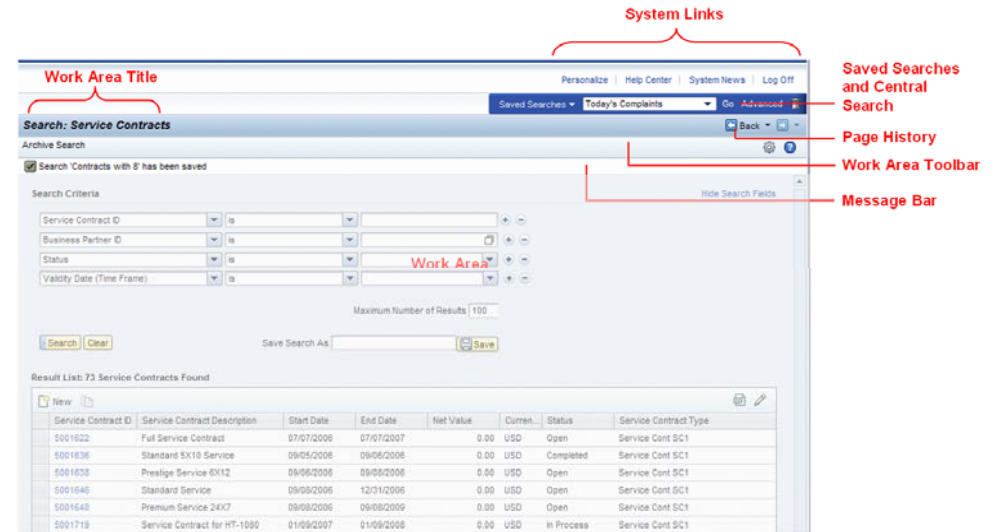


Figure 4-2. Overview of Header Area

4.2.1. System Links

System links are displayed in the top right area of the header area:

- o **Personalize:** Takes the user to the *Personalization* screen.
- o **Help Center:** Opens online help for SAP CRM (may be role-specific).
- o **System News:** Launches a dialog box window with messages.
- o **Log Off:** Logs the user off.

Sequence of links:

- o *Personalize* *Help Center* *System News* *Log Off*

SAP CRM on-demand solution and the Interaction Center WebClient deviate from the described set of links. For more information about SAP CRM on-demand solution, see section 4.4.

4.2.2. Saved Searches, Central Search, and Simple Search

The saved searches area provides direct access to a list of predefined search queries. The central search provides direct access to searches using one single search field (for example, search for an account by entering the ID). Simple searches provide capabilities of the Enterprise Search. For a detailed description of this area, see sections 7.4, 7.5, and 7.6.

4.2.3. Work Area Title

Table -1. Guidelines for Work Area Title

Navigation/Page Type	Work Area Title	Example
Work Center	<Work Center label>	Marketing
Search Page	Search: <Object type [in plural]>	Search: Campaigns
Overview Page	<Object type>: <Attribute>, <Attribute>*	Account: Test Company, London
Edit Page	<Object type>: <Attribute>, <Attribute> - <assignment block Title>	Service Order: Car Repair, 12345 - Notes
Create Page (Objects and Subobjects)	<Object type>: New	Account: New
Item Overview Page	<Item type>: <Attribute>, <Attribute>*	Accessory: Notebook Lock, HT-1111
Saved Searches, Title for Advanced Search Value Help Dialog Box	Search: <Query name>	Search: My Accounts

* At most three attributes, but we recommend only using two. With a screen resolution of 1024x768, line breaks must not occur. The application decides which attributes are used.

In each case where an <object type> is referenced, a <transaction type> may be used instead. The only exception is the search page title, where the <object type> is always used. In some cases, such as *Activity Management*, category names may also be used instead of object types or transaction types. For a more detailed discussion of work area titles for overview pages, see section 6.2.

4.2.4. Page History

There is a plan to integrate history navigation in the browser history. Since this function is not yet completely available, the history navigation is available within the header area.



Figure 4-3. History Navigation

The history dropdown list displays work area titles of recently visited pages (also known as “breadcrumbs”). By clicking on one of these list entries, the user is taken to the corresponding page. The controls for history navigation are right-aligned within the work area title area.

A breadcrumb, accessible via the *Back* button, is written for every set SyncPoint. SyncPoints are explicitly set in the CRM application. For every SyncPoint, a breadcrumb is written that appears in the history list and can be accessed via the *Back* button. Exceptions are external applications like ICSS or Web Channel Shops, where no SyncPoint is set.

A SyncPoint is set for the following pages:

- o All pages accessible via the navigation bar
- o For every object/application, a SyncPoint is set for the search page as well as for the overview page (or overview-like main pages of applications that do not have an overview page).

Sync Points can also be divided into two types:

- o To be set by framework
- o To be set by application development

For dialog box windows, no SyncPoint is set.

After using the *Back* or *Forward* button, the context is kept – this means that when users navigate back or forward using the breadcrumbs, they find the pages in the same context/state as they left them (for example, same search criteria and result list is shown). This includes updated information if changes to data occurred in the meantime. The update of information is especially important if a page that a user accesses via back/forward navigation contains analytical information, since users generally expect such data to display the current state (in Pipeline Performance Management, for example). An exception to this rule is the search result list behavior, where no refresh of a result list takes place when the user navigates back to it. For further details, see the guidelines for the overview page in section 6.8.3.

The number of entries displayed in the *Back/Forward* dropdown list boxes can be customized for each client. The text displayed in the *Back/Forward* dropdown list boxes is the corresponding work area title.

The clean up of the *Back/Forward* dropdown list boxes is performed automatically by the framework.

Each entry appears in the dropdown list boxes only once. If a user navigates within the CRM system and comes across the reports page twice, it is displayed only once in the dropdown list box.

The page history can be provided in two modes:

- In “simple stack mode” the history entries are stored in order of occurrence. Only a single navigation path is stored. After going back to a prior state, the next forward navigation will delete the old path.
- In “advanced logic mode” history entries are stored until the history is reset. Each state occurs only once. When reaching a state a second time, the previous entry is deleted.

The advanced logic mode is set as the default behavior.

Special cases:

- **Creation of a new object.** A breadcrumb is written for the object only after the object is saved for the first time. It is then available in the *Back/Forward* dropdown list boxes.
- **Selection of a list entry.** If the user uses hyperlinks to navigate across pages 1 to 10, the *Back* dropdown list box shows (in reverted order) page 10 at the top and page 1 at the bottom. If the user chooses page 3 manually in the list, page 3 is shown and pages 4-10 are moved to the *Forward* dropdown list box.
- **Deletion of an object.** If an object for which a breadcrumb entry exists is deleted, then the corresponding breadcrumb is also deleted from the navigation history (performed by the framework).

4.2.5. Work Area Toolbar

The work area toolbar contains all function buttons that are required for the functions related to the page displayed in the work area. (This is in contrast to functions that are only related to a group within the work area or just to single fields). The work area toolbar can contain a *Help* icon on the right side. Home pages and overview pages are additionally equipped with a *Personalize* icon. Each overview page also provides a *Print* icon in the upper right corner. There is a complete set of rules about which function buttons are displayed in the toolbar and in which order. For details, see section 12.5.

4.2.6. Message Bar

The appearance and functions of the message bar are described in detail in section Message Handling.

4.2.7. Working Context

The working context is an additional feature that is mainly required for marketing roles. According to a selected working context, a subset of fields will be automatically filled with pre-determined values.

4.3. Navigation Bar

The navigation bar may consist of four areas: first-level navigation, second-level navigation, a *Create* area, and a *Recent Objects* area (Figure 4-4). In addition, the navigation bar may be collapsed or expanded by a dedicated button (*Collapse/Expand Navigation* button). In a collapsed state, only the *Expand Navigation* button is visible to the left of the work area title bar and the work area toolbar.

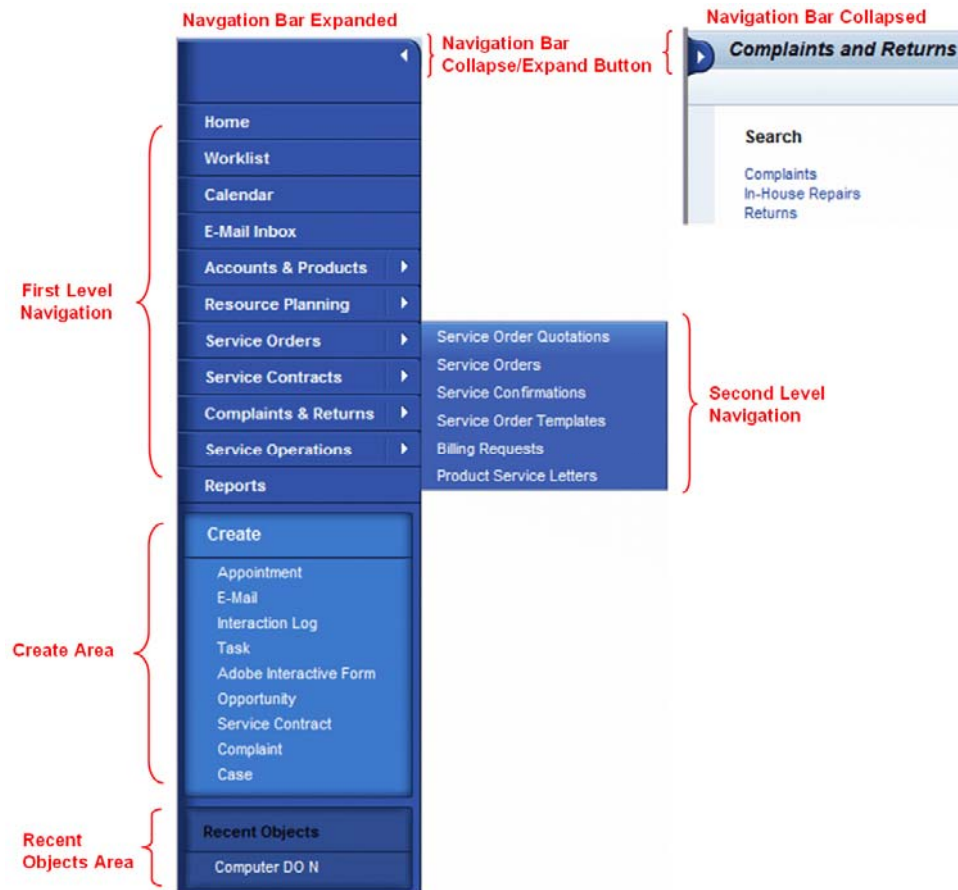


Figure 4-4. Overview of Navigation Bar

4.3.1. First-Level Navigation

First-level navigation should not have more than 10 entries. Selecting a first-level navigation entry leads directly to a work center page (section 5.4).

The navigation entry *Home* is mandatory. The entries *Worklist*, *Calendar*, *E-Mail Inbox*, and *Reports* should also be included.

Accordingly, the sequence of the top menu area should be as follows:

- Home
- Worklist
- Calendar
- E-Mail Inbox
- <All role-specific work centers>
- Reports

Rules that should be applied:

- Navigation bar entries below *Calendar* and above *Reports* correspond to work centers.
- A work center page is loaded to the work area when the user clicks the corresponding navigation bar entry.
- If the texts in the navigation bar entries exceed the width of the navigation bar, the entry texts are truncated and three dots are appended to indicate the ellipsis. The tooltip shows full title of the entry. In order to avoid this behavior, you should use short entries (approximately < 18-20 characters).

4.3.2. Second-Level Navigation

Second-level navigation is opened by clicking the triangle symbol at the end of a first level navigation entry. The second-level navigation menu contains a list of links to search pages associated with the work center. A second click on the triangle (or a click in the work area) closes the popup menu.

The links in the second-level navigation are a subset of the links provided in the search area of a work center.

In principle, other targets, such as search pages, may be reached via the navigation links in the second-level navigation (for example, BW reports or other applications). For consistency reasons, we recommend that you only provide links to search pages.

4.3.3. Create Area

The entries in the *Create* area are links that navigate the user to the corresponding create pages. The occurrence and sequence of these links can be personalized.

No context is transferred to the created page.

Create links can be transaction types that directly open the application in new mode or object types that bring up a dialog box with a choice of transaction type (if there is

more than one transaction type available). If only one transaction type is available, then it is chosen automatically and the application is opened in new mode.

In the standard delivery, the *Create* area should only contain the most important *Create* links (*Appointment*, *E-Mail*, *Task*, and *Contact*) and four role-specific *Create* links at the most.

Available vertical space in the navigation bar (depending on the number of work centers) should not be exceeded. In other words, no vertical scrolling should be caused by the number of create area links in the *Create* area.

4.3.4. Recent Objects Area

The recent objects area shows by default the last five objects the user has visited (in edit or display mode). The content is stored across sessions, thus if the user logs off and logs later on again, the content of the recent objects area is still available.

Users can personalize the number of displayed objects in the range between 0 (the control is not displayed at all) and 10 entries.

The area only contains links to overview or object edit pages (for objects which have no overview page). Home, work centers, or search pages are not contained in the recent objects area.

The title of the object (without the object type) is used as a link. For example, an account with work area title

Corporate Account: Test Computer, Seattle WA

is displayed as

Test Computer, Seattle WA

If the link is too long, it is truncated. The tooltip shows full title of the object.

Basic Principles:

- Each object appears in the list only once.
- Objects are listed in the order in which they were visited last. In other words, objects can move up in the list if they are visited again.
- Deleted objects are removed from the list. If only the assignment to an object is deleted, the object stays in the list.

- If the user has personalized n list items and the n+1 object is visited, then the last object disappears from the list. But if an object in the list with n entries is deleted, the n+1, n+2 ... n+5 comes back to the list again. Thus, it is technically necessary to hold more than the n objects which are displayed.

4.4. Specific Guidelines for SAP CRM On-Demand Solution

The navigation bar consists of four areas: first-level navigation, second-level navigation, a *Create* area, and a *Most Recent Edits* area.

The following basic differences exist:

- An additional mandatory entry in the first-level navigation is *Search*. This entry always occurs in the last position in the first-level navigation.
- All links in the *Create* area are preceded by an icon.
- There is an additional area called *Most Recent Edits* (this area is similar to the *Recent Objects* area described above). The entries are links that are preceded by an icon. A maximum of fifteen *Most Recent Edits* links can be displayed.
- In SAP CRM on-demand solution, no work center pages are available. Therefore, if a user clicks on a role-specific first level navigation entry (the entries between *Calendar* and *Reports*) the system does not trigger any navigation (only a click on the triangle icon on the right side opens the second-level navigation menu).
- Using the second-level navigation entries, the user is taken to pre-filled search result lists (according to predefined search queries). The search statement is initially hidden.

5. Home Page, Work Center Pages, Reports Page

5.1. Overview

In the CRM WebClient user interface, several different page types are used to present information to the user. Examples of these page types are search pages, overview pages, and edit pages.

The home pages, work center pages, and reports pages are based on an additional page type, the **information hub** type. The information hub type uses a pattern that is optimized to display different information in a summarized way while providing an in-page structure to differentiate the information areas from each other. The information hub pages are easy to read, easy to enhance, and easy to personalize. The content displayed on these pages depends on the context from which the page is called.

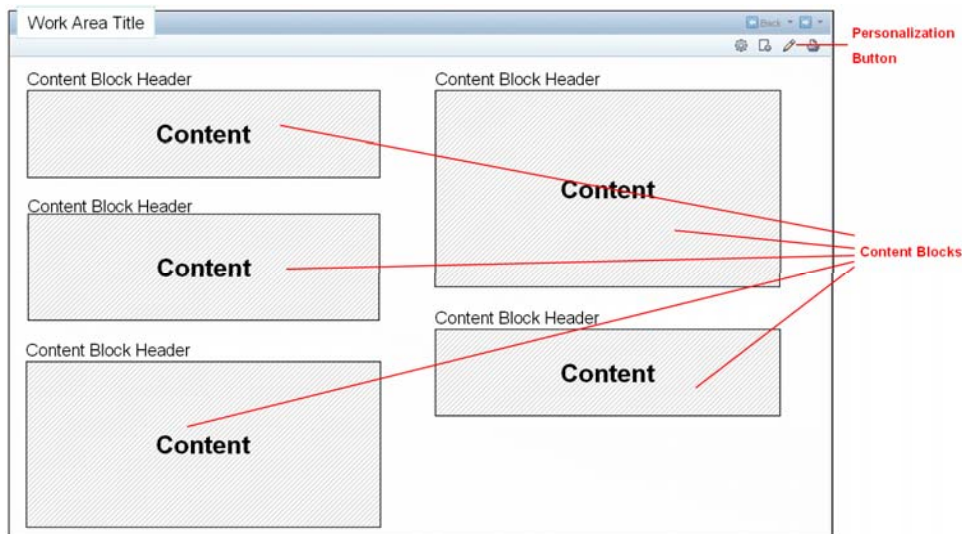


Figure 5-1. Example: Structure of an Information Hub Page

In SAP CRM, the following pages using the information hub type are normally available in a standard CRM role:

- **Home page.** The home page is the starting point for every user in his or her daily business. It contains the most important personal information and access to the most frequently used tools. It is always the first entry in the navigation bar of any role. A CRM standard role must contain exactly **one** home page.

- **Work center page(s).** Every first-level menu item that does not correspond to a specific page but represents a business grouping of various applications, such as *Home*, *Reports*, or *Calendar*, has an individual work center page. This work center page contains a set of hyperlinks and access to all CRM components related to the work center. Hyperlinks to components outside the CRM system can also be made available here.
- **Reports page.** In the navigation bar, you can find the entry *Reports*. The reports page contains hyperlinks to all analytical content (reports) that are available for a role.

5.2. General Guidelines for Information Hub Pages

5.2.1. The Information Hub Type

Information hubs are called using a first-level navigation entry in the navigation bar of the navigation frame (Figure 5-2). A first-level navigation entry that calls such a page can still have second-level navigation entries below it. A click on the main part of the first-level entry opens the information hub (if available), while a click on the triangle opens the second-level navigation menu.

Information hubs use the entire work area space and provide a vertical scrollbar for the entire page if the content exceeds the work area size. Horizontal scrollbars must not appear under any circumstances.

The page consists of one to n content blocks that are normally arranged in a two-column layout. The content blocks in the left column are sized independently from those in the right column, that is, headers of the left and right columns do not have to be on the same level; the height of the previous content blocks determines where the next one in the same column starts.

Content blocks can also span the complete work area width (for example to display analytical graphics), but then they have to be placed above or below the other two-column content blocks to avoid white space on the page.

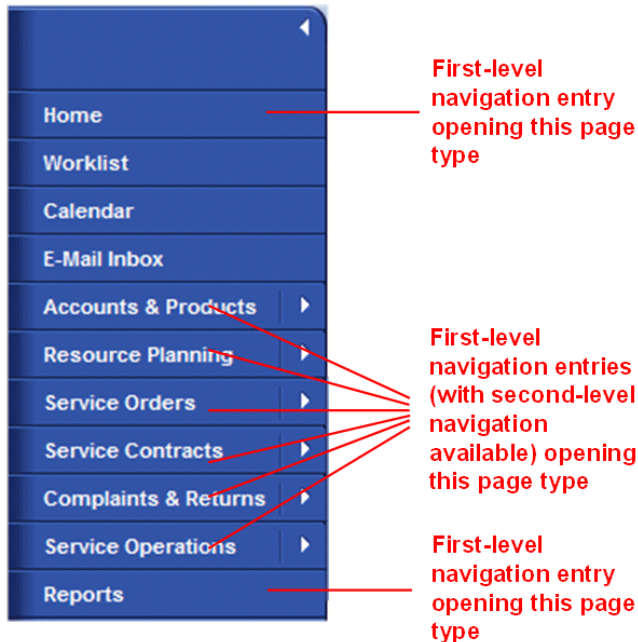


Figure 5-2. Role Example That Shows Availability of This Page Type in the Navigation Bar

5.2.2. Content Blocks

Content blocks can display different types of information. But several elements of content blocks are constant, regardless of the information that is displayed.

A content block consists of:

- A **content block header** visualized as a tray containing:
 - Content block title that provides a short description of the content of this block
 - Skin dependent: A pictogram is available as a visual indicator for the content block (see example below). Pictograms are large icons that are intended to represent the content of the respective block. New pictograms have to be approved by the UI Concept

Team to ensure a steadily-growing number of pictograms as well as to avoid the use of the same pictogram for different types of content.

- Possibility to open or collapse the complete content block leaving only the tray visible (via right aligned icon – see screenshot below)
- Possibility to directly remove a content block from a page without the need to navigate to the personalization (via right aligned icon – see screenshot below)
- Content block dependent: possibility to personalize content details (via right aligned icon – see screenshot below)
- A **content area** that is used to display the required information
- Optionally: An **Expand link** at the bottom to expand any listed content and show all entries if the defined maximum height has been exceeded

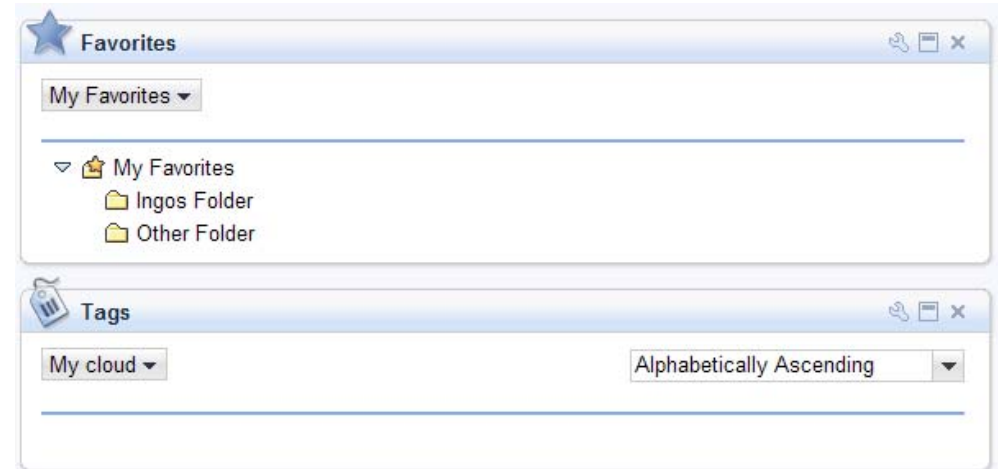


Figure 5-3. Example of possible content block header elements (from Home Page)

Every content block has a fixed width and a dynamic height. The width is either half the work area width or the full work area width. The height is generally dynamic, based on the amount of information in the content block, even though a default maximum height can be used in connection with an expand mechanism. Content blocks must never have a vertical or a horizontal scrollbar inside the content block.

If the content block contains listed information, a maximum height can be defined. If this is reached, the remaining content is hidden and an *Expand* link is provided that increases the height of the content block to display all information. If the content block is expanded, the link switches to *Collapse* to collapse the block again.

The content inside a content block can be visualized in different ways. All visualization options have to be optimized for easy reading and graphically clear visualization. This means, for example, no explicit visualization of table grids, and so on.

Possible visualization options for content in a content block:

- **List.** The visualization of information in a list allows the presentation of several consecutive rows, one below the other. Each of the rows can contain one or several CRM fields or free text. Normally, at least one field or text displayed in a row contains a hyperlink to navigate to detailed information. This navigation target can also be outside the CRM solution.
 - *Examples:* My Appointments Today, My Tasks Today, all Report Page content blocks, Saved Searches, Create, Search, and so on (Figure 5-4).
- **Textual descriptions.** Free text can be used to provide information about or explain a function that is also offered in this content block. Such free text is normally accompanied by some hyperlinks or buttons to trigger an action.
- **Analytical content.** Content blocks can also contain analytical content, such as a graphic or an analytical table view. In most cases, for a concise display of analytical content, full-width content blocks have to be used. As these kinds of content blocks require a lot of space and performance, they should only be used when necessary. Alternatively, use a list content block with hyperlinks to analytical content pages.
 - *Example:* Partner Facts in Partner Channel Management (home page), Figure 5-5

The options mentioned above are the visualization options used in standard CRM roles. Generally, these content blocks can contain every kind of information in every kind of visualization (keeping in mind that it should be easy to read and a graphically clear visualization) to allow the highest flexibility in customer projects. In standard CRM roles, central governance exists to ensure that default content blocks are developed and used consistently. For more information, contact the UI Concept Team or refer to section Visual Design.

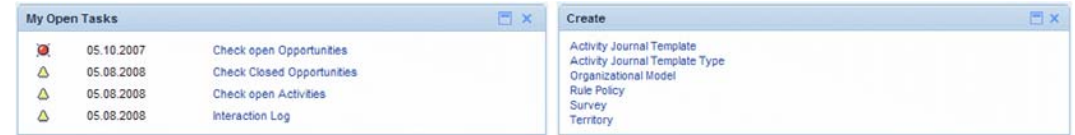


Figure 5-4. Example of Visualizing List Content Blocks (from Home Page and Reports Page)

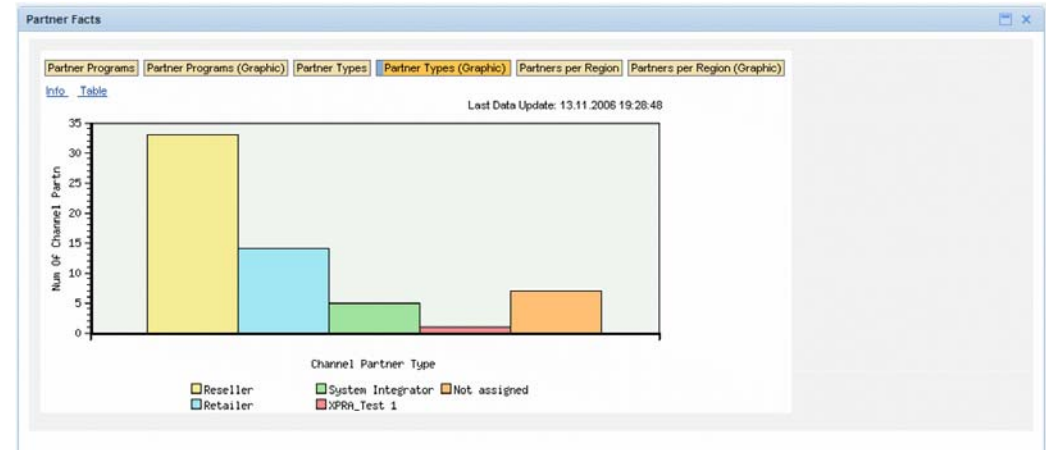


Figure 5-5. Example of an Analytical Content Block

5.2.3. Personalization of Information Hub Pages and their content blocks

The content of every page based on the information hub type can be personalized by the user. The personalization can be done regarding the page structure in general on the one hand side, and on the other hand side on content block level.

Page structure personalization:

While the user can directly on the page use drag & drop to re-position the content on the page (i.e. move blocks from left to right column, up or down) also a dedicated personalization page is available.

When the user clicks the personalization icon in the top right corner, the screen switches and the logical content block areas of the current page are displayed (Figure

5-6). This page can be used to remove content blocks from the page as well as to add new content using the drop down list boxes shown in the place of the content block title.

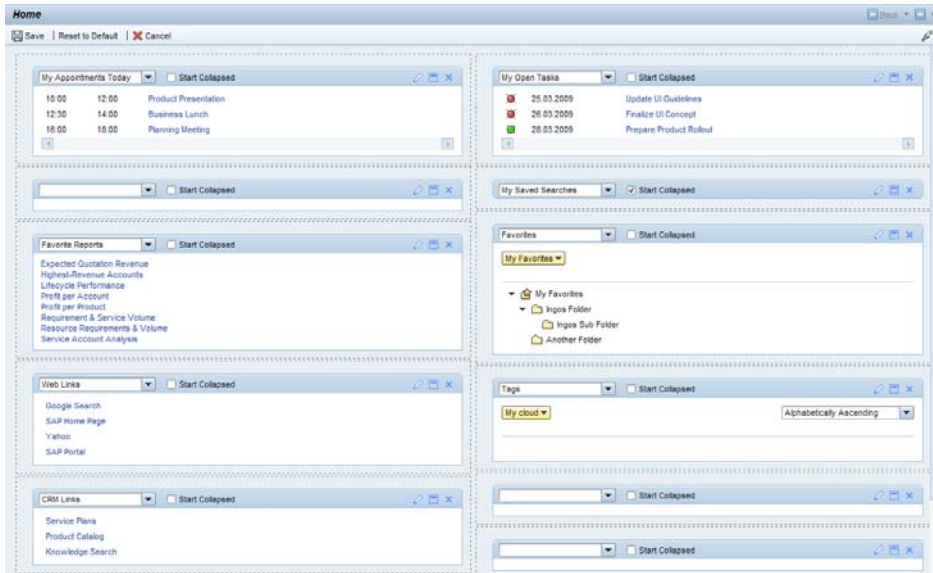
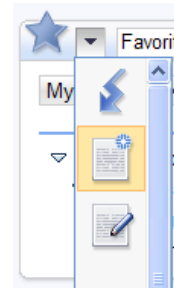


Figure 5-6. Example of Personalizing an Information Hub Page Type

Content block specific personalization:

Per content block additional personalization can be done covering the following capabilities:

- **Start Collapsed:** the user can define if a content block per default should be shown open or closed. Closed would allow to position more content on the page that is only rarely used on request.
- **Choose Pictogram (skin dependent):** In all SAP CRM standard skins besides the SIGNATURE skin the user can choose a pictogram as indicator for the content block, that appears in the top left corner of a content block left to the block title.



- **Personalize Content Details (optional):** some content blocks provide a personalization option regarding the content details they display. This personalization is started via the personalization icon in the tray which opens a popup for the personalization details.

5.3. Home Page

The home page is the first page that is directly shown to a SAP CRM user when the user opens the software. It summarizes the most important information for the user's daily business. This can be information or links to access important information. Therefore, some content is dynamic (*My Appointments Today*, for example, is changed daily) while other content is relatively static (*Favorite Reports*, for example). The content of the home page has to be tailored to the needs of the corresponding role and can therefore differ between roles.

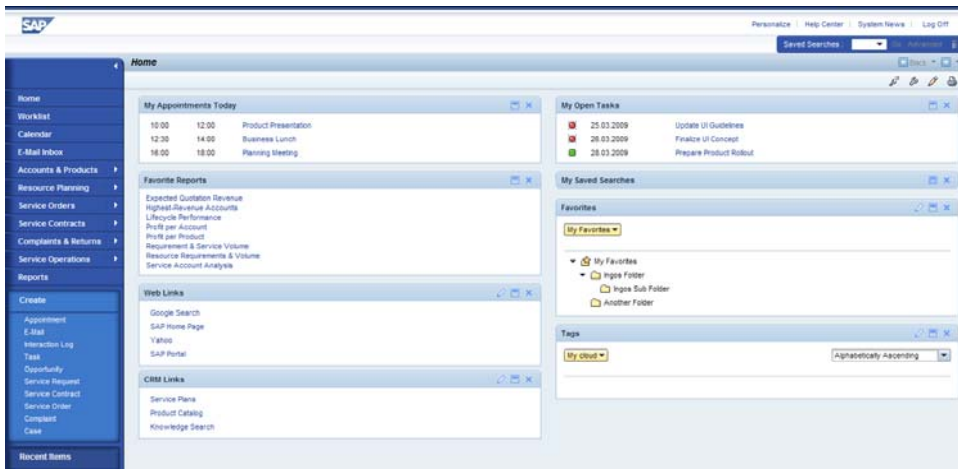


Figure 5-7. Example of a Home Page

In CRM WebClient UI, the following pre-defined content blocks are available and can be used for standard roles:

- **My Appointments Today.** This content block displays the appointments for the user on the current day with start times and end times as well as the appointment descriptions.
- **My Open Tasks.** This content block displays the currently open and due tasks for the user with their descriptions.
- **Favorite Reports.** This content block displays the most important reports the user wants to access directly from the home page with one click. The content is role-dependent.
- **My Saved Searches.** This content block contains a list of saved searches identical to the *Saved Searches* dropdown list box in the navigation frame.
- **Alerts.** This content block displays a short list of CRM alerts. It can be seen as a substitute for or a complement to the first-level entry worklist, which provides more details about alerts.
- **Workflow Tasks.** This content block displays a list of workflow items and has a hyperlink to navigate to the details of a workflow task. It can be seen as a substitute for or a complement to the first-level entry worklist, which provides more details about workflow tasks.
- **Favorites.** This content block allows the user to browse through his/her favorite objects. To be listed here the user needs to add an object to his/her favorites in the corresponding overview page. The favorites can be structured in user specific folders.
- **Tags.** This content block provides easy access to all tags (tag cloud etc.) the user has assigned to any object. Via the hyperlink on the tags the user can directly see a list of all objects related with this tag (tagging an object itself is done on the corresponding overview page)
- **Web Links.** This content block allows the user to directly place favorite links into the WWW on the home page. A personalization of the content is available
- **CRM links.** This content block allows the user to place direct “quick links” to any CRM functionality within his/her role on the home page. A personalization of the content is available.
- **Widgets.** This content block allows the user to display his own created widget links directly on the home page. A personalization of the content is available

For each role, additional role-specific content blocks can be shown on the home page, based on the existing business requirements (example: analytical graphics).

5.4. The Work Center Page

The default content specific to a CRM role is grouped in work centers. These work centers are normally represented in the navigation bar with the first-level entries that call the work center page with one click and provide a second-level navigation that is called by clicking the triangle. The second-level navigation provides direct access to object search pages, while the work center page provides a summarized view of all the business content in this work center.

On such work center pages, normally three different content blocks are displayed (Figure 5-8):

- **Search.** This content block shows all *Search* links to objects that are part of this work center. This content block can contain more entries than are available in the second-level navigation of this work center. Only the most important search links should be available in the second-level navigation, but on the work center page, all entries have to be available. This content block has to be placed in the top left area of every work center page.
- **Create.** This content block shows all *Create* links for objects that are part of this work center. This content block can have an overlap with the *Quick Create* block in the navigation bar. The *Quick Create* block, however, should contain only the most used links for a role, while the *Create* block in the work center page has to contain all *Create* links for objects in this work center. This content block has to be placed in the top right area of every work center page.
- **Reports.** This content block contains a subset of the reports available on the reports page. The reports listed here are all related to the specific business content of this work center.

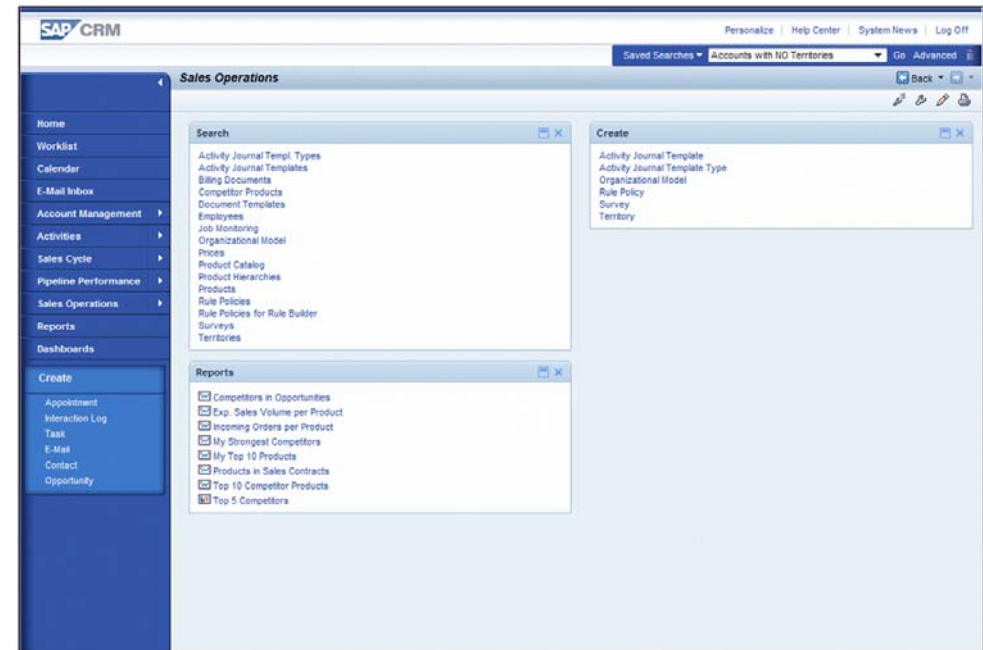


Figure 5-8. Example of the Work Center Page Sales Operations

Generally, the work center pages can be used in customer projects for displaying additional, summarized information relevant for the business content of this work center.

5.5. The Reports Page

The reports page is the central point for the user to access any kind of analytical information or reports. The concrete content offered on this page is role-dependent.

The standard reports page (equivalent to the work center pages above when clicking the first-level navigation bar entry) consists of several content blocks that group all available reports or other report-related information or functions under content block titles (Figure 5-9). The grouping is role-dependent and based on business areas.

Such a content block contains, for example, the analysis or report name visualized as a hyperlink. Icons in front of the report name can be used as indicators for the report type. Clicking the hyperlink opens the selected report or analysis using the entire work area.

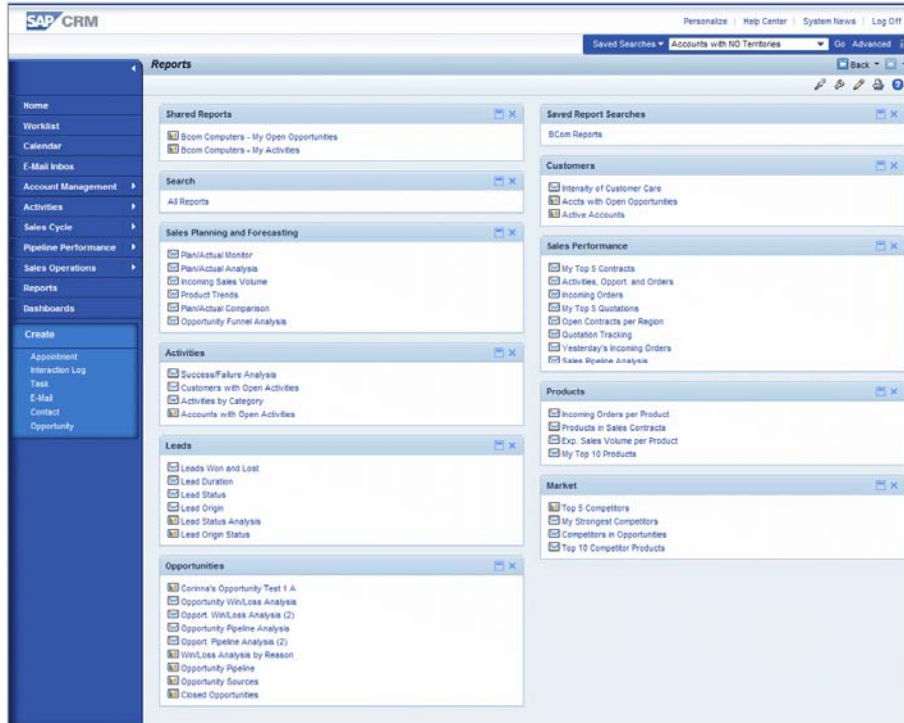


Figure 5-9. Example: Sales Professional Reports Page

The content accessed by clicking such a hyperlink on the reports page is mostly based on SAP NetWeaver Business Intelligence (SAP NetWeaver BI) content. It can also be based on CRM-only OLTP reporting as well as using a saved search in a report-like manner. CRM external content can also be called from this page.

In addition to this general reports page, it is also possible to create analytical dashboard pages and to make them available on the second-level navigation below the report's first-level entry.

Such analytical dashboards are normally a group of four analytical views arranged in a square on the page. These analytical views are directly loaded when accessing the dashboard.

5.6. Specific Guidelines for SAP CRM On-Demand Solution

In SAP CRM on-demand solution, the information hub pages are also used, with some variations that are summarized below.

SAP CRM on-demand solution does not offer work center pages at all when using the first-level navigation link for a work center. *Home* and *Reports* are also available in SAP CRM on-demand solution with some differences regarding the content displayed and the personalization options.

5.6.1. Home Page in SAP CRM On-Demand Solution

The following differences are valid for the home page with regards to the available content:

- Content block **Favorites** (available only in SAP CRM on-demand solution) Allows the user to define objects as favorites that then appear on the home page with a hyperlink to their overview pages.
- Content block **My Tasks Today** Offers a different control that allows the user to close a task directly on the home page (“task checkbox”).
- Content block **Web Links** Offers the option to add any kind of Web link to the home page.
- Content blocks **Alerts** and **Workflow Tasks** are not available in SAP CRM on-demand solution.
- Content block **Quick Links** (available only in SAP CRM on-demand solution) Offers saved searches like the content block *My Saved Searches* in CRM WebClient UI.
- Content block **My Saved Searches** can be personalized with regards to the saved searches that should be displayed on the home page.
- **Groupware Integration** is available using a button in the work area toolbar that allows synchronization to start, while the settings can be made on the *My Profile* page.

The following differences are valid for the home page regarding the personalization of the content blocks:

- Besides the choice to place the content blocks freely anywhere on the home page, the user has the option of defining the detailed content of a content block.
 - **Appointments or Tasks.** The user can choose how many appointments or tasks will be displayed.
 - **Favorite Reports.** The user can decide which reports will be displayed.
 - **Quick Links.** The user can decide which saved searches will appear on the home page.
 - **Favorites.** The user can decide which favorite groups will be displayed.
 - **Web Links.** Here, the user can freely define his or her own Web links.

5.6.2. Reports Page in SAP CRM On-Demand Solution

The general structure of the reports pages in SAP CRM on-demand solution and CRM WebClient are identical.

In addition, SAP CRM on-demand solution displays an icon for every line representing a report. This icon is used as an identifier for the type of the report, as SAP CRM on-demand solution offers reports that are based on SAP NetWeaver Business Intelligence (also available in CRM WebClient UI), on CRM advanced searches (not available in the CRM WebClient UI) and on OLTP reporting (not available in the CRM WebClient UI).

The following differences are valid for the reports page regarding the personalization of the content blocks:

- The user can indicate which reports in that content block should be displayed by selecting or deselecting the reports in each content block.
- The user can also create and fill new content blocks by choosing from a list of predefined reports.

5.6.3. Administration Page in SAP CRM On-Demand Solution

SAP CRM on-demand solution offers an additional page based on the information hub for the power user. Here, an *Administration* page is offered that summarizes all the options available to power users in SAP CRM on-demand solution.

6. Overview Page

6.1. Overview

The overview page (Figure 6-1) provides an overview of all important information regarding a single instance of an object (such as an opportunity, a campaign, or an account). When the overview page is initially called, it appears typically as a read-only page (except for one-click actions). It is generally the navigation target for all links to the respective object.

The overview page contains a header area for the attributes of the object itself and 1-to-n assignment blocks that contain data for assigned objects (such as partners assigned to an opportunity or products contained in a sales order) or further data for the object (such as notes, attachments, information concerning document flow, or entries in the change log).

The overview page consists of these focus areas:

- **Work area title.** The title should help the user to identify the current object.
- **Work area toolbar.** The toolbar contains all functions that apply to the whole object.
- **Details assignment block.** The *Details* assignment block contains the most important attributes of the object (object header data) in a form view. The *Details* assignment block is a special assignment block and the general assignment block rules apply also to this area.
- **Assignment blocks.** Assignment blocks contain additional attributes for the object or information assigned to this object. Examples include:
 - Other objects connected to the object represented by the overview page, such as contacts, products, or competitors assigned to an opportunity.
 - Additional information assigned to the object, such as notes, attachments, or milestones assigned to an opportunity.
 - Additional attributes concerning the object, such as organizational data for an opportunity.
 - Historic or log information, such as transaction history, sales stage history, or change logs of an opportunity.
 - Services available for the object, such as scheduled actions.

The default visibility and sequence of assignment blocks is configurable. In addition, each user can use the *Personalize* icon in the work area toolbar to personalize which

assignment blocks are displayed on the overview page and also in which order they are displayed.

Since configuration and personalization of the assignment blocks is quite easy to do, the default delivery should be as simple as possible. **Include only those assignment blocks in the visible content of an overview page that are required by a significant majority of customers.**

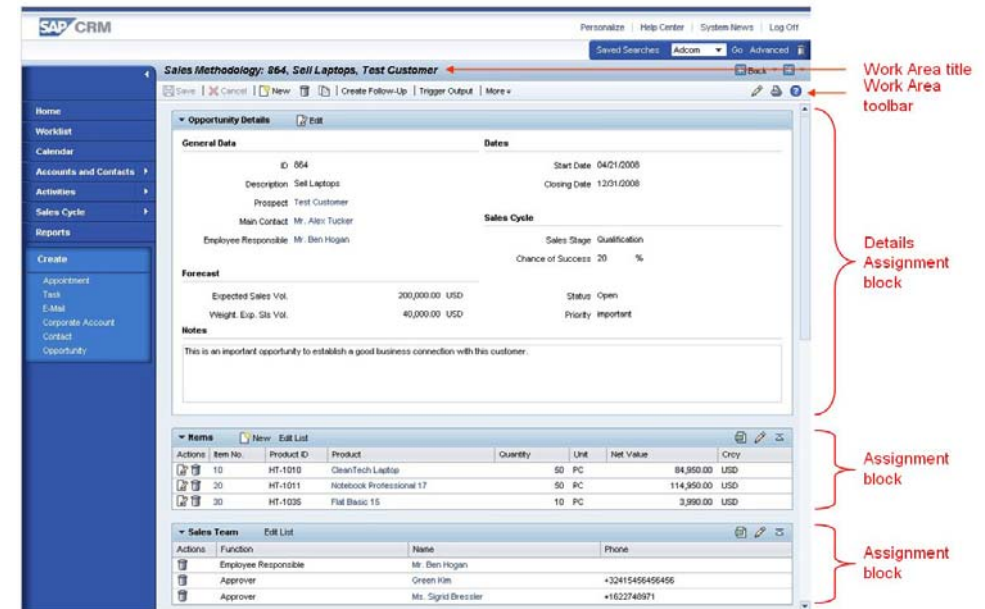


Figure 6-1. Example of an Overview Page

In the right-aligned part of the work area toolbar several generic functions are available:

- A possibility to print the content of the overview page over the browser print function.
- A possibility to call context-sensitive help that describes the business object displayed in the overview page.

- Depending on the authorizations of the user buttons for the configuration of the corresponding page are displayed. These buttons can be hidden via personalization settings.
- A possibility to add the object to a Favorites list. The user can organize his or her favorites in a hierarchy of folders. Objects marked as favorites can then be accessed directly from the corresponding content block on the Home page. This button can be hidden via personalization settings.
- A possibility to add arbitrary tags to the object. If the user clicks on this button a popup opens where the user can add new tags to the object or remove already existing tags. The tags can be made visible on the home page by a tag cloud. This button can be hidden via personalization settings.

Changing information in an assignment block:

Some assignment blocks simply display information without the opportunity to change it, while other assignment blocks offer the opportunity to change the content. For example, the user can change the entries in some fields of a form, add or remove rows in a table, or update the content of table rows.

There are three methods available to change the contents of an assignment block:

- **Switch the content area to editable in-place.** The form, table, or tree inside the assignment block is switched directly (without navigation to a different page) to editable.
- **Navigation to a separate edit page.** The system takes the user to a separate edit page. The edit page can show additional attributes of the current object in a form view or table. It can also be the overview page of a different object. The separate edit page replaces the overview page in the work area. The user can perform the changes on this separate edit page and can then navigate back to the overview page. After the "back" navigation, the corresponding assignment block is in edit mode (in some exceptional cases, the assignment block may not have an edit mode at all, in this case it is still in display mode). This method should only be used when in-place editing of the content is not possible.
- **One-click actions in a table.** Table-based assignment blocks can contain one-click actions (refer to section 6.7.3). Examples include the one-click actions to delete a row or to set an activity in a row to complete. The one-click action can be represented by an icon or a text link. It only influences the entry in the corresponding row. After a one-click action inside an assignment block is performed, this assignment block is automatically set to edit mode.

The complexity of the assignment block content determines if its content is edited in-place or on a separate edit page. The general goal is to provide in-place editing for as many assignment blocks as possible.

The switch to edit mode is done per assignment block. As a shortcut to switch all assignment blocks that can be edited in place to edit mode, it is possible to place a central *Edit* button in the work area toolbar (for button position see the button guideline). If the user clicks on this button all assignment blocks that can be edited in-place are switched to edit mode and the *Save* and *Cancel* buttons in the work area toolbar become active.

An assignment block that was switched to edit mode stays in this mode until the user presses *Save* (saving all changes in all assignment blocks) or *Cancel* (discarding all changes in all assignment blocks) in the work area toolbar. A save or cancel event sets all assignment blocks on the overview page back to display mode.

If the user made some changes in the overview page and clicks the *Cancel* button, the application should not raise a dialog box asking if the user really wants to cancel his or her changes. Instead, all changes that occurred after the last save event are directly discarded and the overview page is set back to display mode.

Basic Navigation Pattern: Save, Cancel, and Back:

The work area toolbar of every overview page contains the buttons *Save* and *Cancel*. These buttons are mandatory (exceptions are objects which can never be changed).

If the user has not changed any information on the overview page since the last save or cancel event, then the buttons *Save* and *Cancel* are inactive. They become active as soon as the user switches one assignment block to edit mode (directly or by navigating to a separate edit page), or clicks a one-click action. The buttons are activated even if the user did not actually change any data in the assignment block or edit page. The occurrence of a switch to edit mode or navigation to a separate edit page is sufficient to activate the buttons.

When an assignment block is editable in-place, then a switch from display to edit and back to display must not lead to any screen position change inside the overview page. This means that the user's current position on the overview page does not change; no screen jumping or automatic movement is allowed.

When an assignment block is edited on a separate page, the same applies after the user navigates back from the edit page to the overview page. In this case, the position of the assignment blocks should be the same as before the navigation (with the exception of newly inserted lines in a table or tree).

Default State when the overview page is entered:

The overview page is the navigation target for all links to the respective object. For example, it can be reached by a link from a search result list, a work list or by a link from another overview page. When the overview page is initially called, it appears in display mode, i.e. *Save* and *Cancel* are inactive and all assignment blocks are in display mode.

Exception: If the nature of the object or the business process indicates that users will in most cases directly change information on the overview page it is also possible to display one or several assignment blocks directly in edit mode when the overview page is entered. In this case the *Save* and *Cancel* buttons must be active. When *Save* or *Cancel* are pressed the page behaves like any other overview page, i.e. it is switched to display mode. Therefore, if an overview page is opened in edit mode it should contain a central *Edit* button in the toolbar. To ensure a consistent behaviour this option should only be used in cases where it is evident that users typically want to change information when they enter the page.

6.2. Work Area Title

The title should help the user to identify the object. It consists of the object type and between one and three object attributes. The rule for the title of an overview page is:

<object type>: <attribute 1>, <attribute 2 -optional>, <attribute 3 - optional>

Here <object type> is the textual description for the object type in the singular. Instead of the <object type>, the <transaction type> can be used in the title if several transactions are derived from the same object type and only differentiated by the transaction type name.

Example: The title for the overview page of an opportunity with *Id = 9686*, *Description = Sell Laptops* and *Prospect = TEST Customer* is:

Opportunity: 9686, Sell Laptops, TEST Customer

The title should not cause any line breaks in standard resolution 1024 x 768. We recommend that you use only two object attributes in the title if this is possible without too much information loss.

When the user creates a new object the title of the overview page is:

<Object Type>: *New*

When the user saves the new object for the first time, the title is changed to the convention described above; that is, the term *New* is replaced at this point with the content of the relevant object attributes.

Exception: If object attributes are automatically set when the object is created (for example the object id) and if these attributes are important for the concrete use case, then they should be displayed in addition to the term *New* in the title before the object is saved the first time. Assume as an example that the id of a new sales order is automatically created and that this id is important for the user before he or she saves the sales order (for example, since the user may talk to a customer on the phone and needs to communicate the order number directly when the order is created). In this

example, the title of the sales order with id 123456 would be *Sales order: New, 123456* until the user saves the first time.

6.3. Work Area Toolbar

The work area toolbar contains all functions that refer to the whole object. Functions that refer only to one assignment block are placed in the assignment block toolbar. Make sure that the availability and order of the buttons in the toolbar follows the button guideline.

6.4. Details Assignment Block

The *Details* assignment block contains **all** attributes that are needed for the business process (Figure 6-2). In the standard roles delivered by SAP, the responsible line of business decides which fields are displayed in this area. On a project basis, this can be adapted by every customer. Therefore, in the standard roles, the *Details* assignment block should contain only those fields which are used by a majority of customers.

6.4.1. General Guidelines

The *Details* assignment block is based on a form view (see the *Guidelines for Forms*, section 6.6). It has one or two columns (exception: overview with embedded hierarchy leads to a third column). We recommend using a two-column layout whenever possible. Captions can be used to group information into logical blocks.

The name of the *Details* assignment block is generally <Object Type in Singular> *Details* or <Transaction Type in Singular> *Details*. Example: *Opportunity Details*.

Some objects, such as campaigns, allow the display of a navigation tree inside the *Details* assignment block of the overview page. The user can display or hide this navigation tree by clicking a toggle button in the toolbar of the overview page. For details of this navigation behaviour, see the guideline concerning hierarchies.

The *Details* assignment block toolbar contains the button *Edit* (icon + text) that enables the user to edit the header information. The *Details* assignment block toolbar can contain additional buttons if required, with a maximum of three visible buttons. If more are required, the third one is a *More* button. For details concerning the buttons refer to the guideline, section Buttons.

If notes are a key part of the business process, the *Details* assignment block can also contain a *Notes* block to enter notes directly at header level. This notes field does not provide a notes type or a *Language Selection* dropdown list box.

6.4.2. Editing the Details Assignment Block

The *Details* assignment block is always edited in-place on the overview page (Figure 6-3). The button *Edit* (icon + text) switches the *Details* assignment block in-place to edit mode. This button is set to inactive after the switch takes place. The button stays inactive as long as the *Details* assignment block is in edit mode.

Pressing *Save* or *Cancel* in the work area toolbar switches the *Details* assignment block back to display mode. At this point, the *Edit* button becomes active again.



Figure 6-2. Example of an Overview Page with Notes in Display Mode

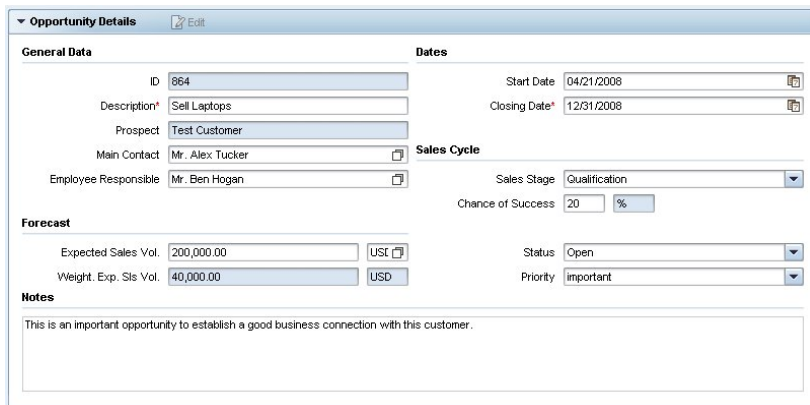


Figure 6-3. Example of an Overview Page with Notes in Edit Mode

6.5. Assignment Blocks

Each assignment block consists of a title bar and a content area.

- **Title bar.** The title bar contains a title which should help the user to identify the assigned information. In addition, it contains all functions that apply to the content area of the assignment block.
- **Content area.** The content area typically contains a table (Figure 6-4), a form (Figure 6-5) or a tree. Of course, it is possible to display other content here, such as a survey, a report, and so on. For the specific behavior of a table in an assignment block, refer to the Tables section.



Figure 6-4. Example of an Assignment Block that contains a Table



Figure 6-5. Example of an Assignment Block that contains a Form

6.5.1. Assignment Block Title

The title should help the user to quickly identify the content of the assignment block.

If the assignment block contains information that is in a 1:n relationship to the object described by the overview page, such as a table or a tree, the title should describe the information in the plural.

Example: The overview page for an opportunity contains an assignment block which shows all products assigned to this opportunity. This assignment block has the title *Products*.

If the assignment block contains additional attributes for the object, such as a form, the title should describe those attributes in the singular.

Example: The overview page for an opportunity contains an assignment block that shows the sales area data relevant for this opportunity. This assignment block has the title *Sales Area Data*.

6.5.2. Functions in the Assignment Block Title Bar

The area that contains all functions specific to assignment blocks starts next to the assignment block title. This area can contain generic buttons (needed to edit the information in the content area) as well as application-specific buttons.

The following functions are placed at the right end of the assignment block title bar:

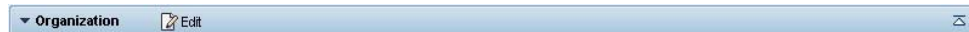
- *Export to Excel* (available only in tables or trees - can be hidden if export is not possible or makes no sense for a specific table)
- *Personalize* (available only in tables or trees)
- *Back to Top* (in all assignment blocks except the *Details* assignment block)

Functions that can be placed in the assignment block title bar:

Only those functions that exclusively influence the content area of the assignment block may be placed in the assignment block title bar. If this assignment block is edited in-place on the overview page, additional buttons can appear in edit mode. Therefore, the buttons in the assignment block title bar can differ between edit and display mode. The order of the buttons and the naming of the standard buttons are described in the Buttons guideline, section 12.5.4.

Possible generic buttons in the assignment block title bar and their behavior:

- *Edit* (icon+text):

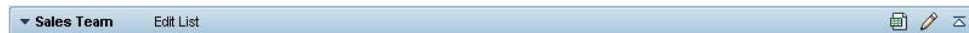


Normally used only in form-based assignment blocks, such as the *Details* assignment block.

This button switches the content area of the assignment block to edit mode. This can be done in-place or by navigating to a separate edit page.

The *Edit* button is only active when the assignment block is in display mode.

- *Edit List* or *Edit Hierarchy* (text only):



Used only in table- and tree-based assignment blocks.

This button switches the assignment block to edit mode. This can be done in-place (in most cases) or by navigating to a separate edit page (in rare cases).

The button is only active when the assignment block is in display mode.

For the concrete behavior of *Edit Hierarchy*, refer to the hierarchy guideline, section 10. Additional information on the *Edit List* behavior can be found in section 9.4.

- *Add* (icon+text):



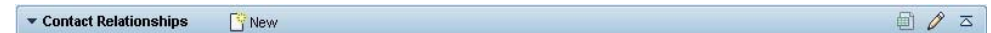
This function is used only in table-based or tree-based assignment blocks.

This button directly opens a search help (in rare cases a value help) to search for and select the content that should be added to the assignment block's content area.

The assignment block content is updated when the search/value help is closed. New rows that are added using the value help are always placed at the end of the table. After the value help is closed, the table shows the last page that contains the objects just added. The assignment block is also switched to edit mode in-place.

The button is always active regardless of whether the assignment block is in display or edit mode.

- *New* (icon+text):



This function is typically used only in table-based or tree-based assignment blocks.

This button navigates to a dedicated edit page. This separate edit page can show additional attributes of the current object in a form view or table. But it can also be the overview page of a different object.

If the button navigates to the overview page of a different object, the rules for creating a new object apply. In this case, backward navigation to the current overview page is only possible using a history back navigation.

This button switches the assignment block to edit mode after the user has navigated back to the overview page. The content of the assignment block is automatically updated in this case. New rows that are added to a table using the *New* button are always placed at the end of the table. The table shows the last page that contains the objects just added.

The button is always active regardless of whether the assignment block is in display or edit mode.

Assignment blocks containing a *New* button should also contain a one-click action *Edit* for each row (exception: hierarchies have no one-click action).

Note: There are some assignment blocks to which new entries can be added (using *Add*, *New* or even an *Edit List* button) that navigate to a separate edit screen, but which cannot be displayed in edit mode on the overview page. Examples include the *Attachments* or the *Notes* assignment blocks. In these cases, there is currently no visual indication possible to show that the assignment block was changed. This means that the assignment block is still in display mode after data is changed.

Possible combinations of these generic buttons:

Only put the generic buttons in the title bar that make sense for the most commonly used cases. It is not necessary to make every possibility available to the user. Although other combinations may occur for special assignment blocks, the most frequent combinations of the generic buttons are:

- *Edit List* only (most common type so far): Should be used if it is possible to make all required changes directly in the table.
- *New + Edit List* (rarely used): This combination makes sense if the creation of new rows in a table-based assignment block requires the entry of more data than what is displayed directly in the table (this can be done using the *New* button) and if the user should be able to change some of the field content in existing rows directly in the table (this can be done using the *Edit List* button). This combination makes sense in tables where the rows represent complex objects and it is a valid use case that some details of existing rows are changed frequently by the user.
- *Add + Edit List*: This combination makes sense if new rows in a table are typically added using a search help (this can be done using the *Add* button) and if the user should be able to change the field content of existing rows directly in the table (this can be done using the *Edit List* button).
- *New + Add* (very rarely used so far): This combination makes sense in tables where the rows represent complex objects that cannot be entered and changed directly in the table row and if it is a common use case that existing objects are assigned to the table via the search help.

Multiple “New” or “Add” buttons:

For some assignment blocks, multiple *New* or multiple *Add* buttons are necessary.

Examples: The *Attachments* assignment block allows the creation of a new document or a new URL or new document with template. Therefore, three *New* buttons are contained in the title bar of the assignment block (Figure 6-6).

Actions	Name	Type	Created By	Created On
Properties	Comments	Simple Text	HOGANB	04/21/2008 07:30
Properties	SAP Homepage	URL	HOGANB	04/21/2008 07:29

Figure 6-6. Example of an Assignment Block with multiple “New” Buttons

In such cases, the word *New* on the button is replaced with the name of the object. The *New* icon shows that the function creates a new object. The button has the tooltip *New <Object>*, for example *New URL*. The same logic applies for multiple *Add* buttons.

You cannot have more than three *New* or three *Add* buttons in the assignment block title bar. If there are more than three different objects that can be created and added to an assignment block, then a single *New* button must be used. When the user clicks this button a selection dialog box appears, in which users can choose the object they want to create.

Indication of changes by color effect in the assignment block title bar:

Assignment blocks that are either edited in-place on the overview page (using a dialog box) or have generally an in-place edit mode (regardless whether they also contain a separate edit page option or only an in-place edit mode) show a special color effect in their title bar as soon as data has been edited. The concrete visualization of the effect depends on the chosen skin.

6.5.3. Assignment Block Content Area

The content area of an assignment block typically contains a form (Figure 6-7), a table, or a tree. The user can collapse or expand the content area by clicking the triangle on the left side of the assignment block title.

Content area containing a form view:

Ship-To Party	Test Customer	Delivery Status	No Items Delivered
Ship-To Party Address	23 Main Street / London *	Delivery Block Status	No Items Blocked for Delivery
Incoterms		Complete Delivery	<input checked="" type="checkbox"/>
Shipping Conditions	Regular Shipping	Combine Orders	<input type="checkbox"/>
Mode of Transport			
Delivery Priority	Normal		

Shipping

Ship-To Party: Test Customer
 Ship-To Party Address: 23 Main Street / London *
 Incoterms:
 Shipping Conditions: Regular Shipping
 Mode of Transport:
 Delivery Priority: Normal

Delivery Status: No Items Delivered
 Delivery Block Status: No Items Blocked for Delivery
 Complete Delivery:
 Combine Orders:

Figure 6-7. Example of an Assignment Block Based on a Form View in Display and Edit Mode

Choose a two-column layout whenever possible. If the form contains multiple fields, then captions should be used to group these fields.

Form-based assignment blocks should be switched to edit mode in-place whenever possible. The only exceptions to this rule are cases where there are valid business reasons for the edit page to contain more information than the form displayed in the overview page.

Content area containing a table:

In the case of table assignment blocks, the standard editing concept is also editing in-place by switching the assignment block on the overview page from display to edit mode if possible. This is mainly the case where only the columns visible in display mode should be (partly) editable and no further content, such as form fields, related tables, or special filtering mechanisms, is needed for editing.

The state of a table does not change when it is switched from display to edit mode or vice versa. State summarizes the following information:

- Whether the table is expanded or collapsed
- The number of visible rows per page
- The page that has the focus

The table row that has the focus does not change when the user expands or collapses it in edit mode. This means that the page with the row that is currently being edited is always visible to the user.

For details of the table behavior, refer to the *Guidelines for Tables*.

Content area containing a tree:

With some exceptions, the rules for assignment blocks containing tables apply. For further details concerning the behavior of trees, refer to the Hierarchies guideline.

6.5.4. Load Option

An assignment block can be defined with two different start options (Figure 6-8):

- **Auto load.** The content of the assignment block is automatically loaded when the overview page is displayed. In this case, the assignment block is automatically expanded when the overview page is displayed.
- **Lazy load.** The content of the assignment block is only loaded at the user's request, that is, when the user clicks on the small triangle to the left of the assignment block title. In this case, the assignment block is automatically collapsed when the overview page is displayed. The data is loaded when the user expands the assignment block for the first time.

The default for the load option of an assignment block can be defined in Customizing. The user can change this default in *Personalization*.

The overview is the central navigation target to an object. It is therefore important that it appears as soon as possible when the user clicks a corresponding link.

Actions	Item No.	Product ID	Product	Quantity	Unit	Net Value	Crcy
	10	HT-1010	CleanTech Laptop	50	PC	0.00	USD
	20	HT-1011	Notebook Professional 17	50	PC	0.00	USD
	30	HT-1035	Flat Basic 15	10	PC	0.00	USD

Figure 6-8. One Auto-Load and Two Lazy-Load Assignment Blocks from a Sales Order Overview Page

To achieve this goal, it is important that the number of queries that must be executed before the overview page can be shown is minimized. Therefore, only those assignment blocks with content that users always want to see whenever they navigate to the overview page should be defined as auto load in the default for a role.

6.5.5. Separate Edit Pages

If a switch of an assignment block in-place to edit mode makes no sense from the business logic or is technically not possible, the edit process is performed (additionally) on a **separate edit page**. The goal is to edit as much information as possible in-place. Use this method only in cases where in-place editing is really not possible.

A separate edit page can contain a form, a table, or a combination of a form and one or several tables. The same *Guidelines for Forms* and *Guidelines for Tables* as in the overview page apply.

The work area toolbar of the separate edit page must contain the button *Back* as the first button. This button navigates back to the overview page from which the edit page was opened. If the function *Cancel* is available in the toolbar of a separate edit page, then pressing this function should only cancel changes made on the edit page and not changes made in other assignment blocks of the underlying overview page. Pressing the *Cancel* button should navigate back to the overview page in this case.

The work area toolbar of the separate edit page should contain all buttons that influence the whole content of the edit page. Field-related buttons should be placed inside the form and buttons that influence single rows in the table should be placed inside the table toolbar. For the order of the buttons refer to the buttons guideline.

Examples:

- A sales order contains an assignment block that lists all line items of the sales order. It is possible to enter these line items directly in the table. But if product proposals are used, direct entry in an editable table on the overview makes no sense. Therefore, it is possible to navigate to a separate edit page (using the *Edit List* button in the title bar) that contains a table with line items on top and an additional dependent table with product proposals based on top N rules or cross-/up-/down-selling rules.
- It is often not possible to edit all relevant data for assigned information directly in a table. For example, the address information of an account contains attributes (city, street, house number, and so on), but also several phone numbers, several e-mail addresses, or several address types. It is not possible to edit this information directly in the table that lists all addresses of the account. Therefore, a separate edit screen was created that consists of the address attributes in a form and three tables for the phone numbers, the e-mail addresses, and the address types of the specific address.

A separate edit page that contains only a table should be opened by *Edit List* in the assignment block toolbar. Separate edit pages that contain a form (and possibly additional tables) are typically opened by the *New* button in the assignment block toolbar or the one-click action *Edit*.

6.6. Guidelines for Forms

6.6.1. Layout in Edit and Display Mode

If a form in an assignment block of the overview page can be switched to edit mode, then display and edit mode must contain the same fields in the same screen positions. This guarantees that the screen stays stable when the user switches between the two modes.

Non-editable fields are displayed as read-only in edit mode (see Figure 6-9).

Figure 6-9. Example: Non-editable field (*Type*) in edit mode.

Input help like value helps, date pickers, dropdown list box controls, and so on, are only displayed in edit mode. They are never visible in display mode. This principle applies also to mandatory fields. Thus, the indicator that a field is mandatory is only visible in edit mode.

Only editable fields can show an input help in edit mode. You cannot display a field as non-editable in a form and let the user change the field content via a value help.

6.6.2. Grid Layout

For the layout of forms a grid is used. This grid consists of 8 or 16 cells that span 1/8 or 1/16 of the horizontal space, respectively. The layout options on the basis of this grid are described in the following.

Layout Styles

For the horizontal layout of form elements use one of the following options:

16/1-Layout (16 Cells, 1 Form Group):

- Form groups and their headers span the complete width.
- Within the form group, the UI elements can be arranged within one column (spanning 16 cells) or two columns (spanning 8 cells each).

- If one-column layout is used and a UI element comes with a label, the label is placed in cells A-C and the UI element covers cells D-P. If the element has no label (e. g. text edit field, see also 6.6.3 Form groups) the UI element spans the complete width of the form (cells A-P).

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	Notes															
2	Text area															

Figure 6-10. Example: Text edit field in 16/1 layout using one column (from ConfigTool).

- If two-column layout is used and a UI element comes with a label, the label is placed in cells A-C or I-K, respectively. The UI element covers cells D-H or L-P, respectively. If a UI element comes without a label (e. g. table, see also 6.6.3 Form groups), it covers the cells A-H or I-P, respectively. Layout is done row-wise, i. e. elements are arranged horizontally, then vertically (Z-shape; see also Tab Order 6.6.4).

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	Processing Data															
2	Item Category Group			<input type="text"/>	<input type="text"/>	Configurable			<input type="checkbox"/>							

Figure 6-11. Example: Input fields in 16/1 layout using two column layout (from ConfigTool).

16/2 Layout (16 Cells, 2 Form Groups):

- The layout contains two columns for form groups. Form groups and their headers span 8 cells each, layout being done column-wise.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	General Data								Processing Data							
2	Type			<input type="text"/>	Status			<input type="text"/>								
3	Order ID			<input type="text"/>	Rejection Status			<input type="text"/>								
4	Sold-To Party			<input type="text"/>	Credit Status			<input type="text"/>								
5	Sold-To Party Address			<input type="text"/>	Output Blocked			<input type="checkbox"/>								
6	Contact			<input type="text"/>	Dates											
7	Employee Responsible			<input type="text"/>	Posting Date (Free)			<input type="text"/>								
8	External Reference			<input type="text"/>	Reference Date			<input type="text"/>								
9	Territory			<input type="text"/>	Request. Deliv. Date			<input type="text"/>								
10	Value															
11				<input type="text"/>	Net Value			<input type="text"/>								
12				<input type="text"/>	Tax Amount			<input type="text"/>								
13				<input type="text"/>	Gross Value			<input type="text"/>								

Figure 6-12. Example: Form with 16/2 layout (from ConfigTool)

- If a UI element comes with a label, the label is placed in cells A-C or I-K, respectively. The UI element covers cells D-H or L-P, respectively.
- If a UI element comes without a label (e. g. text edit field, see also 6.6.3 Form groups), it covers the cells A-H or I-P, respectively.
- Layout is done column-wise, i. e. elements are arranged vertically within a column, columns arranged next to each other (inverted N-shape; see also Tab Order 6.6.4).

8/1 Layout (8 Cells, 1 Form Group):

- Form groups are arranged within one column, spanning half the width.

	A	B	C	D	E	F	G	H
1	General Data							
2				ID	<input type="text"/>			
3				Title	<input type="text"/>			
4				Academic Title	<input type="text"/>			
5				First name	<input type="text"/>			
6				Last name*	<input type="text"/>			
7				Date of Birth	<input type="text"/>			
8				Rating	<input type="text"/>	<input type="text"/>		
9				Search Term	<input type="text"/>			
10				Language	<input type="text"/>	<input type="text"/>		
11								
12	Employee Responsible							
13				Employee ID	<input type="text"/>			
14				Name	Link			

Figure 6-13. Example: Form with 8/1 layout (from ConfigTool)

- If a UI element comes with a label, the label is placed in cells A-C.
- If a UI element comes without a label (e. g. text edit field, see also 6.6.3 Form groups), it covers the cells A-H
- 8/1 layout is mainly used for forms that are displayed in Overview Pages using Tile Layout.

A form can consist of one layout style or contain a mixture of the above listed layout options. (see Figure 6-13).

General Data	Main Address and Communication Data
ID: <input type="text"/>	House Number/Street: <input type="text"/>
*Name 1: <input type="text"/>	Postal Code/City: <input type="text"/>
Name 2: <input type="text"/>	Country: <input type="text"/>
Search Term: <input type="text"/>	Region: <input type="text"/>
Rating: <input type="text"/>	National Version(s): <input type="checkbox"/>
	Language: <input type="text"/>
	Transport Zone: <input type="text"/>
Employee Responsible	Phone/Extension: <input type="text"/>
Employee ID: <input type="text"/>	Fax/Extension: <input type="text"/>
	E-mail: <input type="text"/>
	Website: <input type="text"/>
	Communication Method: <input type="text"/>
Notes	
<div style="border: 1px solid gray; height: 40px;"></div>	

Figure 6-14. Example: Form mixing 16/2 and 16/1 grid.

Recommendations for the Grid Layout

Whenever possible, 16/2 layout should be the preferred option.

It is recommended to fill the lines completely. This means that UI elements (like fields, dropdown list-boxes etc.) used in a line should cover the respective cells (see spanning rules for the different layout styles). This generally reduces visual complexity and thus improves the visual appearance of forms.

Take care that numeric fields are always long enough so that their content is not cut off.

The vertical layout is determined by the respective screen elements.

6.6.3. Form Groups

Form groups can contain one or more of the following UI elements:

- Input field / input fields with related validation text
- Header
- Label
- Text edit field (formatted / unformatted)

- Text view (formatted / unformatted)
- Explanatory text
- Dropdown list-box
- Checkbox / Checkbox group
- Radio button group
- Table
- Hierarchy
- Button
- Images

To group elements, consider the following suggestions:

- A group should not span more than 8 lines.
- If a group contains only one element, the group header can replace the label. This rule holds only for:
 - tables,
 - text edit fields,
 - radio button groups
 - checkbox groups.
- Generally, a group should always contain more than one element.
- A blank row separates the last element of a group and the header of the next group. This improves the readability of the form.
- If a two-column layout is used, groups should be horizontally aligned on the left and right columns of the form if possible. This has a reasonable impact on the perceived complexity of the form. Groups should be horizontally aligned on the left and right side of the form even if this requires the insertion of up to two blank rows on one of the sides (and thus some white space in the form). Horizontal alignment is not recommended if more than two blank rows would be necessary.
- Visual grouping of the form elements has to be consistent with the tab order between the elements. This should be no problem if a two-column layout is used. In one-column layout, it is not permitted to display two groups side by side (in this case, the tab order would be in contradiction with the visual appearance).

6.6.4. Tab Order

The user can move the cursor focus from one editable field to the next using the TAB key. The order of the tab sequence is from left to right and from top to bottom inside each group (only active screen elements are contained in the tab chain, so non-editable fields that do not contain a hyperlink are not part of the tab chain). Thus, the order of the tab sequence must be consistent with the visual assignment of fields to groups. The tab sequence must step through all fields inside a group before it leaves the group to enter a new group.

6.6.5. Dynamic Screen Areas

Dynamic areas are always displayed within the column in which the trigger is displayed. This ensures that the general form layout is not impaired by a dynamically changing height of a respective form group.

Disabling

Disable UI controls if a user has access to a command but is not available due to the current state of the business object instance and either that disabled conditions can change during the session when access can be granted or the disabled condition is based on a specific object instance and for other object instances it may be enabled.

Hiding

UI controls should be hidden from the screen when the user will never have access to them (i.e. user never has access privileges to them due to role based security or other configuration rights and privileges).

6.6.6. Input Fields

Field Length

In general, the field length is determined by the UI grid that is used for the form layout. This means that fields have a fixed length relative to the screen width, the smallest unit being 1/16.

If the length of the field content exceeds the length of the field the text is cut and an ellipsis (“...”) is added to indicate that the field content has been cut. A tooltip displays the complete field content. By putting the cursor into the field and using the right and left arrow keys, the field content can be scrolled through.

Field Labels

In principle, each field in a form has to be equipped with a label. The field labels should describe the content of the fields as clearly as possible. Try to avoid abbreviations in the field labels if possible.

In edit mode, mandatory fields are marked with a small asterisk next to the field label. If such a mandatory field is not filled, an error message must be sent after the next roundtrip. The background of a mandatory field can be marked by a different background color. Whether this mechanism is used at all, and the concrete color used to mark mandatory fields, depends on the skin selected. In display mode, the mandatory field visualization is not visible.

Field labels are right aligned by default.

If a label is too long to be displayed completely, the label text is cut and “...” is added to indicate that the label has been cut. A tooltip displays the complete label text.


Links in Form Fields

Fields that allow users to navigate to a related object contain a hyperlink. These hyperlinks are always shown in display mode, independent of any authorization settings.

In edit mode, only inactive fields can contain hyperlinks. If a field is editable, the content of the field is never formatted as a link.

Example: Display of the Prospect Field in the Opportunity:

- o Edit mode:

Prospect* 

- o Display mode:

Prospect [Test Customer](#)

A non-editable hyperlink field is displayed in the edit mode of a form without borders. In other words, the display of such a field is the same in both edit and display mode. Only when the hyperlink field is blank is a blank read-only field displayed.

Melting Groups

In some cases, it makes sense to place more than one field in a row, such as a value and the corresponding currency field or fields for a phone number and extension.

In this case, all field labels are placed in front of the first field, and separated by a forward slash (/). If for example, the fields for phone number and extension are placed in one row, the label for both fields is *Phone/Extension*.

Phone/Extension

You can omit labels for fields for which the content is clear from the context as long as the first field in the row has a label. But in this case, it must be guaranteed that the field has a hidden label, so that blind users can still access it using a screen reader. (For screens defined using the Configuration Tool, a hidden label is automatically provided by the framework).

For several fields appearing in one row, at least one of the fields must have a visible label.

Alignment of Field Content in Forms

In edit mode, the content of all numeric fields (read-only or editable) is right-aligned. The content of all other fields is left-aligned.

In display mode, the content of all fields is left-aligned.

In cases where numeric fields are supposed to be used for comparison or summation purposes it is recommended to use a table within the form to improve the readability in display mode.

Concatenation of Fields

To increase readability of information, it often makes sense to concatenate the content of several fields in display mode. But since we want to have a stable layout between edit and display mode, concatenation must be used carefully.

Concatenations of fields in the display mode of a form are only allowed if the concatenation contains fields from the same row of the form in edit mode. A concatenation of fields that are distributed across several rows in edit mode is not allowed.

Sorting of dropdown listboxes

The entries of a dropdown listbox should be sorted alphabetically. Exceptions are cases where the business logic implies a different sorting, for example to match a natural sequence of the entries.

6.6.7. Text Edit Fields

In general, a Text Edit Field will be used as a separate form group. In this case a group header has to be displayed.

General Data	Main Address and Communication Data
House Number/Street: <input type="text"/> <input type="text"/>	House Number/Street: <input type="text"/> <input type="text"/>
Postal Code/City: <input type="text"/> <input type="text"/>	Postal Code/City: <input type="text"/> <input type="text"/>
Country: <input type="text"/>	Country: <input type="text"/>
Region: <input type="text"/>	Region: <input type="text"/>
National Version(s): <input type="text"/>	National Version(s): <input type="text"/>
Notes	Language: <input type="text"/>
Notes Field Text...	Transport Zone: <input type="text"/>
	Phone/Extension: <input type="text"/> <input type="text"/>
	Fax/Extension: <input type="text"/> <input type="text"/>
	E-mail: <input type="text"/>
	Website: <input type="text"/>
	Communication Method: <input type="text"/>

Figure 6-15. Example: Form with text edit field displayed with a header.

If a Text Edit Field is used as an element within a form group, it is displayed with a label. The label is aligned with the labels of other elements within the form group.

General Data	Main Address and Communication Data
House Number/Street: <input type="text"/> <input type="text"/>	House Number/Street: <input type="text"/> <input type="text"/>
Postal Code/City: <input type="text"/> <input type="text"/>	Postal Code/City: <input type="text"/> <input type="text"/>
Country: <input type="text"/>	Country: <input type="text"/>
Region: <input type="text"/>	Region: <input type="text"/>
National Version(s): <input type="text"/>	National Version(s): <input type="text"/>
Notes: Notes Field Text...	Language: <input type="text"/>
	Transport Zone: <input type="text"/>
	Phone/Extension: <input type="text"/> <input type="text"/>
	Fax/Extension: <input type="text"/> <input type="text"/>
	E-mail: <input type="text"/>
	Website: <input type="text"/>
	Communication Method: <input type="text"/>

Figure 6-16. Example: Form with text edit field displayed with a label.

If a Text Edit Field is the only element / form group within a form (e. g. Assignment block; Edit page) group header and label are omitted (in this case the assignment

block title or the page title substitutes for the table title, see above, 6.6.3 Form Groups).

Text displayed in a Text Edit Field spanning two columns is hard to read. It is recommended to use Text Edit Fields only spanning one column (maximum of 8 grid cells).

6.6.8. Tables in forms

Usage, layout, features, and recommendations relating to tables in general are described in Chapter Tables.

If a table is used on form group level/as a separate form group, the table header is displayed and serves as group header.

Figure 6-17. Example: Form with integrated table displayed with a header.

If a table is used as an element within a form group, the table header is omitted and the table is displayed with a label. The label is aligned with the labels of other elements within the form group.

Figure 6-18. Example: Form with integrated table displayed with a label.

If a table occurs together with other tables or form fields within a form, then it must have a visible table title.

Exception: If the table is the only element in a form or if the other elements are only used to influence the table display (for example, there is only a dropdown list box above the table which filters the table content) then the table needs no title (in this case the assignment block title or the page title substitutes for the table title, see above, 6.6.3 Form Groups).

6.6.9. Checkboxes and Checkbox Groups

The checkbox control can have two "labels":

Checkboxes and Checkbox Groups

Label: Checkbox Text

Figure 6-19. Checkbox with label and checkbox text.

The left checkbox label is used for checkboxes to enter or display a binary attribute independent from the surrounding fields. The checkbox appears aligned with the neighboring fields:

Independent Attribute: Checkbox Text

Some Field:

Figure 6-20. Independent checkbox with label and checkbox text.

The right checkbox text is used for checkboxes to handle attributes which are dependent on the preceding field. The "missing" label indicates the dependency.

Some Field:

Attribute is Related to Field

Figure 6-21. Dependent checkbox with checkbox text (no label).

If appropriate in the overall layout context of a form, dependent checkboxes with text can be arranged in a melting group with the corresponding field:

Some Field: Related Attribute

Figure 6-22. Dependent checkbox and checkbox text in melting group with corresponding field.

Checkboxes can be grouped to handle sets of binary attributes. A checkbox group has a label, and all its options have texts: The individual checkboxes are aligned with the other fields on the layout:

Checkbox Group: First Option in Checkbox Group
 Second Option in Checkbox Group
 Third Option in Checkbox Group

Some Field:

Figure 6-23. Checkbox group.

If a checkbox group is the only element / form group within a form (e. g. Assignment block; Edit page) group header and label are omitted (in this case the assignment block title or the page title substitutes for the table title, see above, 6.6.3 Form Groups).

6.6.10. Radio Button Groups

Radio buttons provide users with a single choice from a set of alternative options which are mutually exclusive. Radio buttons are used in groups and are aligned vertically with other form elements. If you need more than 5 radio buttons use a dropdown list box instead.

For the alignment of radio buttons we distinguish the following cases:

- Radio buttons that refer to adjacent fields
- Radio buttons that do not refer to elements but should be included in field groups
- Radio buttons that can be arranged as an independent block of information

Radio Buttons that Refer to One or More Fields

Align dependent radio buttons with the left border of other input elements. The radio button labels are placed right to the radio button (see Figure 6- 24).

Some Field:

First Dependent Alternative
 Second Dependent Alternative

Another Field:

Figure 6- 24. A pair of radio buttons that refers to the input field above it (Some field).

Radio Buttons that are Included in a Field Group

If radio buttons are included in a field group but do not refer to a certain field, do the following (see Figure 6- 25):

- Place the description of the radio button group to the left of the group and align it with the other field labels
- Align the radio buttons with the other input fields

In general, radio button groups within a field group should have a descriptive label for the group and a label to the right of each radio button.

Some Field:

Description: First Alternative
 Second Alternative

Another Field:

Figure 6- 25. Radio buttons within a field group with group label to the left

Radio Buttons that Form an Independent Information Block

If radio buttons are arranged in a separate radio button group, separate them from the surrounding form elements using white space (see Figure 6- 26):

Some Field:

Another Field:

Independent Group: First Alternative
 Second Alternative

Figure 6- 26. Radio button group that forms an information unit of its own.

If a radio button group is the only element / form group within a form (e. g. Assignment block; Edit page) group header and label are omitted (in this case the assignment block title or the page title substitutes for the table title, see above, 6.6.3 Form Groups).

6.6.11. Explanatory Text

A form as a whole may have an explanatory text that provides end-user help on using the form. Explanatory text for a whole form is always the first element of the form.

Form groups may also have explanatory text. Such texts are placed directly below the group header.

6.7. Guidelines for Tables

The number of visible columns has to be reduced as much as possible in the standard system (valid for both display mode and edit mode). The columns that appear in a table can be customized. In the standard customizing, only those columns that are absolutely mandatory for each customer should be displayed.

The content area shows, by default, a maximum number of rows (such as 5, 10, 15 or 20), determined by the application owner, based on business needs. If this maximum number of rows is exceeded, a pager is displayed to navigate the user to the other pages (valid for both display mode and edit mode).

6.7.1. Layout in Edit and Display Mode

The table must contain the same columns in the same screen positions in both edit mode and display mode. This keeps the screen layout as stable as possible when the user switches between edit and display mode. The only exception is the *Row Selection* column, which is available only in edit mode.

Personalization is identical for edit mode and display mode, so if the user changes the settings in one mode, these changes will also be visible in the other mode.

6.7.2. Table Toolbar in Assignment Blocks

When the user switches the table from display mode to edit mode, a table toolbar appears between the assignment block header row and the column title row. This table toolbar is only visible in edit mode:

Items							
Actions	Item No.	Product ID	Product	Quantity	Unit	Net Value	Crcy
	10	HT-1010	CleanTech Laptop	50	PC	0.00	USD
	20	HT-1011	Notebook Professional 17	50	PC	0.00	USD
	30	HT-1035	Flat Basic 15	10	PC	0.00	USD

Items							
Actions	Item No.	Product ID	Product	Quantity	Unit	Net Value	Crcy
	10	HT-1010	CleanTech Laptop	50	PC	0.00	USD
	20	HT-1011	Notebook Professional 17	50	PC	0.00	USD
	30	HT-1035	Flat Basic 15	10	PC	0.00	USD

Figure 6-27. Example of a Table-Based Assignment Block in Display Mode and Edit Mode

For the table toolbar, the following rules apply:

- The table toolbar contains all buttons, such as *Insert*, that are needed for working with one or several of the rows of the table. Buttons that influence the whole table must be placed in the assignment block toolbar.
- If there is a one-click action *Delete* per table row, then there is no *Delete* button (icon only) in the table toolbar. The only exception is assignment blocks where it is a typical use case that the user multi-selects all rows and deletes them.

- The table toolbar does not contain an *Export to XLS* or a *Personalize* button. These buttons are already available in the assignment block toolbar.

6.7.3. Actions Column

A table in an assignment block can contain a column labeled *Actions*. This column shows all available one-click actions for each row (such as *Edit* or *Delete*). The following rules apply for the *Actions* column:

- The *Actions* column is always the first column in a table.
- One-click actions are represented by icons (this is true for the standard one-click actions *Edit* and *Delete*) or as text links.
- The *Action* column can contain up to three one-click actions. Only one of these one-click actions can be a text link.
- A one-click action only influences the corresponding row. It is possible to display or hide one-click actions, depending on the content of the row. Therefore, not all rows in a table must show the same one-click actions. If a one-click action is not available for a particular row, it is hidden (you cannot display unavailable one-click actions as inactive icons or links).
- A one-click action is always executed directly. The application cannot raise a dialog box asking if the user really wants to perform the action. If such a dialog box is required, because the consequences of a function are too critical, the function should be placed in the table toolbar.
- The width of the *Actions* column (for example, containing two icons) should be set to 6% if this column contains only icons. If a text link is contained in this column, adjust the length of the *Actions* column according to the length of the text link (plan some extra space here, since the translation of the text link may exceed the text length in the original language).
- If the user clicks the one-click action *Delete*, then the *Save* and *Cancel* buttons in the toolbar of the overview page become active. The deletion on the database is only performed after the user saves the object. The one click action *Delete* only deletes the assignment of an object to the object displayed in the overview page and not the assigned object itself.
- The one-click action *Edit* typically takes the user to a dedicated edit page. This dedicated edit page is a form view, in most cases. It is also possible to navigate to the overview page of the corresponding object using the one-click action *Edit*. In this case, all assignment blocks on this overview page are in edit mode (similar to when a new object is created).

6.8. Special Use Cases

6.8.1. Creating a New Object

Whenever a new object is created, the user is taken to a blank overview page. In this case, all assignment blocks are directly in edit mode.

The buttons *Save* and *Cancel* in the work area toolbar are always active when a new object is created, while the *Delete* button is inactive. This applies until the user saves the object for the first time.

For some applications it is necessary that the user makes some decisions before the overview page can be displayed. In these cases the structure of the overview page depends on these preliminary user decisions.

There are in principle two different scenarios possible:

- The user has to choose between different variants of the business object (for example, between different transaction types of a sales order). In this case a selection popup is displayed before the overview page is opened. After the user has selected one of the variants in the popup the overview page is shown.
- The user has to enter some initial values, which become attributes of the object. These values can not be changed after the object is created and determine the available information in the overview page. In this case only the *Details* assignment block is shown when the overview page is called. The required initial values are shown as required fields in the *Details* assignment block. All other assignment blocks become only visible if the required fields are filled and a server roundtrip occurs (triggered by pressing ENTER or by pressing the *Save* button). The fields that contain the initial values become read-only after this action.

6.8.2. Canceling in a New or Existing Object

The *Cancel* button is available in every work area toolbar of an overview page.

When the user presses *Cancel*, the following applies:

- **If the user edited an existing object.** All changes after the last save event are discarded and all assignment blocks are switched back to display mode. The user stays on the overview page of the object.
- **If the user was in the process of creating a new object.** All entries made so far will be discarded. The overview page is closed and an automatic back navigation to the last page available in the history takes place.

6.8.3. Deleting an Existing Object

When a user deletes an object, an automatic back navigation to the last page available in the history takes place. If this page displays information concerning the deleted object, we recommend that you update the page before it is shown to the user if this is technically possible without performance problems. If such an automatic update would result in performance problems, you can display the deleted object and show an error message if the user tries to navigate to the object or to perform a function in this object.

Example: The user navigates from a search result list to the overview page of an object. Then she deletes the object. The system then performs an automatic back navigation to the search result list. In this scenario, the list will still contain an entry for the deleted object.

This is obviously a usability issue, but otherwise the search would have to be performed again after each individual back navigation to a search result page, which would have a highly negative impact on system performance. Thus, in this case, the performance argument is more important than the potential confusion for the user in cases where he or she sees the deleted object in the old search result list.

When you press Delete, a dialog box appears with the text *Do you really want to delete?* The dialog box offers the user the two options *Yes* and *No*. Details concerning the design of the dialog box can be found in the Dialog Boxes guideline.

6.8.4. Overview Page of an Archived Object

Whenever the overview page for an archived object is accessed, the following rules apply:

- Work area toolbar buttons that are of no use in an archived object are hidden (*Save*, *Cancel*, and so on).
- All buttons in any assignment block of an archived object's overview page are shown active. If these buttons are clicked, a message is shown informing the user that the requested function is not available for archived objects.

6.9. Specific Guidelines for SAP CRM On-Demand Solution

- The table-based or tree-based assignment blocks in an overview page do not provide an *Export to Excel* function.

7. Advanced Search

7.1. Overview

The advanced search lets the user find and navigate to instances of any type of object that is available for a specific user role. The advanced search pattern occurs in the following situations:

- Within the work area as the regular search facility for CRM objects
- Within search help dialog boxes that are launched to determine the appropriate value for a certain field in a form or table.

A regular advanced search is accessed either using a link in the *Search* group of a work center or using a second-level entry in the navigation bar.

The advanced search consists of these focus areas (Figure 7-1):

- **Search area.** The search area contains all required fields and functions to specify the search terms and start the search.
- **Search result list.** The search result list appears directly below the search area.
- **Saved and central searches.** Users can use the saved search function to call up existing search queries anytime and from everywhere in the application. Central searches allow users to enter a search value directly without requiring navigation to the advanced search screen.

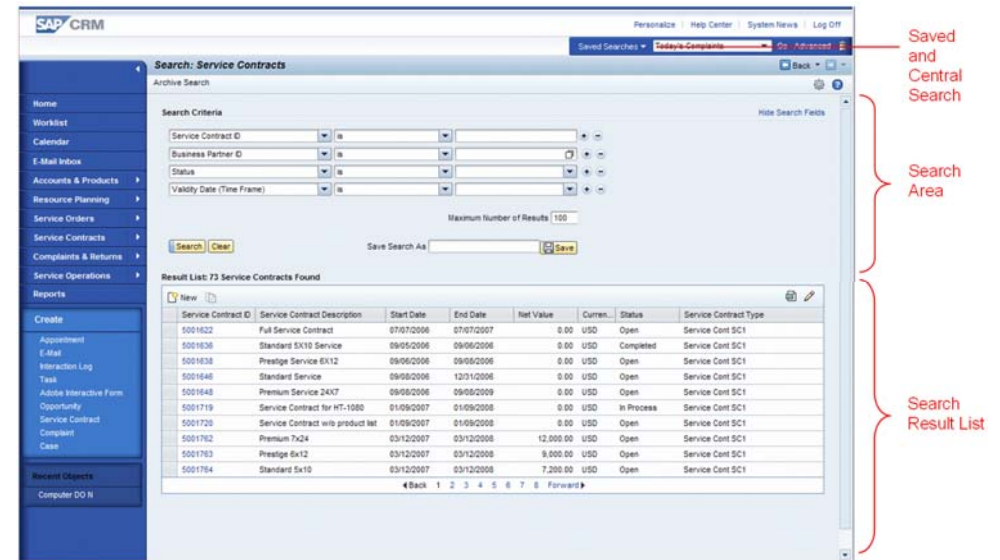


Figure 7-1. Overview Search

The work area title of an advanced search screen is defined as follows:

Search: <Name of Object in plural>

An example for the object *Sales Order* is shown in Figure 7-1.

7.2. Search Area

By default, the search screen opens with a predefined set of search statements (maximum of 4 rows). The application defines these default rows. It is possible to change the type and default number of search statements in the search screen by configuration.

The typical arrangement of a search statement is as follows:

<search attribute> <operator> <search field> [and <search field>]

An example of a default set of statements and all additional functions can be seen in Figure 7-2.

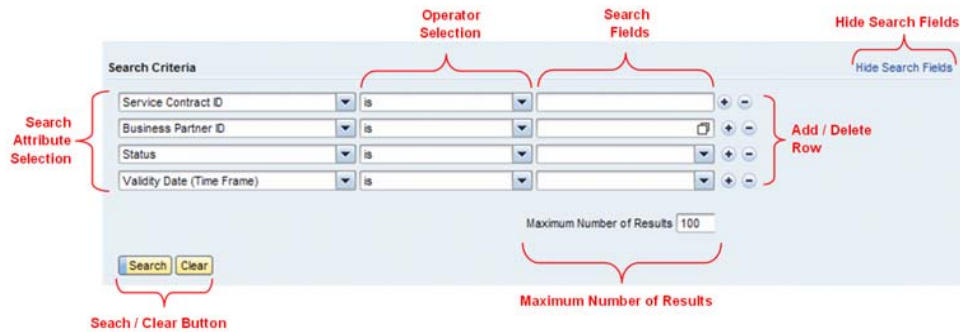


Figure 7-2. Search Area

7.2.1. Search Attribute Selection

Field labels can be selected in dropdown boxes. The order and sequence of the field labels that are displayed is customizable. If no other sequence is required, the entries should always be sorted alphabetically (since it is problematic to provide sorted dropdown boxes in all relevant system languages, this is just a recommendation). The size of the dropdown box is limited. If the number of displayed field labels exceeds the size of a dropdown box (usually seven lines), scrollbars are shown. To avoid excessive numbers of entries in these dropdown boxes, only the most important search attributes should be offered initially.

Fields that are hidden in Customizing for the specific object are not to be displayed in the content of the first field label selection dropdown box in each row.

After changing a search attribute, the corresponding search field is always cleared. The corresponding operator is set to the default operator for the selected search attribute.

7.2.2. Operator Selection

The operators shown in the operator selection fields depend on the selected field label. They are relations between the field label and search fields and displayed in natural language.

Table 7-1 provides an overview of the operators available for the different types of search fields.

Table 7-1. Operators

Field Label Corresponds To	Operators
Text Field	is, is not, is empty, starts with, contains
ID Fields (alphanumeric fields that usually contain numbers)	equals, does not equal, is greater than, is less than, is between, is empty, contains
Numeric Field	equals, does not equal, is greater than, is less than, is between, is empty, contains
Date Field	is, is not, is between, is earlier than, is later than
Dropdown Field	is, is not, is empty (in cases where the dropdown box contains an empty entry)

Special cases:

- If the operator *is between* is selected, a second search field is displayed next to the original one. The *and* shows the connection between these fields.
- If the operator *is empty* is selected, the corresponding search field disappears.
- After changing an operator, the corresponding search field is not cleared.
- After a change from *is* to *is between*, an existing search term is displayed in the first search field of the *is between* search statement – the second field is empty.
- After a change from *is between* to *is*, the search field is filled with the search term from the first search field of the *is between* statement.
- If not both fields of a search statement with *is between* operator are filled with a value, an error message has to be launched after triggering the search.
- If an application cannot provide the complete set of standard operators, the application can restrict the available operators depending on the selected field.

7.2.3. Search Fields

Rendering of search fields depends on the selected field label and the selected operator. Usually, rendering of search fields is the same as rendering of the corresponding field within

an application. For example, if a field is rendered as a dropdown list box within an editable form, it should also be rendered as dropdown list box in the advanced search.

7.2.4. Add/Delete Search Statements

The user can duplicate (+) or remove (-) search statements. It is not possible to remove all search statements – if one row is left, only the duplicate (+) icon is shown.

The size of the advanced search area depends on the amount of attributes that are displayed. Adding or deleting an attribute results in changing the size of the advanced search area.

7.2.5. Logical Relationships Between Search Statements

Logical operators default to:

- OR between multiple instances with the same field label
- AND between search statements with different field labels

Examples:

- The following search statements are connected by a logical OR:
 - [Account ID] [is] [12345]
 - [Account ID] [is] [54321]
- The following search statements are connected by a logical AND:
 - [Account ID] [is] [12345]
 - [Contact Person ID] [is] [54321]

7.2.6. Combined Searches

It has to be possible to search for more than one “search field-value” combination, where the two (or more) search values depend on each other.

Examples:

- Search for customer X with partner function Y (*Partner Function* freely customizable)
- Search for skill X with proficiency Y
- Search for marketing attribute X with value Y

Combined searches are entered using dedicated selection dialog box windows. Figure 7-3 shows a multi-value selection dialog box and the corresponding search field filled with multiple values. In general, the guidelines for dialog boxes apply for the selection dialog boxes.

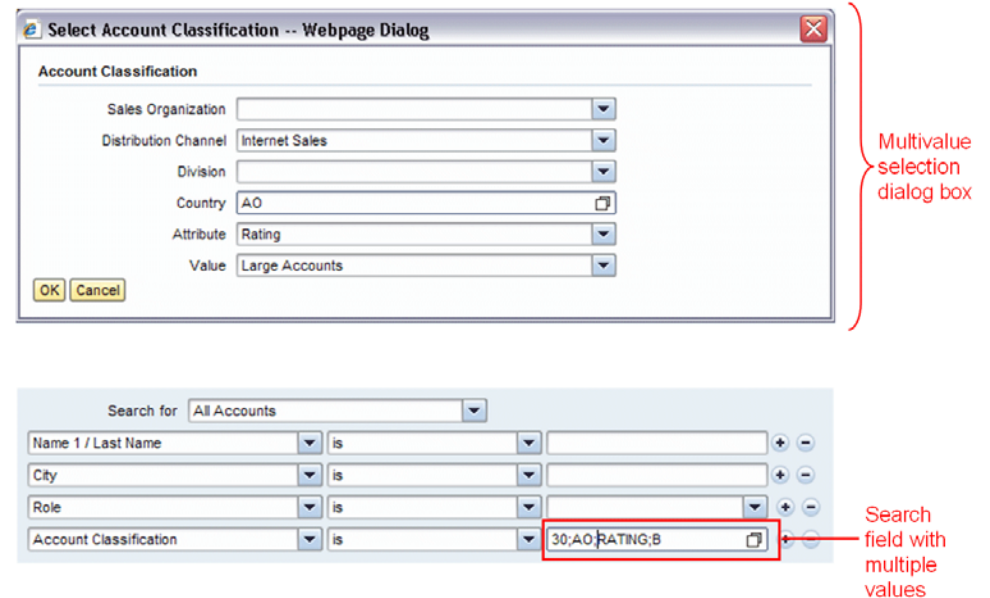


Figure 7-3. Multi-Value Selection Dialog Box and Corresponding Search Field

The following rules for combined searches apply:

- Search statements that require a combined search are equipped with a search field with an *Input Help* icon.
- The input help launches a dialog box that allows users to enter the required (combined) search values.
- Selection of search values may be done with either a dropdown list box (if number of alternatives < ~10), input help, or a (simple) value help.
- For combined searches, only the operator *is* is available. This avoids possible problems concerning the dependencies between (combined) search values.

- Currently, only one search term combination per search statement can be defined (that is, no AND connection of multiple combined search terms). The elements of a combined search term are displayed in the corresponding search field, separated by semicolons (;).
- Though legibility may be less than optimal, the IDs of the search values are usually shown as elements of the combined value.
- In the initial state (for example, no values have been provided), all fields of the selection dialog box are empty – that is, dropdown list boxes show blank entries. When a field in the selection dialog box is changed, all dependent fields are set to the initial state.
- If a combined search field is already filled with a combination of values and the corresponding search help is launched again, then the search help dialog box contains the search values that were entered previously.
- Dependent fields in the selection dialog box are displayed in read-only mode if the superordinate value has not been selected.
- Title of the selection dialog box: “Select <Search Field 1>, <Search Field 2>, and <Search Field n>” Example: *Select Partner and Partner Function*. If this is not possible, there should be a general title: *Select Search Criteria*.
- Mandatory fields are visualized as defined for all input fields.

7.2.7. Maximum Number of Results Field

The default value for the maximum number of results threshold is set to 100. This threshold value may be overwritten by the user in the *Maximum Number of Results* field.

If the number of hits exceeds the number of the result list threshold, an information message is provided in the table header:

Result List: More than <maximum number of records> <object type - plural> found

The result list is filled with the number of hits defined by the threshold.

If the field does not contain any number (because it has been deleted) and then a search is launched, the default maximum number is used for this search and the default maximum number is (re-)entered in this field.

7.2.8. Search/Clear Button

The search can be started by either clicking the *Search* button, or by pressing the ENTER key. The *Clear* button clears all search fields as well as the search result list, but does not reset the search statement (that is, attributes and operators are not changed, no lines are

removed). The *Clear* button does NOT clear the *Save Search As* field, nor the *Maximum Number of Results* field. If a column of the search result list has been sorted, *Clear* does not reset this adjustment.

7.2.9. Hide Search Fields

To hide the advanced search area, the corresponding link (*Hide Search Fields*) has to be used. Hiding/collapsing the advanced search area leads to a full screen display of the result list (20 rows in total can be displayed, instead of 10 rows).

The link *Hide Search Fields* is switched to *Show Search Fields*. After clicking the *Show Search Fields* link, the combined screen with a search form and a result list is displayed, and the link *Hide Search Fields* appears again.

Collapsing and expanding the advanced search area does not affect the data entered in this area, or its usage in executing the search.

7.2.10. Contextual Search Statements

For re-using advanced searches in various applications contexts, for example re-using an advanced search as F4-help, an application shall be able to influence search-statements of an advanced search at runtime.

According to this, the following capabilities are provided:

- Pre-defining search statements including pre-filled search field and hiding those search statements to the user.
- Pre-defining search statements and showing them - as usual - to the user.
- Pre-defining search statements and showing them read-only to the user without plus- or minus-buttons for removing or duplicating these search statements.

7.3. Result List

The general list or table behavior is described in section 9 Tables. In general, the result list is not equipped with line selectors, if no line-specific function is available on the result list toolbar.

The records found after launching a search query are displayed in the search result list. As a default, the result list shows a maximum of 10 lines. If the advanced search area is set to hidden mode, a maximum of 20 rows is displayed by default. Empty rows are not displayed. If the maximum number of rows to be displayed has been changed in the personalization

area of the result list, the number of rows in each case is exactly as personalized – there is no difference between states with hidden or displayed search statements.

Multiple selection of result list lines is possible. For more details, see the table specifications in section 9 Tables.

7.3.1. Table Title and Messaging

The table title displays the number of results found as well as information about when the maximum number of results has been exceeded (this message is not shown in the message area). The table title remains unchanged within the user session until a new search has been launched. Navigating away from a search page and coming back to a search page must not have an impact on the result list title.

The “No Results Found” message only occurs when a search has been started. This message is not shown when the search result list is in the initial state. For more details on messaging, see section 15 Message Handling.

7.3.2. Mass Change Function

Mass changes may be triggered with buttons on the result list toolbar. Figure 7-4 provides an example of a mass change of activity status. The *Mass Change* dialog box is triggered by the *Change Status* button in the result list toolbar. The selected status (in this case *Completed*) is applied to all selected entries in the result list after clicking the *OK* button in the *Mass Change* dialog box.

A *Mass Change* dialog box is required only if selectable alternative values exist for the mass change. For example, if the mass change only changes the status of all selected objects to *Closed*, then it is sufficient to provide a *Mass Change* button with a label such as *Close* <*Object Type*>.

If the intended change cannot be applied to a subset of the selected objects (for example, because of insufficient authorization), then all objects that can be changed are changed, and for all the other objects, a message is displayed stating that not all selected objects could be changed.

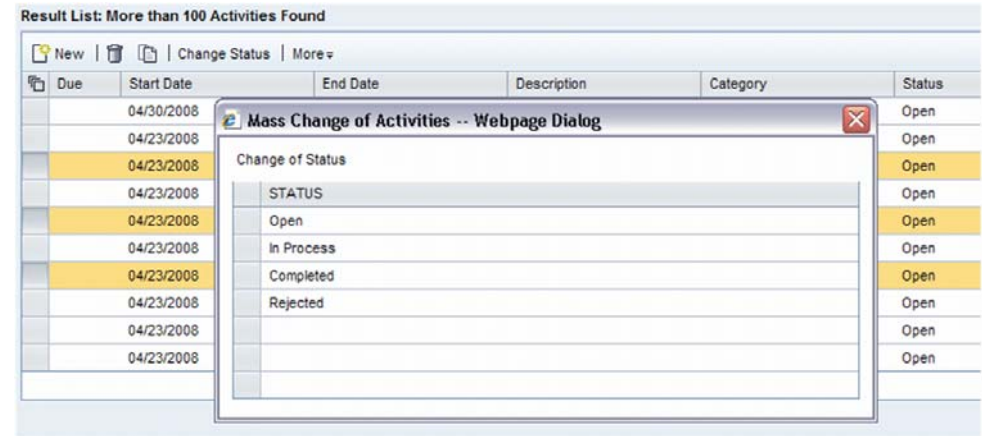


Figure 7-4. Mass Change Dialog Box

If changes for some of the selected entries were not made successfully, then only one message is displayed that informs the user about this status. The *Details* link of this message navigates the user to a screen where he or she can see the complete list of failed changes.

7.3.3. New and Deleted Objects in the Result List

The following use cases have to be considered:

- The user navigates from the result list to the overview page of an object. On the overview page, the object is deleted and the user is then taken back to the search page.
- The user navigates from the result list to the overview page of an object. From the overview page, the user creates a new object and then navigates back to the search page.

In the first case, the deleted object is still visible, while in the second case, the new object is not yet visible. To obtain an updated result list, a new search is required.

7.4. Saved Search

The access to saved searches is combined with the access to the central search (section 7.5). The respective function can be selected by a label shuffler control. The saved

searches function is activated by selecting the entry *Saved Search* from the label shuffler. The selection of central searches is done using the entries below the *Saved Search* entry.

7.4.1. Save Search As

To save a search query, the user has to enter a name in the *Save Search As* field and press the button *Save* (as shown in Figure 7-5).

If all search fields are left blank, the statement cannot be saved. There is a dialog instead: *Search has not been saved; enter at least one search criterion*

After clicking the *Save* button, the statement is saved and is then available in the *Saved Searches* dropdown list box (Figure 7-6). All search statements currently visible on the screen remain unchanged. This means that none of the lines disappear – even when no search terms were entered.

After the search has been saved, the input field for *Save Search As* is cleared and an informational message *Search <search name> has been saved* is displayed in the message area.

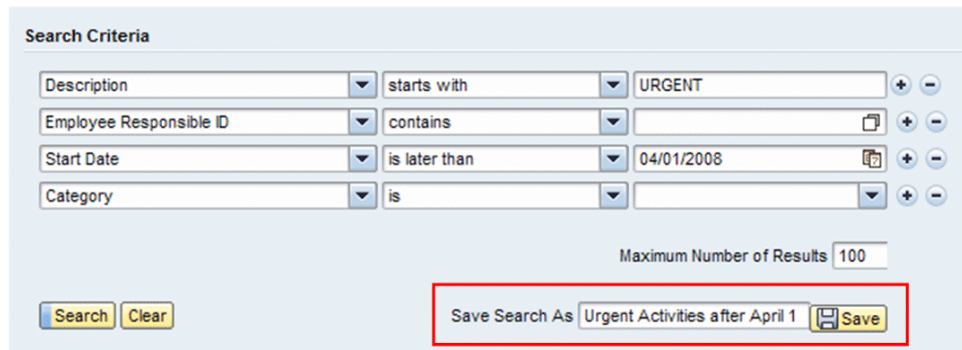


Figure 7-5. Save Search As

7.4.2. Opening a Search Query

To open a search query, the user has to select the saved searches mode from the label shuffler control (if the label shuffler is in central search mode) and then select an entry in the *Saved Searches* dropdown list box and press the *Go* button (as shown in Figure 7-6).

When calling a saved search, only the search statements with filled search fields (the statements that constitute the search) are displayed.

After running a saved search, the search result list is shown with hidden search fields. The search fields can still be opened by the user to show the search criteria of the executed saved search.

By opening the search criteria and then pressing the *Clear* button, the search fields and the result list are cleared.

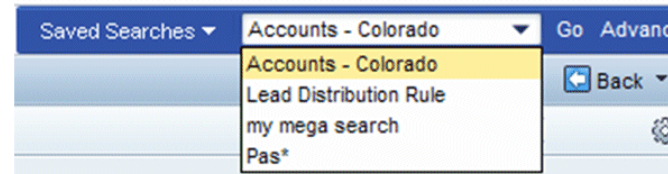


Figure 7-6. Open a Saved Search

7.4.3. Editing a Search Query

To change a search query, the user has to select an entry in the *Saved Searches* dropdown box and click the *Advanced* button. The saved search statement is displayed, no search is triggered, and the result list is empty. The user can then change the search criteria in the advanced search area. To save the edited search, the user chooses the *Save* button.

If search criteria for an existing saved search have been changed and the search is then saved under the same name, no dialog appears to ask the user to confirm the changes. If no criteria have been changed and the user enters a new name for a saved search, the saved search with the old name is not overwritten.

7.4.4. Deleting a Saved Search

To delete a saved search query, the user selects a saved search from the *Saved Searches* dropdown box and chooses the *Delete* icon. The saved search is deleted immediately. No confirmation dialog box is launched.

7.5. Central Search and Simple Search

The central search allows users to search with one single search criterion without requiring navigation to the advanced search screen. With the central search, the user can, for instance, search for an account by last name or for a marketing campaign by ID.

Simple Searches are available when objects of the CRM system are enabled for Enterprise Search. For those objects, a one-field-search over all connected object-types or over one specific object type can be launched. If a simple search over more than one object type has been launched, the search result may consist of several result lists – one list for each object type.

Central searches and simple searches cannot be deleted – therefore the delete button at the far right is deactivated when a central search or a simple search has been selected.

7.5.1. Selecting and Starting a Central Search

Central searches can be selected from the label shuffler below the entry *Saved Searches*, where a horizontal separator and a list of objects are shown.

Search fields corresponding to those objects occur in the second level of the label shuffler menu (Figure 7-7). The label shuffler text is adjusted according to the selected object and field. The central search is started by clicking the *Go* button.

7.5.2. Refining a Central Search

To refine a central search, the user clicks the *Advanced* button. The corresponding search statement of the selected advanced search will be displayed. If this statement is not part of the default search statements of this search, the statement of the central search will be displayed additionally.

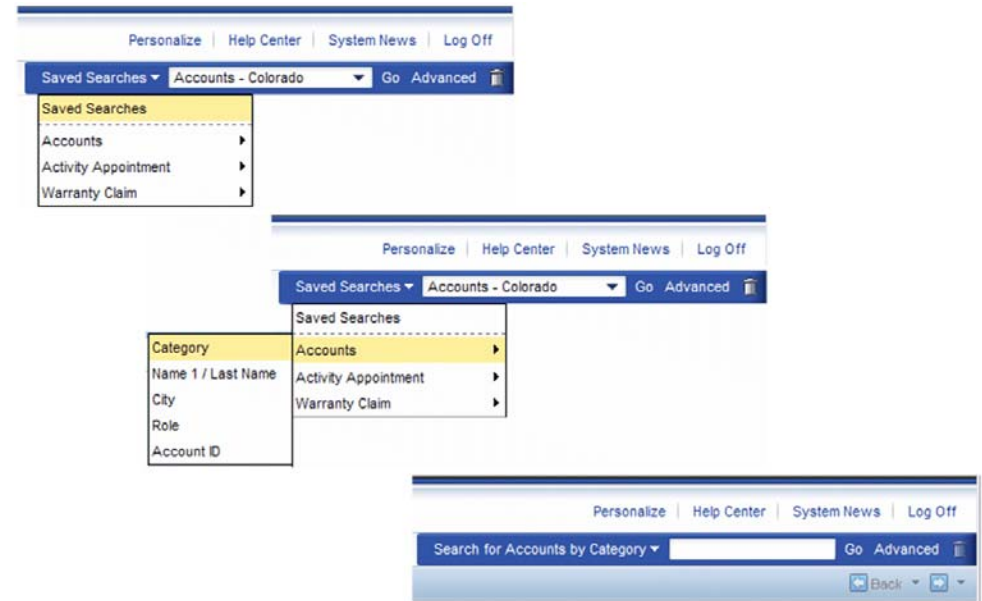


Figure 7-7. Selection of a Central Search

7.5.3. Selecting and Starting a Simple Search

Simple searches can be selected from the label shuffler below the entry *Saved Searches*, where a horizontal separator and a list of objects are shown. A simple search over all connected object types is selected via the *All Objects* entry below the horizontal separator.

Simple searches for single object types can be selected via the *Free Text* entry on top of the second level of the label shuffler menu entries. The label shuffler text is adjusted according to the selected object. The simple search is started by clicking the *Go* button.

7.5.4. Simple Search Result Lists

Since the simple search may cover more than one object type (e.g. orders, opportunities, leads, accounts, and quotations), multiple result lists (one for each object type) may be provided. The result lists can be collapsed and expanded.

7.6. Archive Search

Users can access the *Archive Search* screen by switching the regular advanced search to archive search mode. This is done with the *Archive Search* button in the work area toolbar of the advanced search screen. After clicking this button, the *Archive Search* area appears and the toolbar button changes to *Back to Standard Search*. Figure 7-8 displays the two modes of the advanced search.

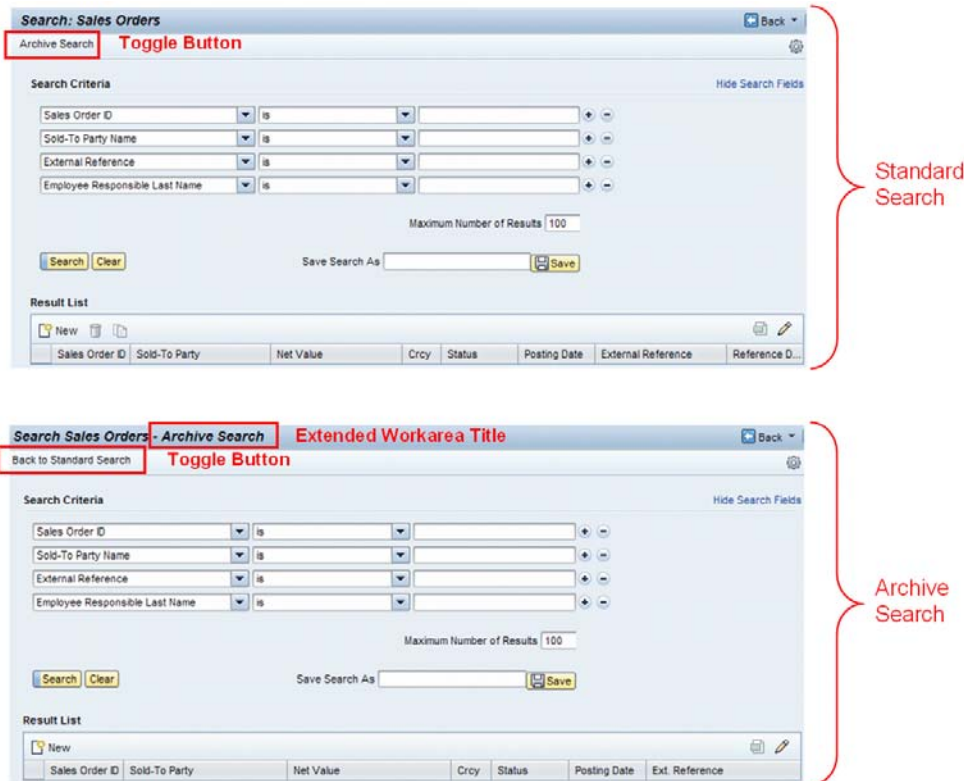


Figure 7-8. Standard Search and Archive Search

7.6.1. Default Search Statements

- If possible, the same default search criteria should be displayed in the regular search and archive search.

- If possible, the same default operators should be displayed in the regular search and archive search.

7.6.2. Search Result List

- If possible, the search result lists of the regular search and archive search should consist of the same columns in the same order with the same default sorting. If some fields do not exist for one of the searches, the corresponding columns are not displayed.
- If the search result list toolbar for the regular search contains function buttons that are not available for archive searches, those buttons do not appear in the archive searches.
- The search page for archive searches is equipped with an extended title: *Search: <object> - Archive Search*. This ensures that the user can see that the list contains archived data, even if the search fields are hidden.

7.6.3. Search Statements after Navigation to Other Search Type

- If search statements adjusted in the initial search type (1) are also available in the subsequent search type (2), then those statements should also be displayed in search (2) and the search fields should be filled with the search terms from search (1).
- Example: if the regular search (1) has a search statement *Last Name* that is also available in the archive search (2) and this statement is displayed in (1), then it should also be displayed in (2) after a switch from (1) to (2). Furthermore, if a search field of search (1) contained a search term (Last Name "Miller"), then this search term will also be contained in search (2), if the corresponding field is available in (2).
- If a search criterion is in principle available in the archive search, but not displayed due to the configuration, then this criterion will also not be displayed even if it has been used in the corresponding standard search.

7.6.4. Saved Searches

- When saving a search statement within an archive search, calling the saved search will take the user back to the corresponding archive search.
- If a user has called a search for online data and then switches to the corresponding archive search, all search values that are applicable for the archive search will be transferred to the archive search. Non-applicable search values will be ignored. In the same way, the values of a saved archive search will be transferred to the corresponding online search.

7.6.5. Search Help Dialog Boxes

- In search help dialog boxes, only regular searches can be conducted.
- Search help dialog boxes are not equipped with the *Archive Search* button.
- History breadcrumbs


Since the archive search has its own work area title, a history breadcrumb entry for each search should be written.

7.7. Search Help

Note that the type of search help described in this section is the only one that is recommended and supported by the *CRM WebClient UI Guidelines*. The “complex value help dialogs,” as mentioned in section 8.4.3, are explicitly deprecated. Nevertheless, some of these dialogs still have to be available for technical reasons.

Search helps are always associated with editable fields. The combination with non-editable fields is not permitted.

7.7.1. Opening a Search Help Dialog Box

To open a search help, the user can either click the *Search Help* icon () or enter something in a field that is equipped with the *Search Help* function and press ENTER. After pressing ENTER, the following cases have to be considered:

No matching value for the entered value exists:

- The system sets all entered letters to capital letters.
- The system automatically adds in the field behind the manually entered value the text ‘(does not exist)’.
- The system launches an error message in the application log.

Exactly one matching value for the entered value exists:

- The complete value is inserted; no search help dialog is started.

More than one matching value for the entered value exists:

- On hitting ENTER, the information entered manually by the user is used to open the search help dialog box and directly offers in the result list all entries that match the information that was entered.
- The search area is closed automatically when the value help is opened, in this case.

- If the user opens the search area manually, then the search fields show the defaults and the value fields are blank.
- For fields supporting the manual entry of more than one value type (such as business partner fields that allow entry of ID or name), this behavior should work for both types of manual entries.

In general, search terms without appended wildcards are treated as terms with wildcards. Terms without wildcards are also expanded automatically. For example, the term “Mi” in a search field will be treated like “Mi*”.

Consistent workaround:

- The user enters something that is not unique in a field and presses ENTER. No automatic confirmation of the first value is found, but an error message appears to inform the user that the entry is not unique. The text in the field remains as it was entered by the user.

7.7.2. Properties of Search Help Dialog Boxes

Default search fields in search help dialog box windows may either be the same as or different from default fields in the corresponding advanced search. Saved searches are not available for search help dialog boxes.

When the user makes a selection and leaves the dialog box, the dialog box is launched again with blank search fields and an empty result list, but the attributes and operators that were adjusted previously remain unchanged.

Search fields in a search help dialog box are usually of the following types:

- Plain input fields
- Input fields equipped with access to a (simple) value help or a date picker
- Dropdown boxes

Input fields equipped with access to a search help dialog box may be provided, but search helps called from within a search help must not provide access to further search helps (to avoid excessive stacking of dialog box windows). Access to simple value helps is permitted.

The result list of a search help is not equipped with an “export to Excel” function.

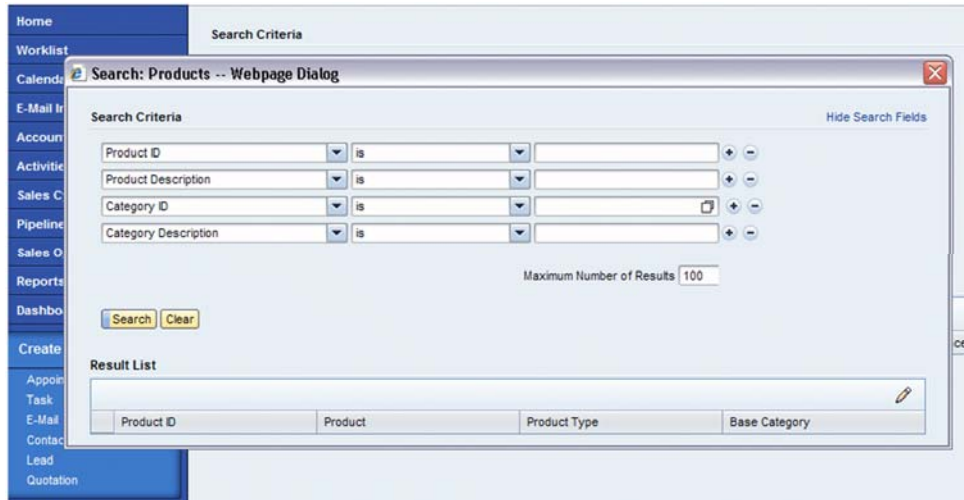


Figure 7-9. Search Help Dialog Box

7.8. Smart Value Help

The smart value help is available for fields that are either equipped with a search help or a regular simple value help (for example country or language fields). The smart value help is a menu that is automatically opened below an associated field. As a default, the smart value help offers the last 5 entries that have been entered by the user. Figure 7-10 Smart value help showing the last 5 entries shows an example for a smart value help in a search form.



Figure 7-10 Smart value help showing the last 5 entries

If the empty field is entered with tab or mouse nothing is shown. If the down arrow key is pressed or the field is double clicked the last 5 entries are displayed. Also after something was typed, the matching values (case insensitive) from the last 5 entries are shown. The most recent entry is shown on top.

The first entry is selected. Up/down arrow and mouse over change the selection. Tab, return, enter or mouse click fills the selected entry into the field and closes the menu. Esc or clicking outside the menu field closes the menu without filling the field.

In connection with a simple value help, a background search depending on the entered characters is started additionally and the smart value help menu displays both the last 5 entries and the results of the background search. Figure 7-11 Smart value help at a field associated with a simple value help shows an example.

Figure 7-11 Smart value help at a field associated with a simple value help

The last 5 entries are displayed in temporal order. Separated by a dashed line the alphabetically sorted results of the background search are displayed. The smart value help menu displays a maximum of 10 entries at a time. With the eleventh entry, a scrollbar occurs.

7.9. General Principles

- State after navigating back to the advanced search screen: After leaving an advanced search screen and navigating back to this screen (for example, by using history *Back* or navigation bar entry), the advanced search is displayed in the same state as it was when the user left it. No reset of attributes, operators, or search result lists occurs, nor clearing of search fields.
- Due to memory consumption issues, a BOL reset takes place (performed by the framework) when the user navigates to the home page or a work center page. If a user navigates to a search page (where he or she had executed a search) after a BOL reset, then the statement above is true, only the search result list is no longer filled.

- “Empty” searches: If a search is launched with a blank search field, the search is treated as a search for “*” (that is, the search is run for all records in the corresponding database).
- Wildcard search: With the operator *is*, no automatic expansion is performed. Therefore, an exact search for <TERM> is possible. If a wildcard search is required, wildcards have to be entered manually (for example, <TERM>*, *<TERM>, <TE>*<RM>).

7.10. Specific Guidelines for SAP CRM On-Demand Solution

In SAP CRM on-demand solution, the advanced search can be called up from every screen of the application by selecting the entry *Search* in the first-level navigation bar (refer to the *Overview Header and Navigation Bar* in section 6).

The advanced search behaves the same way as in CRM 2006s and above. The only difference is that the user can perform searches for every business object directly from the first-level navigation without navigating to the specific business object. Furthermore, the user can select the specific object in the dropdown box located above the search area (Figure 7-12).

Figure 7-12. Advanced Search in SAP CRM On-Demand Solution

If the user navigates directly to an object using the second-level navigation, a search query is automatically performed and the search result list is shown. The search area is set to hidden mode.

In SAP CRM on-demand solution, fixed saved searches may be predefined by the power user. Those searches appear in the *Saved Searches* dropdown box (Figure 7-6). They cannot be deleted by a regular user.

8. Dialog Boxes

8.1. Overview

A dialog box is a new window that appears to present information or to request input. A dialog box is always instantiated by a parent window.

Dialog boxes can have 2 different modes:

- **Modal.** Until the dialog box is finalized, its parent window remains inactive. A modal dialog box interrupts the user's task and waits for a decision or confirmation.
- **Modeless.** The dialog box's parent window can be used independently of the dialog box. Thus a modeless dialog box leaves the user with the decision to either process the dialog box, or continue his or her action in the primary window and leave the dialog box for later.

Navigation in or out of the dialog box:

- A modal dialog box does not contain any navigation options that lead out of the dialog box, except for finalizing it (for example via the *OK*, *Accept*, *Done*, or *Cancel* buttons). Exception: A link that leads to end-user help, any external link that opens a modeless dialog box or any input help that opens another search help (such as in advanced search) may contain navigation options. Only two layers of dialog boxes are allowed.
- A modal dialog box may contain navigation options within the modal dialog box itself (such as tabs, or navigation area).

Usage of dialog boxes:

- **Information.** A user action requires that the user is informed specifically about some results. A dialog box appears, showing the respective information.
- **Confirmation.** After a critical user action, the user is asked for confirmation.
- **Input help.** An input help dialog box helps users enter data. There are three different input help types:
 - Simple input help
 - Search help
 - Complex input help (deprecated)
- **Personalization dialog boxes.** To enable the user to use his or her preferred settings, a personalization dialog box is used (for example for tables and application settings).

- **Additional input required.** Some user actions, such as clicking a button, entering data, or selecting a navigation entry, might require additional input so that the application can proceed.
 - Decision dialog box
 - Application-specific dialog box

8.1.1. Design of the Dialog Box

Dialog boxes appear in a standard window design (depending on the operating system). They have an application-specific title (-- *Web Page Dialog* is automatically added by the framework), content, and optionally at the bottom, a fixed button row that is left-aligned. (Exception: Decision dialog boxes have a centered button row.)

Dialog boxes can have a message bar (Figure 8-1) and offer a link to the end user help that is placed in the toolbar (if necessary).

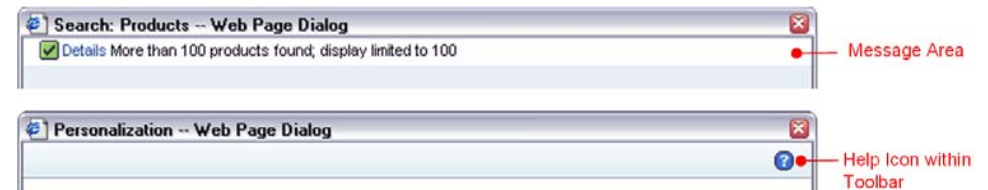


Figure 8-1. Message Area and End User Help Link in Dialog Boxes

8.1.2. Size of the Dialog Box

The size of the dialog box adapts to the width and height of the content.

However, if it is necessary to define width or height of a dialog box, the rule of thumb for the width is that 50% of the screen width should be used (if applicable). For the height, the rule is that the height should adapt to the contents' height, but if it exceeds 3/5 of the screen height, a scrollbar for the content appears.

8.1.3. Canceling a Dialog Box

There are two options for canceling a dialog box: either by using the standard windows dialog box "close" button ("X"-icon in the right top corner) or, if available, by using the standard "Cancel" button. Both buttons have the same function: They close the dialog box and the user returns to the page where the dialog box was launched.

8.2. Information Dialog Box

If a user action requires that the user is informed about some specific result, an information dialog box appears, showing the respective information. It contains the *OK* button.

8.3. Confirmation Dialog Box

After a critical user action, the user is asked for a confirmation. An example of a confirmation dialog box is the *Save Changes* dialog box:

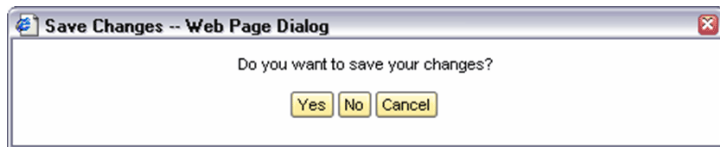


Figure 8-2. Example of a Confirmation Dialog Box

The confirmation dialog box contains a text area with the confirmation text and at least one confirmation button, which is emphasized and can be executed by pressing ENTER. The buttons in the confirmation dialog box are centered:

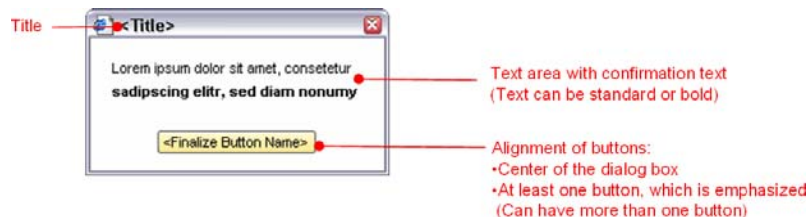


Figure 8-3. Template of the Confirmation Dialog Box

8.4. Input Helps

An input help dialog box helps users enter data. There are different kinds of input help. Search help dialog boxes are described in more detail in section 7.7.

8.4.1. Simple Input Help

A simple input help dialog box contains predefined values stored in the ABAP dictionary (DDIC). If the values exceed seven entries, the simple input help dialog box is preferred to the dropdown list box. However, the application has some “freedom” to display 15 values in a dropdown list box, for example.

If the values of the simple input help (Figure 8-4) exceed the maximum height of the table, a scrollbar appears. However, a horizontal scrollbar should never appear. If required, personalization can be offered for the table.

The title of the simple input help is *Search Help*.

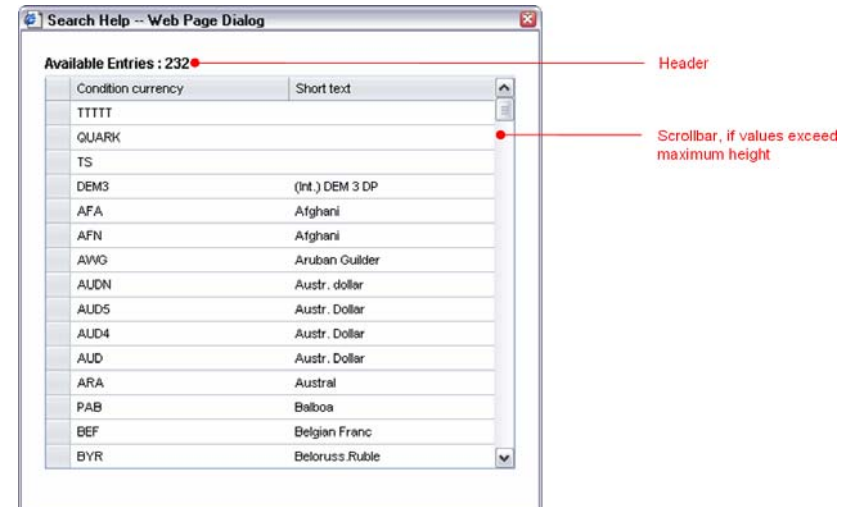


Figure 8-4. Example of Simple Input Help

8.4.2. Search Help

A search help dialog box (Figure 8-5) contains the advanced search to support the user in searching for data. It has the same layout as the search page, but should not contain the *Save Search As* area. As in the advanced search, if the search result list exceeds the maximum number of rows (10), a pager appears.

A search help can be in single-select or multi-select mode. In single-select mode, the dialog box closes as soon as the user selects a row. In multi-select mode, a *Choose* button is placed below the search result list.

The application-specific title is similar to the one on the search page: *Search: <objects>*.

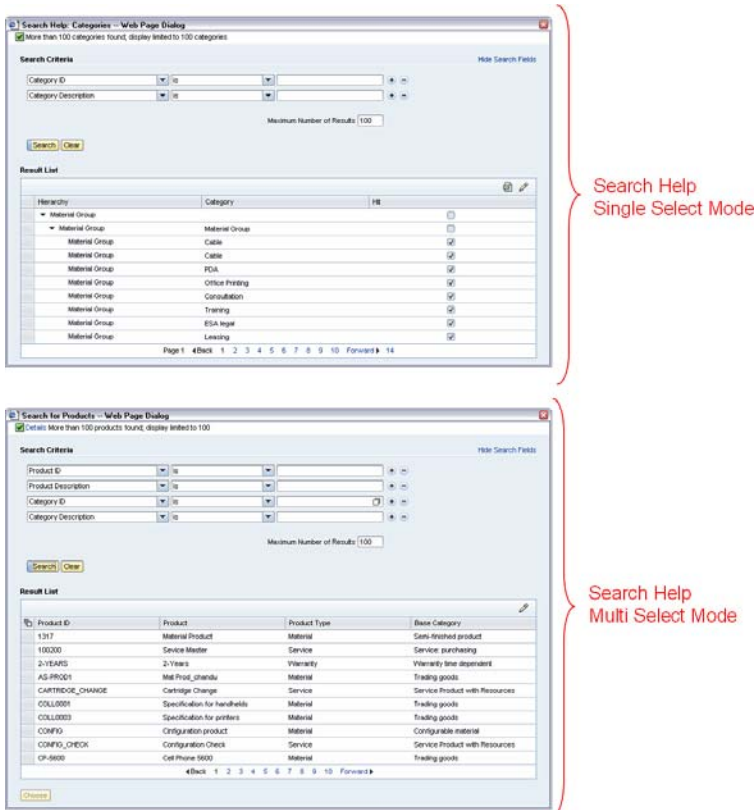


Figure 8-5. Examples of Search Help Dialog Boxes

8.4.3. Complex Input Help (Deprecated)

The complex input help (Figure 8-6) is an enhanced simple input help with an additional search criteria area (such as a DDIC search).

This input help should not be used unless user input support cannot be realized with an advanced search help or a simple input help.

If the values of the simple input help exceed the maximum height of the table, a vertical scrollbar appears. However, a horizontal scrollbar should not appear. If required, personalization for the table can be offered.

The title of the complex input help is *Input Help*.

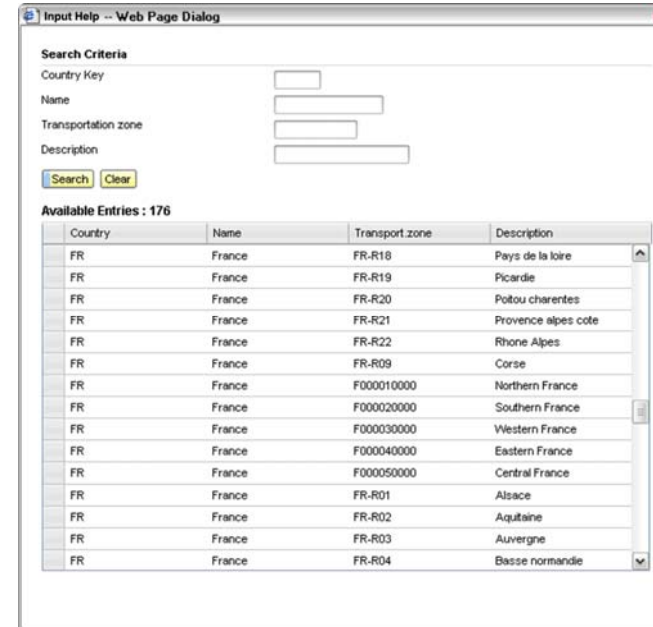


Figure 8-6. Example of Complex Input Help (Deprecated)

8.5. Personalization Dialog Boxes (Table, Simple, Complex)

To enable the user to use his or her preferred settings, a personalization dialog box is used (for example for tables and application settings).

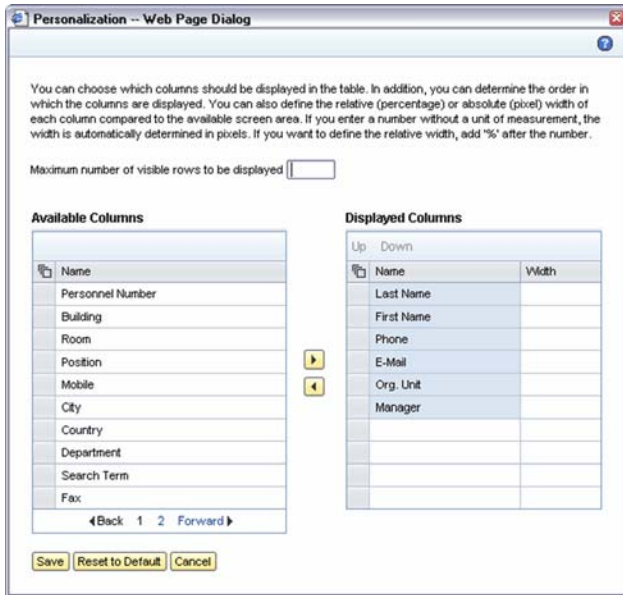


Figure 8-7. Example of a Personalization Dialog Box for a Table

Application-specific personalization dialog boxes should follow the template shown in Figure 8-9.

8.6. Additional Input Required Dialog Box

Some user actions (such as clicking a button, entering data, or selecting a navigation entry) might require additional input so that the application can proceed.

8.6.1. Decision Dialog Box

A decision dialog box is used, for example, to determine the transaction type of an object:

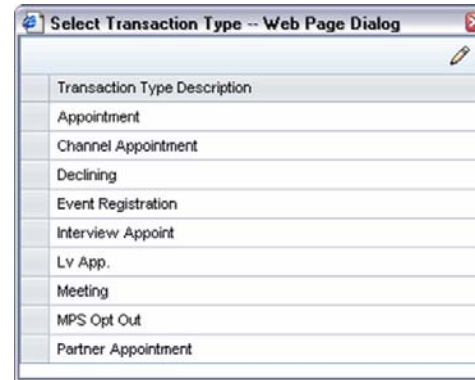


Figure 8-8. Example of a Decision Dialog Box

If a decision dialog box is in single-select mode, the dialog box closes as soon as the user selects a row. If a decision dialog box is in multi-select mode, a *Choose* button is added below the table, with one empty row of distance separating it from the table.

If the values of the table exceed the maximum height of the table, a scrollbar appears. The recommended number of rows displayed until the scrollbar starts is 15 rows.

The preferred table styling for the decision dialog box is the “search result list”, which has a black font color.

The title of the decision dialog box that allows you to choose the transaction type is *Select Transaction Type*.

8.6.2. Application-Specific Dialog Box

Examples of an application-specific dialog box include the *Mass Change* dialog box and the *Contact Quick Create* dialog box.

Application-specific dialog boxes follow the template shown in Figure 8-9.

They contain the following elements:

- Dialog box title (mandatory)
- Explanation text (optional). This is only used if it is a very complex dialog box and explanation is needed to understand and use the dialog box.
- Group header (mandatory)

- Application-specific content (such as tables and form views)
- Finalize button (mandatory)
- Cancel button (mandatory)

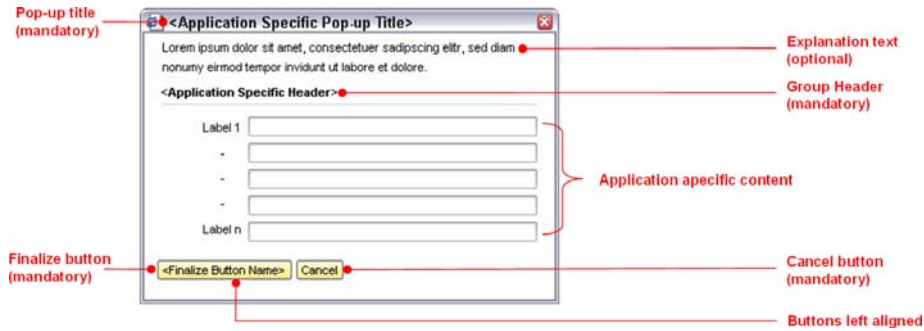


Figure 8-9. Template for Application-Specific Dialog Box

The application-specific dialog box might have an input help that opens a search help. In this case, nesting of three dialog boxes is allowed.

8.7. Specific Guidelines for SAP CRM On-Demand Solution

In SAP CRM on-demand solution, there is a personalization dialog box that contains a navigation bar on the left side (Figure 8-10). When navigating within this dialog box, the size of the dialog box and the button row is fixed. Only the content area and the highlighting of the navigation entry changes.

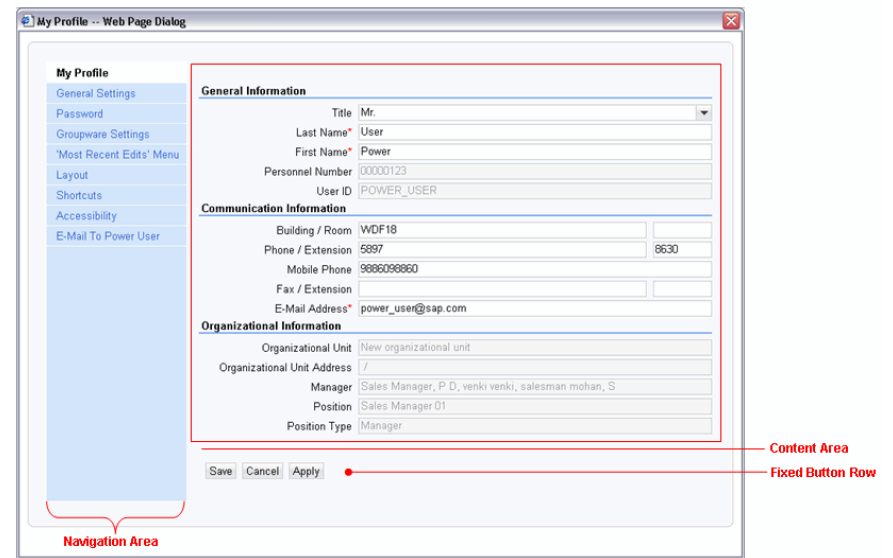


Figure 8-10. "My Profile" Dialog Box in SAP CRM On-Demand Solution

9. Tables

9.1. Overview

Tables are the most-used screen objects on the UI. Mostly, a table serves as a view of business objects and their attributes. Tables provide access to data for display and maintenance purposes. The data is displayed in rows and can be distributed across several table pages. Table rows can have entry points (hyperlinks) to navigate to other screens.

A large number of table types can be used, which differ in visual and interaction design. Therefore the table control can be adjusted to fit the requirements of the appropriate use cases and screen locations.

9.1.1. Elements of the Table Controls

A table generally consists of the following elements:

- **Title bar.** Contains the table title, function buttons, icons, and links.
- **Toolbar.** Contains function buttons and icons.
- **Column headers.** Contain the titles of the table columns with the sorting function.
- **Selection column.** Contains the select all/deselect all function icon and selector icons.
- **Actions column.** Contains function icons and links for direct row manipulation.
- **Vertical scrollbar.** Scrolls all table rows per page.
- **Table row.** Contains a sequence of data cells.
- **Footer.** Contains the *Expand/Collapse* function and/or the paging function.

See Figure 9-1 for illustration.

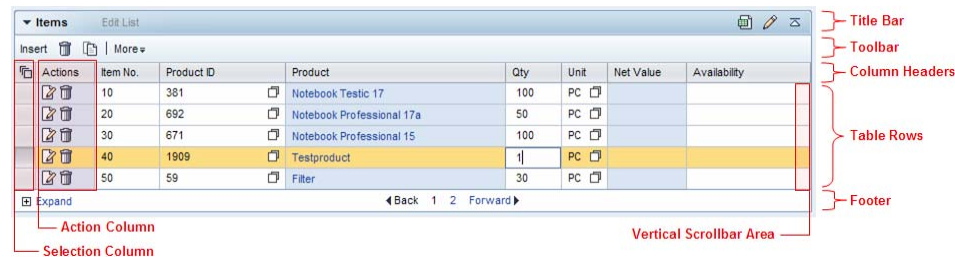


Figure 9-1. Table and Its Elements

9.2. Editing

Tables can appear in read-only mode or edit mode. The read-only mode does not allow users to change data in the data cells directly. Data can only be changed using a one-click action. One-click actions can be triggered by icons or links that are placed in each row at the beginning of the table. The read-only table has no vertical grid lines. This mode is to be used whenever table cells should not be editable.

The edit mode can display data that is permanently not editable (as it is in the read-only mode), temporarily not editable, or always editable. The edit mode provides controls in the data cells to insert and change data in input fields, dropdown list boxes, radio buttons, checkboxes, and icons, for example. Hyperlinks are permanently non-editable. The edit mode does have vertical grid lines.

A table is switched from read-only to edit mode after users choose the *Add, New* or *Edit List* button. A row does not switch to edit mode when it is selected with the selector icon. This is valid for new inserted empty rows, too.

9.3. Selecting

Selecting in a table means marking or choosing one or more table rows to apply related functions. You can select a row by clicking the selector icon. You can select a row with your keyboard by using the TAB key to position the cursor on the selector icon and pressing the ENTER key.

Depending on the use case, a table can generally have three selection modes, a non-select, single-select and multi-select mode (Figure 9-3. Non-Select Mode,

- The non-select mode does not have a selection column and does not offer the option of selecting a row using the mouse or keyboard.
- The single-select mode provides a selection column with selector icons in the far left column. If you select a single row as described above, any previously selected row is deselected.
- The multi-select mode works like the single-select mode, but with one difference: The selection column allows the selection of multiple rows by clicking the selector icons of different rows sequentially (Figure 9-2).

In addition, a select all or deselect all button is available to select or deselect all available rows at once. This function concerns all rows on all table pages.



Figure 9-2. Select All/Deselect All Button

In general, the following is valid for both the single-select and multi-select modes:

- If you select a row that is already selected, this row either stays selected or is deselected, depending on the underlying use case.
- If you navigate to another page and back again, the selection will be kept for both single-select and multi-select modes.

Figure 9-3. Non-Select Mode, Single-Select Mode, and Multi-Select Mode of Edit Style Tables

ID	Standard Relationship
400028	<input type="checkbox"/>
400028	<input type="checkbox"/>
400028	<input type="checkbox"/>
400048	<input type="checkbox"/>
400011	<input type="checkbox"/>
400011	<input type="checkbox"/>
400011	<input type="checkbox"/>
400011	<input type="checkbox"/>
400011	<input checked="" type="checkbox"/>

Category	Priority
Teleservice	Medium
Teleservice	Low
Teleservice	Very high
Teleservice	Very high
Teleservice	Very high
Teleservice	Very high
Teleservice	Very high
Teleservice	Very high
Teleservice	Very high

ID	Postal Code	Region
300025	80224	Color
425755	123456	Keral
300047	80224	Color
439158	12345	
400652	20004	
400440	10000	Bade
400028	67346	
300105	32803	Flind

Figure 9-3. Non-Select Mode, Single-Select Mode, and Multi-Select Mode of Edit Style Tables

Tables may appear in different styles of visual and interaction design. The usage of the styles is dependent on the location or page type where the table is intended to be displayed. The underlying use cases have to be considered. Two main styles are used: the assignment-block style of editable overview pages (eOVP) and the edit style of edit and search pages. The main differences between these styles are outlined in the next two paragraphs.

9.3.1. Assignment-Block Style

The assignment-block style (Figure 9-4 and figure 9-5) groups multiple assignment blocks sequentially, starting with a *Details* assignment block and followed by several table view or form view assignment blocks. A table that appears in assignment-block style is an assignment block that incorporates a table with full work area width. For tables in the assignment-block style, the following is valid:

The table title serves as the assignment-block title. Visually, the title bar has round edges and a colored background. You can place additional clickable icons, buttons, and navigation links in the title bar. The table can have a footer row with *Expand* or *Collapse*, and/or paging

functions. You can switch between read-only and edit mode of the table during runtime. In read-only mode, the non-select mode is available only. Thus no selector icons are available. The table toolbar is hidden. The column headers are hidden as long there are no rows (filled with item data) available. In edit mode, an additional table toolbar containing buttons can be displayed below the title bar. In this mode, all selection modes are available. If you trigger the save function, the edit mode switches back to read-only.

Actions	Item No.	Product ID	Product	Qty	Unit	Net Value	CrCY	Delivery Status	Req. Deliv. Date
	10	HT-1010	Notebook Professio...	10	PC		USD	Not delivered	29.06.2006
	20	HT-1011	Notebook Professio...	2	PC	4.598,00	USD	Not delivered	25.03.2008
	30	HT-1011	Notebook Professio...	2	PC	4.598,00	USD	Not delivered	25.03.2008
	40	HT-1011	Notebook Professio...	2	PC	4.598,00	USD	Not delivered	21.04.2008
	50	HT-1011	Notebook Professio...	5	PC	11.495,00	USD	Not delivered	21.04.2008

Figure 9-4. Assignment-Block-Style Table in Read-Only Mode

Actions	Item No.	Product ID	Product	Qty	Unit	Net Value	CrCY	Delivery Status	Req. Deliv. Date
	10	HT-1010	Notebook Professio...	10	PC		USD	Not delivered	29.06.2006
	20	HT-1011	Notebook Professio...	2	PC	4.598,00	USD	Not delivered	25.03.2008
	30	HT-1011	Notebook Professio...	2	PC	4.598,00	USD	Not delivered	25.03.2008
	40	HT-1011	Notebook Professio...	2	PC	4.598,00	USD	Not delivered	21.04.2008
	50	HT-1011	Notebook Professio...	5	PC	11.495,00	USD	Not delivered	21.04.2008

Figure 9-5. Assignment-Block-Style Table in Edit Mode

9.3.2. Edit Style

The edit style has a single form group section (a frame with round edges and a gray background color) filled with multiple form elements like input fields or checkboxes, and so on. All form elements can be grouped together in further sub-groups with underlined titles above. If a table is one of the form elements, it can become a separate sub-group. In the edit style, the table can appear in half of the work area or in full width of the work area. For tables in edit style, the following is valid:

The table title is underlined and does not have a background color. The table can only have a footer row for the paging function. A toolbar for function icons and buttons is available in both the read-only and the edit mode. The table can have vertical scrollbars that are mostly

used in half the width of the work area. Figure 9-6 and Figure 9-7 show the edit-style table in read-only and edit mode.

Result List: 6 Activities Found

Description	Start Date	End Date	Category	Status	Contact	Activity Type	Location
Prototyping	30.04.2008	30.04.2008	Date	Open	John Smith / D- BERLIN	Meeting	Walldorf
Prototyping	23.04.2008	23.04.2008	Date	Open	John Smith / D- BERLIN	Meeting	Walldorf
Prototyping	22.04.2008	22.04.2008	Date	Open	John Smith / AUSTIN TX 78739	Meeting	Walldorf
Prototyping	21.04.2008	21.04.2008	Date	Open	John Smith / D- BERLIN	Meeting	Walldorf
Prototyping	21.04.2008	21.04.2008	Date	Open	John Smith / D- BERLIN	Meeting	Walldorf

◀ Back 1 2 Forward ▶

Figure 9-6. Edit-Style Table in Read-Only Mode

Phone/Fax/Mobile Numbers

Type	Country	Number	Extension	Standard
Fax	de	xxx	xxx	<input checked="" type="checkbox"/>
Pager	de	xxx		<input checked="" type="checkbox"/>
Cell Phone	de	xxx	xxx	<input checked="" type="checkbox"/>
Telephone	de	xxx	xxx	<input checked="" type="checkbox"/>
				<input type="checkbox"/>

Figure 9-7. Edit-Style Table in Edit Mode

9.4. Adding Empty Rows, Assignments or Other Objects

For adding, deleting, inserting or editing table rows, the following functions are generally available (Figure 9-8), with small differences regarding placement and usage, depending on the style in which they are used.

9.4.1. New

The *New* button is placed within the assignment-block title bar when the assignment-block style is used for the table. It is placed in the table toolbar if the edit page style is used.

Several *New* buttons can be provided at the same time, but the label *New* has to be changed to distinguish between different *New* functions (for example, “new-icon <corporate account>”; “new-icon <individual account>”).

The *New* button launches a create dialog for creating a new object or new information on a separate page (for example, an edit page belonging to an overview page, or an overview page of another object).

When returning from the separate page to the overview page that the user started from, the information, which was created on the separate page, is inserted as a new row in the table. This new row is inserted at the end of the table. The table page that contains this last, new row, is automatically made visible to the user (auto-paging). Additionally, such tables have to provide a one-click action *Edit* in each row to allow direct navigation for maintaining data. If the table provides an edit mode on the overview page, then the table is shown in edit mode after returning from the separate edit page.

9.4.2. Add

Generally, the *Add* button should be used if the main maintenance of data in a table row consists of filling a “leading” field using a search help.

The *Add* button is placed within the assignment-block title bar when the assignment-block style is used for the table. It is placed in the table toolbar if the edit page style is used.

Several *Add* buttons can be provided at the same time, but the label *Add* has to be changed to distinguish between different *Add* functions (for example: “add-icon <employee>”; “add-icon <user>”).

The *Add* button launches an input help or search help dialog box for searching and selecting an object. The selected object is inserted as a new row in the table. This new row is inserted at the end of the table. The table page that contains this last, new row is automatically made visible to the user (auto-paging).

If the table provides an edit mode on the overview page, then the table is shown in edit mode after searching, selecting, and inserting the new row.

9.4.3. Edit List

The *Edit List* button is only available if the assignment-block style is used for a table. The button is placed within the title bar of the assignment block and is only active when the assignment block is in display mode. *Edit List* can be used together with *New* and *Add* buttons in an assignment block.

When users choose the *Edit List* button, the assignment block on the overview page is switched to edit mode and the button is inactive as long as the page is in edit mode. In rare cases, when data editing in a table is rather complex, it is possible to navigate to a separate edit page containing an editable table in edit-page style.

A new empty row is automatically inserted at the end of the table list to facilitate the direct entry of new information. If an automatic empty row can be inserted, then the *Insert* button is mandatory in the table toolbar. The automatic empty row can also be on a table page that is not directly visible to the user.

In addition, the new empty row can contain defaults that are defined for some fields of the table row.

- When a user chooses *Edit List* to switch the table to edit mode, the following happens: If additional buttons are required for working with the table rows, such as *Insert* or *Delete* buttons, a table toolbar is added below the assignment-block title bar.

9.4.4. Insert

When a table is visible in edit mode (regardless of whether it is in assignment-block style or edit-page style) and an *Insert* button is available in the table toolbar, the following behavior applies (assuming that an automatic empty line is available):

- If the table is still empty then the automatic empty row is directly visible to the user. Pressing *Insert* adds another empty line to the table. This new empty line is added at the end of the list. If the maximum number of visible rows is reached, new empty rows are added on the next table page. The user stays on the initially visible page.
- If the table is already filled with rows and the automatic empty row is still directly visible to the user (on the visible page of the table), then pressing *Insert* adds another empty row to the table. This new empty row is added at the end of the list. If the maximum number of visible rows is reached, new empty rows are added on the next page. The user stays on the initially visible page.
- If the table is already filled with rows and the automatic empty row is not visible to the user (it is placed on another table page), then pressing *Insert* does not create a new empty row but only navigates to the table page that shows the automatic empty line. If *Insert* is clicked again, then the above rules apply.
- If the user selects one row and presses *Insert*, then a new empty row is added below the selected row. The selected row stays selected.

Automatic table page navigation happens to the inserted row on the next table page.

If the user selects more than one row and presses *Insert*, then a new empty row is added below the most recently selected row. The above rules apply regarding when the new empty row appears on another page.

If the *Insert* button is available in the table toolbar, then the one-click action *Delete* is mandatory for the assignment-block style

9.4.5. Automatically Inserting an Empty Row

If the automatic empty row is filled with information by the user and a server roundtrip is triggered, then a new automatic empty line is added at the end of the table list. This always happens when the last empty row of a table (using the automatic insert of an empty row function) is filled and a roundtrip occurs.

Automatically inserting an empty row never causes an automatic navigation to the next table page where the new empty row is created.

Automatically inserting an empty row can only be used with the *Edit List* button function. This function can be used in assignment-block style (standard use case) but also in edit page style (rare use case as most tables on editable pages are directly editable and do not need an *Edit List* button).

Using the “automatically insert empty row” function requires an *Insert* button in the table toolbar and a one-click action *Delete* per row.

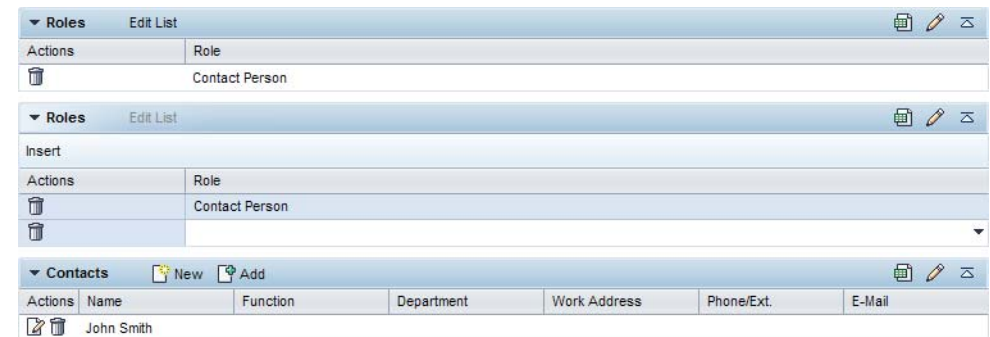


Figure 9-8. Insert, New, Add, and Edit List Functions (in Assignment-Block Style)

9.5. Default Number of Displayed Table Rows and Columns

9.5.1. Rows

Each table has a default number of displayed rows that are visible at once.

Tables in the assignment-block style have a maximum row number of 5, 10, 15, or 20 until the footer with the *Expand* or *Collapse* icon appears. If more rows than the maximum number of rows are available, the rows are distributed on table pages with the maximum number of rows per page. The maximum number of rows is the default number of rows

displayed in the collapsed state. This number can be changed through personalization (see section 9.8, *Table Personalization*).

If you expand the table, the distributed rows are displayed on one page until the maximum of 50 rows is reached. If more than 50 rows are available, the rows are again distributed on pages with 50 rows per page. In the expanded state, you cannot change the number of visible rows per page using personalization. If you collapse the table, the number of visible rows is the default number or a personalized number of rows, as it was displayed before.

Tables in edit style can have different default numbers of displayed rows, depending on the individual use case. Tables in **search result lists** always display **10 rows** by default.

Tables cannot have empty rows in read-only mode apart from tables in personalization dialogs or dialogs provided in the Interaction Center UI (these empty rows are not editable and have no selector icons or data). The same applies to tables that have several manually inserted empty rows and that are switched into read-only mode afterwards. The empty rows are removed automatically.

9.5.2. Columns

To avoid horizontal scrolling, it is very important to configure as few columns as possible to cover the major use cases. In the default view of the table, there should neither be a horizontal scrollbar nor a large number of columns so that the column headings are cut off.

9.6. Scrolling

Vertical scrolling is available in the work area if tables, for example in assignment blocks, are extended to full width. The height of these tables can become bigger than the height of the work area, caused by the expand or collapse function, for example. In this case, the work area has vertical scrollbars. If a table is half the size of the work area in width (for example in simple and complex input help dialog boxes), vertical scrolling has to be provided on the table control itself. In this case the column headers row of the table has to be fixed in position and does not scroll together with the rows.

Horizontal scrolling is not allowed in general.

9.7. Sorting and Filtering

9.7.1. Overview

The sorting and filtering functions allow you to change the current kind of view of a table list. Sorting changes the order of table rows but always keeps the entire number of rows.

Filtering displays a set of rows and therefore only part of the entire number of rows is kept. Sorting and filtering events can be triggered to get the initial state of the table list back.

The two functions impact all table list pages. Thus rows which are currently not visible are affected too. After filtering is triggered, all columns stay sorted as before.

Using sorting and filtering in a certain sequence will influence the function events in the opposite sequence. That means sorting a list in the sequence *Last Name, City and Activity* will show an entire table list sorted by activities, then by city and then by the last name. A list filtered by last name, city and activities will show the exact values for the chosen attributes.

Generally for any search result list, sorting and filtering is restricted to the range of displayed results because the database search was interrupted by reaching the limited number of search hits. A message has to be displayed if this happens. The user should know about filtering on a limited number of items only.

9.7.2. Entry Point

The entry point for sorting and filtering is the column header title of each column. A menu will open by setting the cursor focus on the entry point and pressing ENTER or by a left mouse click on the entry point.

A mouseover effect indicates the option of opening a menu by displaying a small right-aligned arrow icon (Figure 9-9).

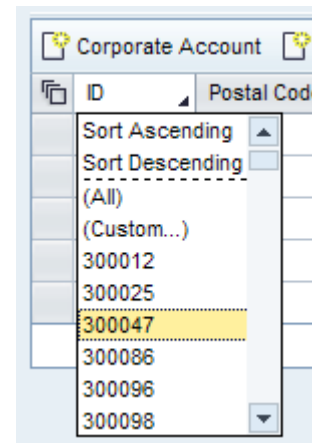


Figure 9-9. Mouseover: Effect on Column Header and Opened Menu

Within the screen reader mode, the mouseover effect is switched off. The tooltip for the column header title should be extended by the appropriate screen reader text: *Press Enter to Open Sorting and Filtering Menu.*

After triggering sorting, an icon is displayed behind the column title appropriately to ascending (up arrow icon) or descending (down arrow icon) sorting. Only the last sorted column has the appropriate sorting icon displayed.

After triggering filtering, a filter icon is displayed behind the title as long as there is filtering being executed on the related column. Several columns can have filter icons to indicate the filtering state of each column (Figure 9-10).

oup Merge Accounts	
City	
CHICAGO	Ur
CHICAGO	Ur
CHICAGO	Ur

Figure 9-10. Column Filtering and Sorting State Indicated by Icons

If a title text is cut, the icons for sorting and filtering have to be shown at the right hand side. The icons show the appropriate tool tip (*Sorted Column Ascending, Sorted Column Descending, Filtered Column* and their combinations).

If an assignment-block table is filtered and then switched to edit mode or to read-only mode, the list must remain filtered. The same applies when navigating to another page and then back again, for example. The list must remain filtered as it was previously. A search result list which is sorted and filtered switches back to the default display (filter resets, default sorting is set) after triggering a new search with the current or new filter attributes.

9.7.3. Sorting and Filtering Menu

The sorting and filtering menu provides different function links to immediately trigger a function or to call a separate dialog box for triggering more complex operations. Generally, sorting should be provided for all columns of a table when this makes sense, for example, sorting for the column *Actions* does not make sense.

The following function links can be displayed within a menu:

- *Sort Ascending* sorts column values in ascending order
- *Sort Descending* sorts column values in descending order
- "-----" separation line to distinguish visually between sorting and filtering functions; contains no function
- *(All)* resets the filtering of the related column and de-highlights it; does not reset manually-performed sorting
- *(Custom...)* launches a filtering dialog box for more complex filtering
- *<Value Name> 2 to maximum 100 filter criteria*, generally values from the corresponding column

The menu provides the function links *Sort Ascending* and *Sort Descending*. A separation line and the function links for filtering are placed below the sorting function links. The *All* function is used to set the filtering in the related column back to the initial state. There, the *Custom* function launches a separate dialog box displaying free-text filter options.

The other functions for filtering are dependent on the type and amount of column values. The values are mainly taken from the column values and are sorted alphabetically.

If more than 10 values are listed, a vertical scrollbar appears in the menu. A maximum number of 100 values is allowed.

If more than 100 values are needed or available, for example, values from a *Description* column, then the *Custom* function is used for filtering only. No values are shown but an additional message link (*Too Many Entries...*) is displayed and leads to the *Custom Filter* dialog

If filtering is not needed, only provide the sorting functions.

Sample values for filter criteria of the column "Opportunity Status":

- In Process
- Lost
- Moved
- Open
- Stopped by Customer
- Won

9.7.4. Custom Filter

The function link *Custom* opens a filtering dialog box for free-text filtering options. An asterisk (*) as a wildcard placeholder can be used for any unknown character, such as "Wal*" or "al*orf". A plus sign (+) placeholder can be used for one arbitrary character, for example, "Wal+dorf".

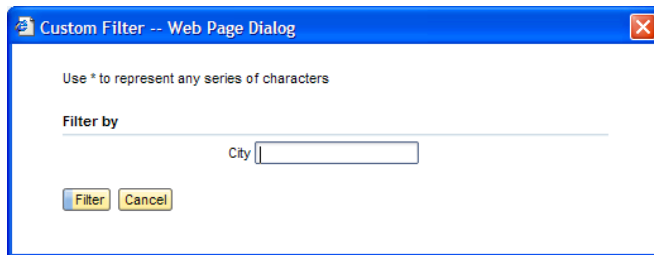


Figure 9-11. Filter Dialog Box for Free-Text Filtering

9.7.5. Customizing, Personalization and Defaults

Sorting and filtering functions are customizable features of the table control. They can be switched on and off by disabling the option to open the menu or to hide function links in the configuration.

Customizing for default filtering of tables is not allowed.

The table control remembers the last sorting and filter state in a session. Saving an object does not save the filter state.

A table can have a default sorting in Customizing, for example, combined sorting first by start date then by activity type and also by personalization. Only the column that was sorted last has to have the appropriate sorting icon displayed.

Filtering of a column goes back to its initial state (reset) if the column is hidden by personalization.

9.8. Table Personalization

A table can have an entry point (*Personalize* icon) for displaying a personalization dialog box. In this dialog box, the following properties of the table can be adjusted to the user's personal needs:

- Changing the number of displayed rows

- Displaying and hiding table columns
- Changing the order of table columns
- Changing the width of table columns in units of percentage, pixel or auto-format (blank)

Additionally, it is possible to personalize the table column width and the column order by using the drag and drop function. You can find more details in the Personalization section.

9.9. Table Properties and Table Locations

The following sections show table properties according to the typical table screen locations and page types.

9.9.1. Overview Page Assignment Block

Tables on overview pages are placed in assignment blocks. In both read-only and edit mode, these tables do not have any vertical or horizontal scrollbars. The title bar contains a title and additional function buttons. The footer appears with an *Expand* or *Collapse* option if the default number of five rows is exceeded. You can display a column with action buttons and links in both modes.

In read-only mode, the title bar has round edges and a colored background. The table does not have any vertical grid lines. The table can only be in the non-select mode.

In the edit mode (in-place on the overview page), the title bar looks like it does in the read-only mode, but has a shading effect for differentiation (white to blue color gradient). In addition, the table has vertical grid lines to separate the columns. In edit mode, the table can also have one of the three selection modes or a table toolbar.

9.9.2. Edit Page

In edit pages, a table is used mainly in edit mode. The table is visualized in the edit style and can have a title bar with blue underlining, containing a title, but no function buttons. The table can have a toolbar with table-related and row-related button functions. An *Actions* column can be used. The number of rows displayed by default depends on the individual use case. Therefore, vertical scrolling is also possible.

The table can also have a read-only mode, indicated by permanent read-only cells and no vertical grid lines. The read-only mode must always be used if this table is not intended to be edited.

In both read-only mode and edit mode, one of the three selection modes is available.

9.9.3. Search Page (Result List)

The table of a search page is visualized in edit style, but displayed in read-only mode. The title bar only contains the title. The table has no vertical grid lines, but can have all selection modes. A toolbar is available for single-select or multi-select mode. There is no *Actions* column allowed to be used. There is no *Expand* or *Collapse* option available, but there is paging if the default number of displayed rows exceeds 10 rows.

9.9.4. Simple and Complex Input Help and Search Help Dialog Box (Result List)

The properties of a table displayed in a dialog box are the same as those of search page tables except for the following deviations:

In single-select mode, a selection triggers a data transfer to the main window and closes the dialog box. In multi-select mode, the dialog box closes after selecting one or more rows and clicking the *Choose* button.

Depending on the number of rows, vertical scrolling can be introduced to have fast access to the rows you would like to select. The default number of displayed rows is 15, but can be extended to 50 through personalization. Paging is available for more than 50 rows. The height and width of the dialog box size follows the general dialog box guidelines. There is no *Expand* or *Collapse* option available. In a dialog box, you cannot have two vertical scrollbars side by side.

Simple and complex input help dialog boxes have scrollbars instead of the paging function.

9.9.5. Personalization Dialog Box

Tables for personalization are available in both read-only and edit mode, depending on the individual use case (Figure 9-12). The tables appear in edit style only. The tables can have an *Actions* column. All selection modes are available.

In the personalization dialogs, the browse and collect pattern (shuttle) is often used to assign property attributes. To keep a visual balance horizontally, empty rows can be displayed at the end of the table so that the tables have the same height.

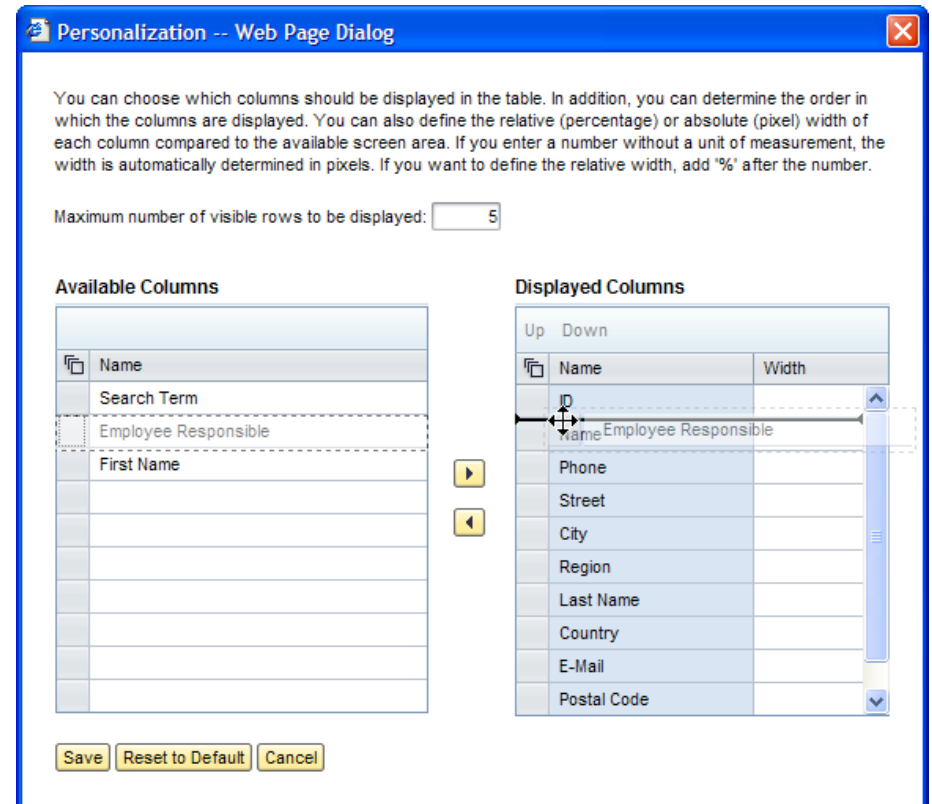


Figure 9-12. Browse and Collect Pattern (Shuttle) Tables in Personalization Dialog

9.10. Default Column Width and Alignment

This section shows default table properties concerning column width and alignment of cell content (Table 9-1).

Table 9-1. Default Width for Columns and Content Alignment

Column Content (Example)	Column Width	Alignment
Icon only	4%	centered
Text with 2 Digits (Country)	4%	left
Text with 3 Digits (Currency)	5%	left
Text with more than 3 digits (Description)	X% or no definition, depending on importance of cell content	left
Figures with n digits	n+2% or no definition, depending on importance of cell content	right
Actions	6% (only for actions containing Edit or Delete)	left
Checkboxes	7% (or less - to 4% - depending on the	centered
Radio buttons	7% (or less - to 4% - depending on the	centered
Time	8% (due to different time formats)	left
Date	10%	left

Column titles are always left-aligned.

Further recommendations:

- For editable columns, you need to add 2% - 3% more width if the columns contain dropdown list boxes or input help icons.
- To account for translation, define the width of text content 20% wider than the original text, if possible.
- Generally, the most important columns have to receive the most space.
- There is no need to abbreviate the column title to fit the column width as it will be cut automatically, indicating this with three dots at the end (for example "Column Ti..."). A tooltip which appears as a mouse over effect shows the full length of the abbreviated text.

9.11. Default Row Height for displaying Images

Images can be displayed in table cells. The image size has to be configured, either fixing the height of the image while the width is determined proportionally, or vice versa. The aspect ratio has to be kept stable.

The fixed height of an image within a table cell has to cover 3 table row heights at least. A maximum fixed height of 5 table row heights is recommended. Images should be displayed in same height over all rows to ensure a consistent row height in the table, although the images have different origin sizes.

The image stays in size and left top aligned within the table cell when the table column will be extended in width by personalization. If the table column will be reduced in width and thus be smaller than the image width the image gets simply cut. The image provides interactivity. When the user clicks on the image a popup is opened which displays the image originally sized.

Actions	Image	Item No.	Product ID	Qty	Unit
		10	HT-1000	1	PC
		20	HT-1002	1	PC

Figure 9-13. Table with Image

9.12. Hyperlinks

Table cells can contain hyperlinks for navigation. Usually the description text of an object is used as a hyperlink rather than the ID. If there is no description text available, you must use

the dummy text “No Text Available” (German: “Kein Text verfügbar”) so that navigation is still possible.

In read-only mode hyperlinks can be clicked for navigating. In edit mode they are editable and simply displayed as text. There is no navigation possible anymore. To provide navigation in edit mode anyhow alternative designs can be used dependent on the use case:

- provide a link on a redundant attribute which is displayed as hyperlink in edit mode but still in read-only, e.g. a description as hyperlink and the related ID as editable field with value help (dangerous when hidden by personalization)
- one-click action “Details” as application specific link (not available for hierarchies, redundant link target but different text in read-only mode may not be clear)

10. Hierarchies

In order to understand the basic concept of hierarchies, you should first read section Tables.

10.1. Overview

Hierarchies organize a collection of items at different levels. The hierarchy is a tree-like structure that can contain different objects at n levels. The tree can be expanded or collapsed using a triangle (refer to Figure 10-3). The different objects can be visualized with an icon displayed after the triangle optionally (refer to Figure 10-1).

Examples of trees containing different objects:

- **Organizational model.** The organizational model contains organizational units, organizational units contain positions, and positions contain employees.
- **Installed base.** Contains objects such as products, objects, or text positions.
- **Marketing hierarchy objects.** Contains objects such as marketing plans and campaigns.

There are two types of hierarchies:

- **Table tree (non-navigable).** The table tree is used only to display or maintain hierarchical information.

ID	Description	Valid From	Valid To
▼ HIERARCHY NODE 1	Level 1		
▼ HIERARCHY NODE 2	Level 2	24.04.2008	31.12.9999
HIERARCHY NODE 3		24.04.2008	31.12.9999

Figure 10-1. Example of Table Tree as Assignment Block in Edit Mode

- **Hierarchy map (navigable).** The hierarchy map is used to display or maintain hierarchical information. Additionally, if the user selects an object within the hierarchy map, the corresponding details of the selected object are displayed on the same page.

For example, in the overview page of the marketing plan, within the hierarchy map, if the user selects a campaign, then the marketing plan overview page is replaced with the corresponding campaign overview page, but the hierarchy map remains in the same screen area. For more information, refer to section 10.6, *Hierarchy Map*.

ID
▼ TEST ANU 17/03 10:15 M
▼ C/0001-761-6
▶ C/0001-761-1
▼ C/0001-761-3
▼ C/0001-761-4
C/0001-761-4-1
▼ C/0001-761-5
▼ C/0001-761-7
C/0001-761-8

Figure 10-2. Example of Hierarchy Map

10.2. Elements of Hierarchies

Both the hierarchy map and the table tree consist of the same elements as tables.

Elements of a hierarchy:

- **Hierarchy header.** The visual design of the hierarchy's header depends on how the hierarchy is used (as is the case with tables). In the case of the hierarchy map, the header can contain icons to resize and close the hierarchy. In case of a hierarchy within an assignment block, the header contains the buttons related to the assignment block.
- **Toolbar.** All hierarchy-related functions are displayed within the toolbar.
- **Column header.** The column header is mandatory. Unlike tables, hierarchy columns cannot be sorted.
- **Hierarchy row.** Each hierarchy row represents an object within the hierarchy. Unlike tables, the first column of the hierarchy displays the hierarchical structure. The row of nodes containing subnodes starts with a triangle. The triangle can either be closed, that is, the subnodes remain hidden, or it can be open, so the subnodes are visible to the user. The hierarchical levels can be opened or closed by clicking the triangle. If a particular level of the hierarchy does not contain any subnodes, no triangle

is displayed.

Optionally, an icon can be used after the triangle to visualize the object type. For more information about icons, see section 13.1.1, **Icons**).

- **Scrollbar.** The hierarchy should not have a pager unless it has more than 100 entries. Instead, the hierarchy is defined with a fixed height, so a vertical scrollbar appears if the content exceeds the maximum hierarchy height. The horizontal scrollbar should never appear - use the cut mode for columns instead.
- **Selection column.** The selection column is not visible if the hierarchy is in non-select mode.

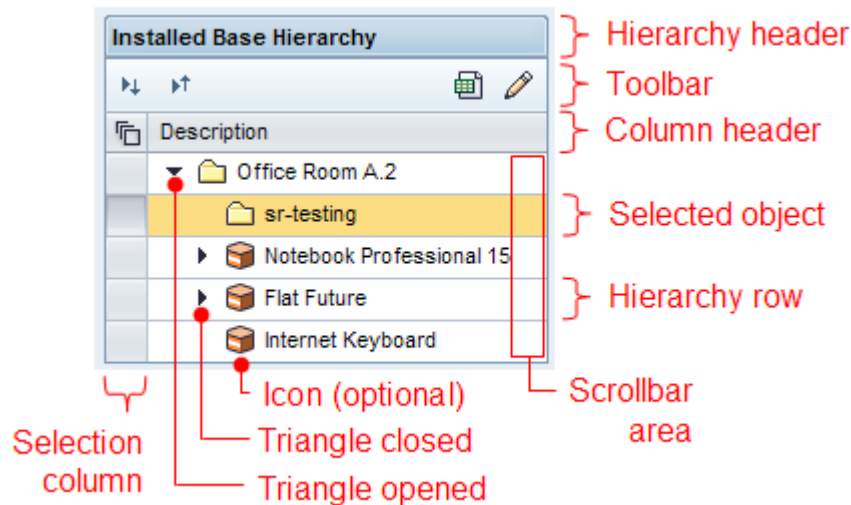


Figure 10-3. Elements of a Hierarchy

10.3. Usage Modes

The hierarchy map and the table tree can be used in different edit and selection modes. Please see also edit and selections modes in chapter tables.

Edit modes:

- **Read-only.** Here you cannot change data directly within the hierarchy control.

- **Editable.** To change cell contents here, you can click inside an editable cell and change the data directly in the hierarchy control.

Selection modes:

- **Non-select.** Use the non-select mode of the hierarchy if the hierarchy is used only to display hierarchical information. For example, a table tree as a read-only assignment block within the *Record* assignment block of the case. A hierarchy map can never be used in the non-select mode.
- **Single-select.** Hierarchies that can be maintained or hierarchies that are a hierarchy map can be in single-select mode. For example, the hierarchy map in *Campaigns*.
- **Multi-select.** If a hierarchy has a function that requires multi-selection, then the hierarchy is in multi-select mode.

10.4. Interaction Defaults

The hierarchy map and the table tree have the following common interactions:

10.4.1. Loading a Hierarchy

When initially displaying an object within a hierarchical structure, the application can define the number of higher levels displayed (for example, 2 levels up). If this is not the case, all the higher levels are displayed, and the application should offer the toolbar button *Up*, so the user can access the higher levels.

Additionally, the application can define the number of lower-level nodes that should be opened. Otherwise, the contents are displayed and loaded on user request, using the triangle icons.

10.4.2. Expanding and Collapsing Hierarchical Levels

Hierarchical tree levels are displayed by using a tree indicator control (triangle). The user can expand or collapse items at different hierarchical levels by clicking the triangle. When the last hierarchical level (leaf node) is reached, no indicator elements are displayed.

An *Expand All/Collapse All* option can be offered using icons in the toolbar. This function expands/collapses all hierarchical levels. (This function should only be used if it is necessary for the use case, since it can lead to performance problems.)

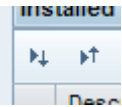


Figure 10-4. Icons for “Expand All” and “Collapse All”

10.4.3. Selecting Hierarchical Levels

Selecting an item in a hierarchy is done the same way as in a table: by clicking the row or the selector. The selection of a node also selects its lower-level nodes (logically but not visually). Exception allowed: the lower levels of a node will not be selected if required by the use case.

10.4.4. Adding a New Object

The button for adding a new object to the hierarchy is the *New* button (icon and text). The button for assigning an object to the hierarchy is the *Add* button (icon and text). For more information, refer to section, Buttons.

If the user can add different objects to the hierarchy, there will either be some buttons in the hierarchy toolbar named *<New/Add icon> + <object>*, or one *New/Add* button, which opens a dialog box, where the user can select the object type.

There are three ways of creating or adding a new node within a hierarchy:

- **Editable hierarchy.** The user can maintain the new hierarchy row directly within the editable cells of the hierarchy.
- **Read-only hierarchy and separate page.** *Create New* navigates to a separate edit screen and *Back* on this screen takes the user back to the hierarchy (same expand/collapse state) with the new row selected.
- **Hierarchy map with in-place form view.** In addition to the hierarchy map, the object header details are displayed in the screen, in edit mode, so that these can be maintained directly.

The following rule applies to these three create cases:

If the user selects a row within the hierarchy and clicks the *New* or *Add* button, the new node will be added one hierarchical level below the selected item and at the last position of the added hierarchical level, and the newly added object can be selected. If the use case requires it, you can use a dialog box to inquire if the user wants to insert the object in the subarea or adjacent area.

A new entry can be added to any level of the hierarchy. You can define restrictions depending on the application logic.

For hierarchies that have no root node, the object might have to be created at the same level as the selected object or at the level below. In this case, two buttons for both cases should be offered in the toolbar. For example, in the sales component hierarchy of the product, the buttons *New Product* and *New Product Into Group* appear.

When adding a new object to a hierarchy, no data loss dialog box appears. All changes within a hierarchy are saved using the *Save* button in the work area toolbar.

10.4.5. Copy, Cut, and Paste Objects

Hierarchy nodes along with their subnodes can be copied or cut and inserted at any other place within the same hierarchy (Figure 10-5).

To copy or cut a node, the node needs to be selected and the corresponding button has to be chosen in the hierarchy toolbar. This changes the visual appearance of the selected row: between the triangle and the ID, a *Copy* or *Cut* indicator icon appears.

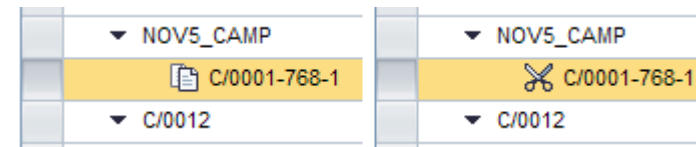


Figure 10-5. Example of the Copy and Cut Indicators

To paste the node into the hierarchy, the target node needs to be selected. Then the *Paste* button can be selected. The copied or cut object, with its subnodes, is inserted as the last subnode of the selected hierarchy node. The newly inserted object is selected.

When pasting a copied object, the maintenance of the new object is the same as for adding a new object. See section 10.4.4, *Adding a New Object*.

The copied object will not be kept in the memory and the user needs to reselect the object to copy it again. Some use cases require information to be retained in the memory; in such cases the user should be able to paste the information as often as required, until he or she chooses *Save*.

Copying can also be performed in the background, if it is going to take a lot of time. In this case, the overview screen of the current object is displayed with the message that the copy process is being performed in the background and that the copied object can be accessed through the search (once the copy process is finished).

10.4.6. Removing Rows

To remove a row within the hierarchy map and table tree, the user selects the row and chooses the *Delete* button in the toolbar. The user may select one or more rows for deletion, if the hierarchy allows such an action.

Deleting a node will also delete its subnodes, if authorizations and the application logic allow it. If it is not possible to delete a node and its subnodes, then there should be a message that informs the user that deletion is not possible, along with the reason, as subnodes will have to be deleted first. Refer to Figure 10-6 below.

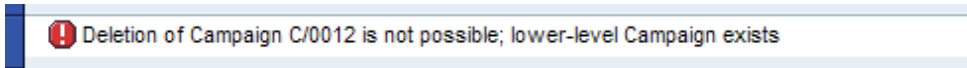


Figure 10-6. Sample Message, When a Node with Subnodes Cannot Be Deleted

For deletion, the following rules apply:

- If the object has a higher-level node and 0..n subelements
 - 0 subnodes:
 - i) If the object is deleted, a confirmation dialog box appears: *Do you want to delete <object name>?*
 - ii) If the reference to the object is deleted, no confirmation dialog box appears.
 - 1..n sub nodes: A confirmation dialog box appears: *Do you want to delete <object name> and its subnodes?*

Once the object and its subnodes are deleted, the higher-level node of the deleted row is selected.

- If the object has no higher-level node:

A *Final Deletion* confirmation dialog box appears: *Are you sure you want to permanently delete <object name> and its subnodes?*

Once the root object and its subnodes (assuming the application logic allows this) are deleted, the user navigates to the previous object page.

10.5. Table Tree

The table tree is used only to display or maintain hierarchical information.

10.5.1. Visual Design

Depending on the usage, the table tree has the same visual design as tables. For more information, refer to section 13.

10.5.2. Usage

The table tree can be used in the following screens:

Assignment block (read-only) in overview page:

The table tree can be a single assignment block displaying hierarchical information. The default size of this table tree can be set to 5, 10, or 15 rows; if there is more content, scrolling (inside the assignment block) will apply.

Similar to assignment blocks, to switch the table tree to edit mode, there is an *Edit Hierarchy* button.

A table tree displayed in a read-only assignment block does not contain: one-click actions, a selection column (table tree is in non-select mode), a hierarchy toolbar, or buttons that add objects to the table tree.

Assignment block (editable) on overview page:

On the overview page, a table tree switched to edit mode can be maintained (Figure 10-7).

If required, a hierarchy toolbar containing the table tree-related buttons, such as *New*, *Delete*, *Copy*, *Cut* and *Paste*, is displayed. Additionally, the selection column is displayed. The table tree itself can either be in edit mode, where the user can change a row directly within the editable cells, or read-only mode; the mode depends on the use case.

ID	Description	Valid From	Valid To
▼ HIERARCHY NODE 1	Level 1		
▼ HIERARCHY NODE 2	Level 2	24.04.2008	31.12.9999
HIERARCHY NODE 3		24.04.2008	31.12.9999

Figure 10-7. Example of Table Tree in Edit Mode in the Overview Page

When saving the overview page, the state of the hierarchy (expanded/collapsed nodes) in read-only mode remains the same as in edit mode - but no nodes are selected.

Edit page:

Like the table tree on overview pages in edit mode, the table tree on the edit page can be maintained. So the same concept applies. The table tree on the edit page will be used only if the use case requires it; otherwise it is maintained in the overview page. When navigating back to the overview page, the state of the hierarchy (expand/collapse nodes) in read-only mode remains the same as in edit mode, but no nodes are selected.

Search result list:

The read-only table tree can be used in a search result list (Figure 10-8). This has to be realized by applications (keeping performance issues in mind).

Result List: More than 100 Segments Found

Segment	Description	Created On	Created By	Changed On	Changed By
Profile Set	DSG Product Prop...	22.05.2007	I801245 (I801245)	22.05.2007	I801245 (I801245)
Profile Set	Kunden Event	23.05.2007	D041361 (D041361)	23.05.2007	D041361 (D041361)
Profile	Kunden Event	23.05.2007	D041361 (D041361)	23.05.2007	D041361 (D041361)
Target Group	Kunden Event	23.05.2007	D041361 (D041361)	23.05.2007	D041361 (D041361)
Profile Set	JW Test	23.05.2007	D041361 (D041361)	23.05.2007	D041361 (D041361)
Profile Set	Golf Event	24.05.2007	D041361 (D041361)	24.05.2007	D041361 (D041361)
Profile	Golf Event	24.05.2007	D041361 (D041361)	24.05.2007	D041361 (D041361)
Target Group	Golf Event	24.05.2007	D041361 (D041361)	24.05.2007	D041361 (D041361)

Figure 10-8. Example of Table Tree as Search Result List for Listings by Account Hierarchy

Search help and input help:

Read-only table trees can be used in search help and input help as well. The user can choose an entry by clicking the object displayed as a link.

10.6. Hierarchy Map

The hierarchy map is used to display or maintain hierarchical information, and additionally to display the corresponding details of the selected object in the hierarchy within the same page (Figure 10-9). This way, the hierarchy map is used as a navigational element that shows the corresponding data of the selected object in the hierarchy, such as all the details of an overview page.

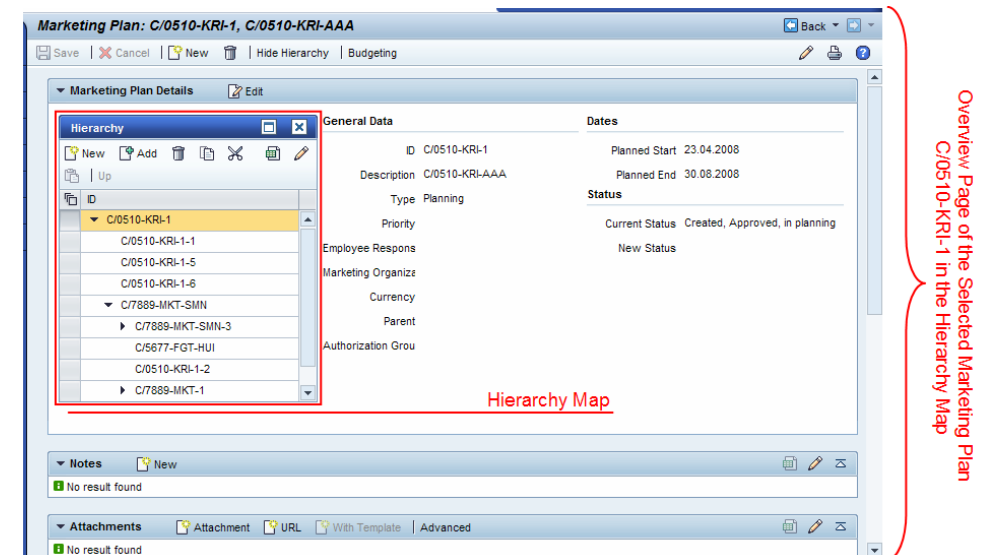
The data, fields, and assignment blocks displayed depend on the object selected in the hierarchy.

For example, if a campaign is selected within the hierarchy map of the marketing plan overview page, then the marketing plan overview page gets replaced by the corresponding campaign overview page, but the hierarchy map remains in the same screen area.

A hierarchy map can also be in multi-select mode. If more than one object is selected in the hierarchy map, you will not see the details of any object. You will just see the hierarchy map.

Selection behavior within a hierarchy map:

The currently selected row within a hierarchy map stays selected when changes of a dependent and previously saved object are saved again or canceled. It will not stay selected if a newly created object is canceled. In this case, the previously selected row in the hierarchy map will be selected again. The selection cannot stay on a row related to an object that does not exist. Please see also Selection behavior in chapter tables.



Overview Page of the Selected Marketing Plan C/0510-KRI-1 In the Hierarchy Map

Figure 10-9. Example of a Hierarchy Map on an Overview Page

10.6.1. Visual Design

Unlike the table tree, the hierarchy map is visually different, so that the user recognizes at a glance that it is a special control: it is dark blue, with a dark blue header, toolbar, column header and selector, and has yellow as the selection color:

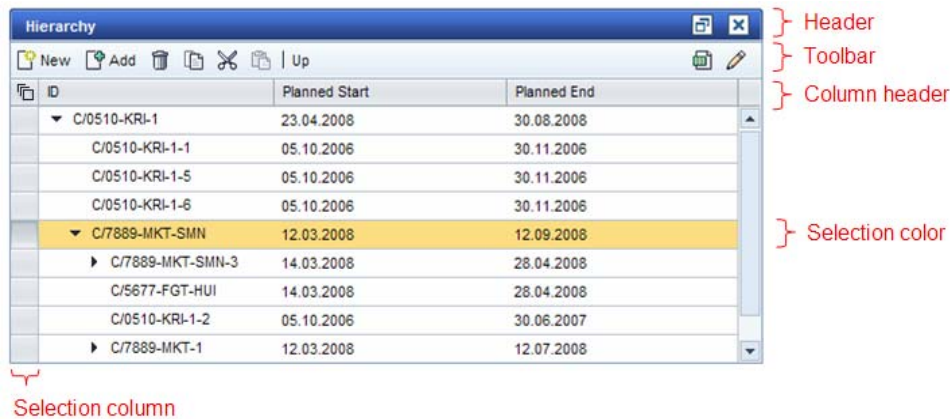


Figure 10-10. Example for the Visual Design of the Hierarchy Map

10.6.2. Design Rules

The default position, width, and height of the hierarchy map can be defined by the application. The hierarchy map can have different widths: 33%, 50% or 100% of the work area page width.

The application can allow the user to change the width of the hierarchy map. On user request, the width of the hierarchy map can for example change from 33% to 100% (refer to Figure 10-12 below). For this action, two icons are offered:



Figure 10-11 Increase and decrease buttons to toggle between hierarchy map width.

The initial display of the hierarchy map when accessing a screen has to be defined by the application. Initially the hierarchy map can either be hidden or displayed. To switch the hierarchy map on or off, the work area toolbar should provide a toggle button: *Show Hierarchy/Hide Hierarchy*.

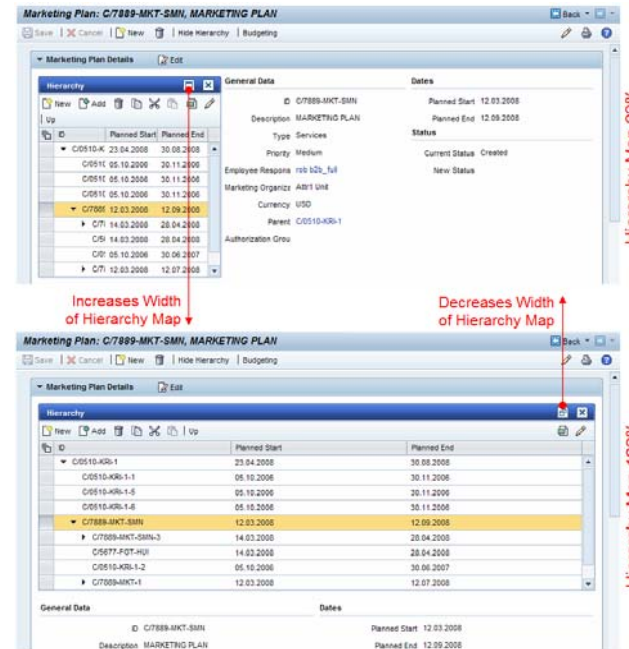


Figure 10-12. Example for Increasing and Decreasing the Width of the Hierarchy Map

10.6.3. Navigating Within Hierarchy Maps

- Any existing object the user navigates to (when accessing it for the first time) is in read-only mode.
- When navigating to an unsaved object that the user changed, its assignment blocks are still in edit mode (only the ones that have been edited and not saved before navigating). For more information, refer to section Overview Page.

For each visited hierarchy object, a history breadcrumb is written. This way, back navigation always returns to the object visited before.

10.6.4. The Hierarchy Map in the Overview Page

The title of overview and edit pages with a hierarchy map is the same as for overview pages (refer to section Overview Page).

The hierarchy map-specific buttons *New*, *Cut*, *Copy* and *Paste*, are available in both the read-only mode and the edit mode of the overview page.

Editing the hierarchy map in the overview page includes adding, copying, cutting or maintaining objects. You can edit the hierarchy map in the following ways:

Using a hierarchy map with in-place form view. In addition to the hierarchy map, the object's header details are displayed in edit mode on the screen, so that these can be maintained directly.

If a new hierarchy element is created (using the *New* or *Paste* button, for example), the header details of the new object are always in edit mode.

The following two options will only be used if the first one is not applicable and if there are other technical reasons:

- **Using an editable hierarchy.** The user can maintain the new hierarchy row directly within the editable cells of the hierarchy. To switch the hierarchy map itself into edit mode, an *Edit Hierarchy* button is necessary on the overview page.
- **Using a read-only hierarchy map and separate page.** *Create New* navigates to a separate edit screen and choosing *Back* on this screen takes the user back to the hierarchy (same expand/collapse state) with the new row selected.

Changed hierarchy map objects are displayed differently to indicate the impacts of the *Save* and the *Cancel* buttons.

The switch to edit mode of the form view assignment block containing a hierarchy map is done using the *Edit* button in the form view assignment block header. To switch the hierarchy map itself to edit mode, the button *Edit Hierarchy* (text only) is offered in the hierarchy header.

The overview page containing a hierarchy map has work area toolbar buttons that affect the hierarchy map (Figure 10-13):

- **Save.** The *Save* button saves not only the overview page that is displayed, but also all unsaved changes (changes and deletions) which were made across all objects that were navigated to using the hierarchy map. This means that if the user navigates to another object, no data loss dialog box is shown. But if the user performs cross-component navigation, for instance to another work center, then a data loss dialog box is shown.
- **Cancel.** *Cancel* discards all changes made to all hierarchy map objects after the last save. If this could cause a severe data loss which cannot be done unchanged quickly by e.g. re-assigning objects a confirmation to cancel popup can be launched.
- **New.** The *New* button in the work area toolbar does not create a new object within the hierarchy map. It creates a new root object of the object type that is currently displayed. If changes were made, a data loss dialog box comes up.

- **Delete.** Depending on the use case, the *Delete* icon in the work area toolbar deletes the currently displayed object or the root node of the hierarchy map. The same rules apply as described in section 10.4.6, *Removing Rows* - even if the hierarchy map is not displayed.

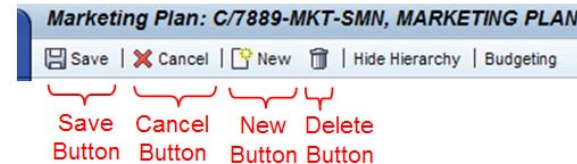


Figure 10-13. Work Area Toolbar Buttons Affecting the Hierarchy Map

If the hierarchy map is used within a form view assignment block, and the form view can be switched to read-only mode or editable mode, the hierarchy map should always have the identical state within the assignment block:

- Same position, width and height
- Same selected object
- Same expanded/collapsed levels

10.6.5. Hierarchy Map on a Separate Edit Page

The hierarchy map on a separate edit page will only be used if the use case requires it; otherwise it will be used on the overview page.

The hierarchy map on a separate edit page has the same capabilities as the hierarchy map on the overview page. Objects can be added, copied, cut, or maintained, either using an editable hierarchy map (changing the content directly in editable cells), using an in-place form view, or a separate form view. For more information, refer to sections *10.4.4 Adding a New Object*, *10.4.5 Copy, Cut, and Paste Objects* and *10.4.6 Removing Rows*.

In case of in-place maintenance, where the hierarchy map is displayed with a form view on a separate edit page, adding new objects and copying objects should work the same way as maintenance in the form view.

11. Guided Maintenance

11.1. Overview

Guided maintenance helps users follow any defined process within the system. It is especially useful for **complex, infrequently performed maintenance and complex business processes** that can be broken into logical chunks.

Processes may become complex if they handle different data objects or different business user roles within one process.

Guided maintenance consists of a series of linked screens that guide the user through a process, such as creating a report or creating a funds transfer. It is always opened in the work area (it will not be launched in a separate window).

Guided maintenance consists of the following areas:

Refer to Figure 11-1 for an illustration.

- **Work area title and work area toolbar.**
- **Roadmap.** The roadmap is a visual representation of the steps contained in the guided maintenance, including the user's current location in the sequence.
- **Roadmap toolbar.** The button row contains all buttons that are necessary to navigate within the guided maintenance as well as page-specific function buttons (optional).
- **Content area.** Displays the information for a step, where the user can either enter or review data.

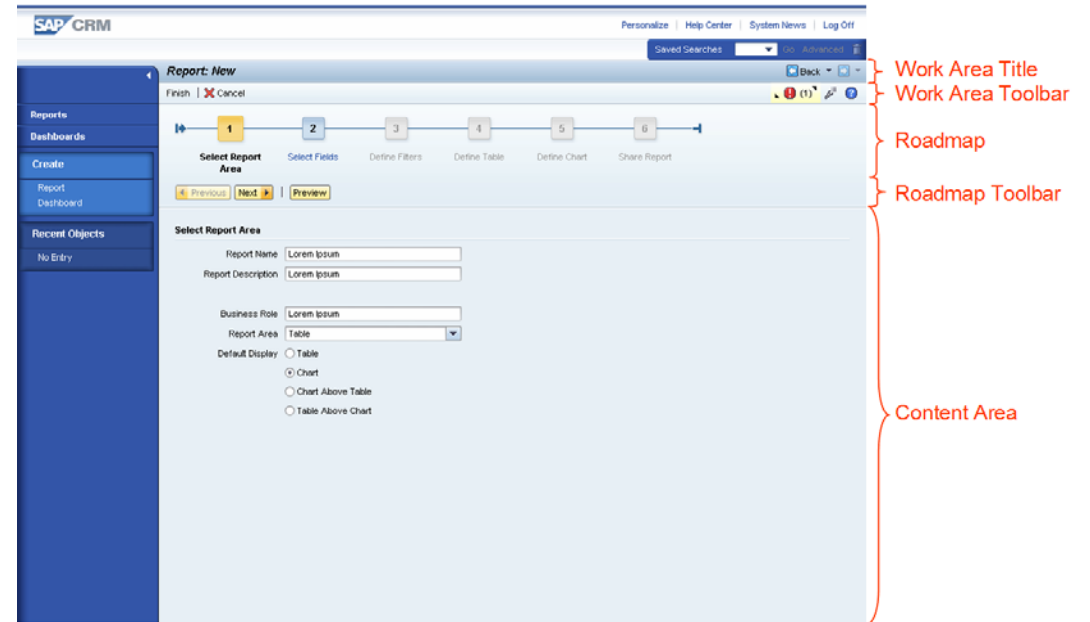


Figure 11-1. Areas of Guided Maintenance

If the height of the guided maintenance page exceeds the screen height, then a vertical scrollbar appears for the content area. (Roadmap and roadmap toolbar stay fixed on top of the content area.)

11.2. Visual Design

The framework does not yet provide a template for the visual design of the guided maintenance page. Therefore, the distances between the different screen areas need to be set by the application.

The specification for the distances and colors of the guided maintenance can be found in Figure 11-2.

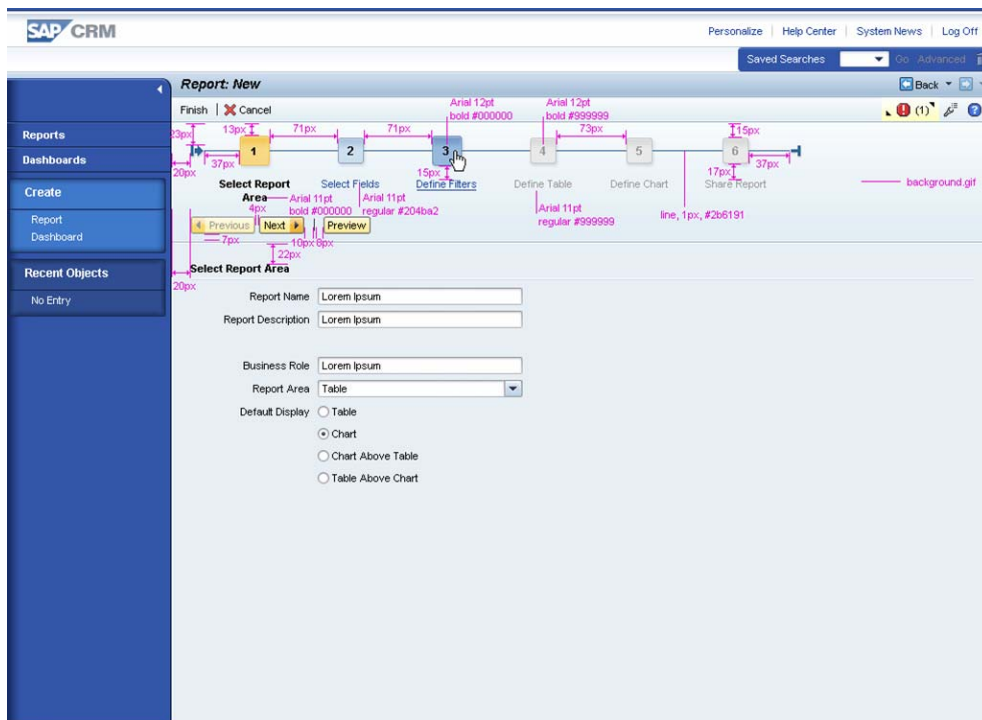


Figure 11-2. Visual Design Specification for the Guided Maintenance Page

11.3. Work Area Title and Work Area Toolbar

It is recommended to include step information in the work area title like this: <Object type or application name>: <Attribute>, Step <Step #> (<optional: Step Description >). Otherwise, the work area title should follow the general title guidelines (section 4.2.3).

In the work area toolbar, the following buttons can be displayed:

- **Finalize button (mandatory).** The finalize button is disabled throughout the guided maintenance until the last mandatory step is reached – then it is enabled. The finalize button is enabled all the time when guided maintenance is used to modify an object, unless there are no mandatory steps necessary to finish or save.
In general, the finalize button is called *Finish*; but if required, it can be renamed so that it is more appropriate to the actual use case (*Send to*

Manager, for example).

After the finalize button is chosen, the guided maintenance closes.

Navigation after closing the guided maintenance depends on the purpose of the guided maintenance:

If it was used for one of the following reasons, then the overview page of the newly created object will be shown:

- To create a new object (Funds Transfer, for example)
- To create a new object and to start a workflow

If the guided maintenance was used to start a process which does not lead to an overview page or another follow-up application, the user is taken back to the page where the guided maintenance was launched. An information message appears, informing the user that the guided maintenance has been completed, or that the process has been started.

- **Save and Back and Save (optional).** The *Save* button can be included in the work area toolbar, if it is required to save an incomplete object (save draft), or to give users the option of saving their recently entered data, in the case of a very complex guided maintenance. *Save* will save the object, but not leave the actual step. *Save and Back* will save the object(s) and navigate to the previous page from which the user entered guided maintenance.
- **Cancel (mandatory).** *Cancel* closes the guided maintenance without saving. A warning dialog box is shown, in which users must confirm the cancellation (**Figure 8-2. Example of a Confirmation Dialog Box**).
- **Application-specific button (optional).** If a required application-specific button is included in the work area toolbar, it can affect the entire guided maintenance (*Show Technical Details*, for example).

The toolbar divider should be placed as described in the guidelines (section Buttons).

11.3.1. History Back

The history back function will not affect the guided maintenance steps. The history back function does not step back in the guided maintenance, but leaves the guided maintenance.

If a save draft function is offered in the guided maintenance and the user chooses history back, a data loss warning appears in a dialog box (**Figure 8-2**); otherwise the cancellation dialog box appears, asking the user if he or she wants to discard entered data.

11.4. Roadmap

The roadmap is a visual representation of the steps contained in the guided maintenance, including the user's current location in the sequence. The roadmap should map out the number of steps and present them in a logical sequence. Each step should have a single purpose.

The roadmap has to be stable throughout the guided maintenance application.

Step labels should clearly reflect the purpose of each step and be no more than two to three words (verb + noun; for example: *Select Customer*, *Enter Payment Details* or *Review Order*).

The roadmap steps can have the following states (Figure 11-3):

- **Enabled.** If the user can reach a step from his or her current position in the guided maintenance, then this step is enabled.
- **Disabled.**
 - If the user cannot reach a step without performing another step first, this step is disabled.
 - A guided maintenance can bypass a step depending on user's actions in a preceding mandatory step. A skipped step is disabled.
- **Highlighted.** The step the user is carrying out is highlighted.
- **Finished (deprecated).** If a step is marked green, it was finished. This function will not be supported in future releases.

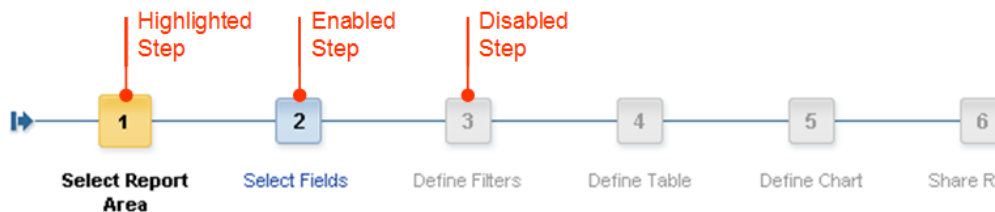


Figure 11-3. States of Roadmap Steps

All enabled steps in the roadmap are clickable, that means that the user can directly click the step. In this way, the user can navigate between steps without having to follow the predefined sequence.

A guided maintenance may contain **mandatory** steps. This means that a user needs to perform a step first before he or she can proceed to the next step. If a step is not mandatory, it is an **optional** step.

The roadmap states are determined by the following rules (refer to Figure 11-4):

- Enable all steps except for skipped steps prior to the highlighted step.
- After the highlighted step, disable all steps after the next mandatory step. All steps between the highlighted and disabled steps are enabled.

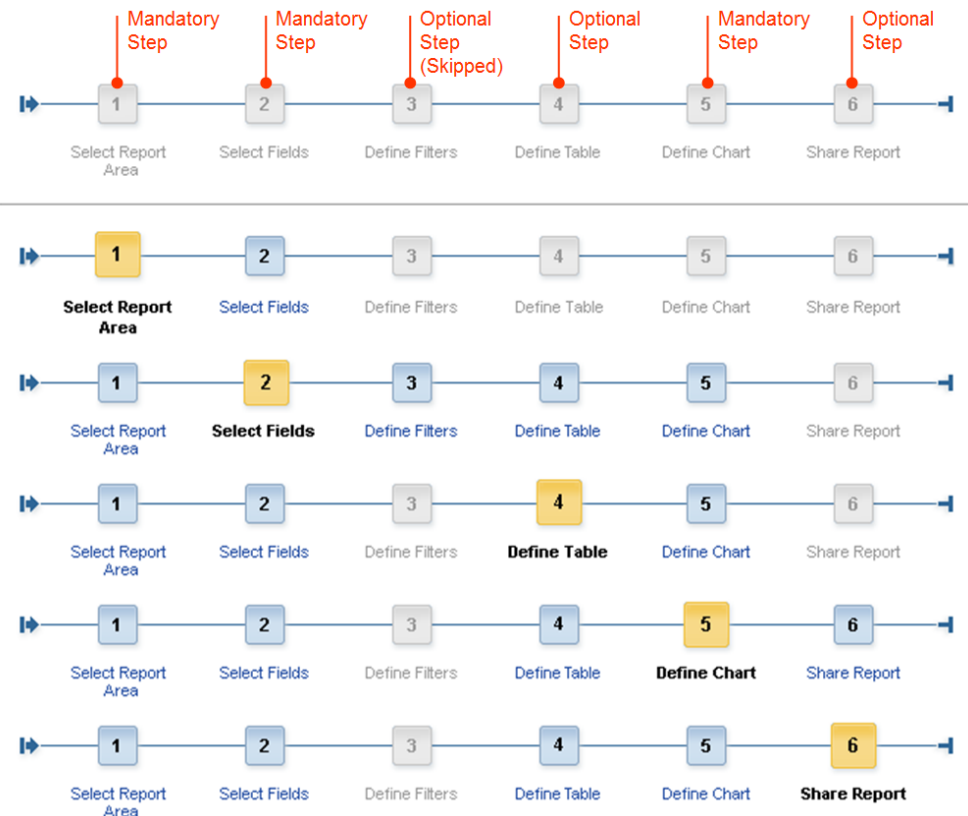


Figure 11-4. Example of State Determination of Roadmap Steps

If the highlighted step is mandatory, both the next step and the next button are enabled. If the user chooses either one without entering all the mandatory data, an

error message will be shown that asks the user to fill out every mandatory field or to finish the mandatory step.

11.5. Roadmap Toolbar

The roadmap toolbar contains the following buttons (Figure 11-5):

- **Previous (mandatory).** The *Previous* button is enabled throughout the guided maintenance, except for the first step. *Previous* navigates back to the previous step.
- **Next (mandatory).** The *Next* button is enabled throughout the guided maintenance, except for the last step. *Next* navigates to the next step. The user cannot proceed to the next step until all required criteria are met and errors are resolved.
- **Application-specific button (optional).** It may be necessary that an application-specific button is added to the roadmap toolbar. (For example in reporting, the *Preview* button that shows a preview of a report before finalizing it is an application-specific button.). Application specific buttons are only displayed if they are available, so the toolbar can include different buttons depending on the current roadmap step.

If more than 8 buttons are visible at a time, a „More-button“ appears



Figure 11-5. Roadmap toolbar

11.6. Content Area

The content area includes all information or forms needed for the highlighted step.

The height of the content area adapts to the content of the currently highlighted step. The height of the content for each step should be designed so that the whole guided maintenance (including the bottom button row) is fully visible in standard resolution (1024x768): This is about 13 rows.

The content area can contain:

- **Explanatory text (optional).** The explanation should be used to provide information about the purpose of the current screen. It should not be used for obvious actions (*Complete the following fields*, for example).
- **Form groups with editable fields**
- **Tables and hierarchies**
- **Browse and collect patterns**
- **Attachments**
- **Other allowed elements**

The content area may not contain:

- **Links.** Links should not be included in the content area since they would leave the guided maintenance. Exception: Links that open a dialog box, for example, for more information.
- **Buttons for navigation.** Buttons that trigger a different application outside the guided maintenance should not be included in the content area. Exception: Buttons that open a dialog box (see 11.6.2)

11.6.1. Attachments in the Content Area

If the attachment function is needed in the guided maintenance, a table similar to the *Attachments* assignment block is shown, but in edit page style. In the table toolbar, the buttons *New Attachment* and *New URL* are offered, if required. Both buttons launch a dialog box, in which the user can enter the file or URL to be attached. If *New Attachment* offers the entire attachments capability, the dialog box will be as complex as the one in the generic service .

11.6.2. Contents

The content of each step should suit the step's purpose as indicated in the roadmap label. Content areas should avoid presenting information that is irrelevant to the current step. On occasion, it may be necessary to include more content for a single step than can be displayed in the viewable area.

The guided maintenance steps should be structured so that the sequence of steps is presented in a logical manner. Consider dependencies between steps. For example, it may be necessary to enter the shipping details before determining the sales tax.

If optional or mandatory subactivities have to be carried out, a modal dialog box can be used. The dialog box is called by means of a button in the content area of the guided maintenance (for the design, sizing, and behavior of dialog boxes refer to

Chapter Dialog Boxes). Scrolling should be avoided. After finalizing the subactivity in the dialog box, the user returns to the roadmap step the subactivity was started from.

Guided maintenance step types:

- **Steps.** Steps assist the user in completing a logical sequence of actions for guided maintenance. Steps should include only the data relevant to the current step. If the screen requires user input, only fields the user can add or edit should be presented. Automatically filled, non-editable fields should not be included in these screens unless such information is relevant to provide context to the user.
- **Summary or review step (optional).** This optional step summarizes all the information entered in the guided maintenance. This step should aggregate and present only the information necessary for reviewing in a display-only format. It enables the user to check the accuracy of entered data before committing the data to the database or triggering a workflow. It is the last step in the roadmap. If the summary or review step is used, this step will be defined as mandatory.

11.7. Integration of Guided Maintenance in the CRM Concept

If guided maintenance is used to create a new object, there is no difference to the creation process using the standard “create” links. Also, the terminology remains the same. There is no additional phrase like “create report with guided maintenance”.

If an object is created with guided maintenance, there is no additional way to allow the user to create the same object without guidance. The user has to decide if guided maintenance is needed or not.

Creation of an object using guided maintenance can be triggered by a:

- *Create* link in a work center page
- *Create* link in the *Quick Create* block
- *New* button in assignment blocks
- *New* buttons in work area toolbars and table or hierarchy toolbars

Once the guided maintenance is finalized, there are two options to proceed (refer to section 11.3):

- The overview page of the newly created object appears.
- The user is taken back to the previous page.

In both cases, integration in the CRM concept differs.

11.7.1. Guided Maintenance for an Object with an Overview Page

On the overview page, an option can be offered to modify an object using guided maintenance, if required. This function should be included in the work area toolbar using the button *Launch Wizard*.

The step the user enters when reopening the guided maintenance depends on its status.

If guided maintenance must be finalized, the user will enter at the first step; if it is not finalized (if the *Save and Back* function is used), the user is positioned at the last step that the user edited or visited.

Thus, it is possible to use the same guided maintenance to create as well as edit an object. However, there are times when the same guided maintenance should not be used to create and edit an object, especially if it has triggered a workflow.

11.7.2. Guided Maintenance for an Object With No Overview Page (or Something Similar)

If the guided maintenance was used to create an object without an overview page (or something similar), the user enters the guided maintenance directly (for example, from the search result list). In this case, the first step should always be presented regardless of the guided maintenance’s finalizing status, since the user may want to verify or change the information before proceeding.

11.8. Design Recommendations

The users, their goals, and the scenario(s) have to be considered when determining the necessity for using guided maintenance. The question “Is guided maintenance appropriate for the task?” has to be answered positively, based on well-founded reasons.

When to use a guided activity:

- To guide the user through a configuration sequence
- When input for each step in the task sequence is required
- For complex, infrequent activities

When not to use a guided activity:

- For simple, frequent tasks, especially when the overview/edit concept is more efficient and appropriate for entering data
- When the user needs complete and random access to all areas of a complex business object
- For viewing data (the overview page should be used instead)

Create a task flow for the specific scenario before designing the steps for the guided maintenance.

The following table presents typical criteria for the decision whether to use guided maintenance:

Table 11-1. Guidelines for determining whether guided maintenance is suitable, provided by "Designing Effective Wizards: A Multidisciplinary Approach - by Diana Pupo Wickham, Dr Debra L. Mayhew, Teresa Stoll, Kenneth June Toley III, Shannon Rouiller (Upper Saddle River, NJ: Prentice Hall PTR, 2001)".

Characteristics	Related Questions	Reason for Asking
Task Frequency	<p>How frequently does the user complete the task?</p> <p>Does the user complete the task only a single time, daily, weekly, or other?</p>	Rarely completed tasks are good candidates because the user will probably not gain expertise in completing them.
Task Importance	<p>How important is the task?</p> <p>Does the user consider the task critical?</p> <p>Is it optional?</p>	Both optional and critical tasks can be good candidates. In general, it is more useful to support critical tasks well.
Task Difficulty	<p>Does the user feel that the task is difficult or easy?</p> <p>If the task is difficult, can it be made significantly easier in a guided maintenance? Are other interventions, such as product re-architecture or tutorial, needed?</p>	<p>If the task is too easy, it may not warrant the use of the guided activity.</p> <p>Alternatively, the task may be too difficult to be improved by a guided maintenance. Other interventions may be needed.</p>

12. Buttons

This section gives an overview of the button controls.

In detail, this section contains information for:

- o Different button types
- o Possible button placements
- o Tooltips
- o Rules for enabled and disabled buttons
- o Button order depending on the page type

12.1. Button Types

The icon-only buttons (icon), text-only buttons (text) and icon-with-text buttons (icon + text) have exactly one clickable area

The screenshot shows a form with two main sections: 'General Data' and 'Main Address and Communication Data'. The 'General Data' section includes fields for ID, Name 1, Name 2, Search Term, and Rating. The 'Main Address and Communication Data' section includes fields for House Number/Street, Postal Code/City, Country, Region, National Version(s), Language, Transport Zone, Phone/Extension, Fax/Extension, E-mail, Website, and Communication Method. There are also buttons for 'Employee Responsible' and 'Notes'.

- o Figure 6-14). A click in this area directly executes an action.
 - The usage of icon buttons and icon + text buttons is restricted to a minimum and is only used for the generic buttons as defined below.
 - Application-specific buttons are always visualized as text buttons.

- The usage of other icons that are not officially provided is not allowed, because those icons are not supported in different skins. Icons have to be approved and provided centrally.
- Special feature – the **emphasized** button:
 - The emphasized button is a special kind of button, which can be an icon, icon + text, or text button.
 - The button is triggered using the ENTER key.
 - The button appears only in a straightforward case (for example in dialog boxes as the finalizing button or on the search page to start the search query).
 - In the default skin, this button type has a blue border.
- o Menu Button:
 - A menu button looks like a normal button, but a small expand icon appears on the right hand side of the button. If the user clicks on a menu button, a small popup menu is opened, which offers the functions grouped within the menu button. If a menu includes a submenu, the submenu is opened on mouse-over. A second mouse click is not required.
 - It is possible that multiple menu buttons appear within one toolbar.
 - A maximum of three menu buttons per toolbar is allowed.
 - Menu buttons are used to reduce a big amount of buttons within a toolbar.
 - A menu button includes buttons which logically belong together. Such a logical group should be surrounded by toolbar dividers.
 - It is not allowed to place mandatory buttons in a menu button (see chapter 10.6).
 - Buttons, which are required just for some rare use cases (no “80% case”), are hidden in a menu button.
 - A menu button offers only one level. Exception: the generic More menu button (see chapter 10.2.1) can offer two menu levels. In general it is not allowed to place a menu button into the more button menu.
 - Menu buttons do not provide an additional icon, they consist of a text and the right aligned expand icon.
 - Within the menu of such a button it shall be possible, to display the icon, which belongs to a generic button function. In addition the text of this button -

which sometimes is displayed as a tooltip if it is not used within a menu button - should appear as text entry behind the icon.

- Menu entries which open a dialog box:
 - Label the menu item with a trailing ellipsis (“...”) only if the command requires further input from the user before it can be performed. Do not add an ellipsis to items that only present a confirmation dialog (such as Delete), or that do not require further input (such as Properties, Preferences or About).
- Toggle Button:
 - Toggle buttons are used to control and visualize states. Generally two states are possible ‘Selected’ and ‘Not Selected’.
 - The usage of toggle buttons is allowed only in exceptional cases. **Always request such an exception from the UI Concept Team!**
 - Switching between the two states is triggered
 - via click on this button, or
 - via click on a related view switch toggle button. E.g. within the calendar the three toggle buttons ‘Day’, ‘Week’ and ‘Month’ occur. If the ‘Day’ view is pressed, this button is in state ‘Selected’ and disabled. Reaching the state ‘Not Selected’ for this toggle buttons is possible, if you switch either the ‘Week’ or the ‘Month’ button to the ‘Selected’ state.
 - Within the ‘Not Selected’ state the button looks like a normal button.
 - The button state ‘Selected’ is represented with a different background color and a tooltip extension. The tooltip should include the button meaning extended with the phrase ‘Selected’. The tooltip for the selected ‘Day’ toggle button is ‘Day Selected’.
 - The label (respectively the tooltip) of such a toggle button is always fix. It is not allowed to switch the label, after the state was switched. E.g. the label of the ‘Day’ toggle button is always ‘Day’. In case of a label change the toggle button should not be used. E.g. a label switch from ‘Show Hierarchy’ to ‘Hide Hierarchy’ is not allowed for toggle buttons. Instead the label could be ‘Hierarchy’ and in the selected mode the tooltip is extended to ‘Hierarchy Selected’.
 - Within the screen reader mode the tooltip needs the extension ‘Toggle Button’. This extension should be placed between the label and the state. E.g. the tooltip for the Hierarchy button is ‘Hierarchy Toggle Button’ and ‘Hierarchy Toggle Button Selected’.

○

General Data	Main Address and Communication Data
ID: <input type="text"/>	House Number/Street: <input type="text"/> <input type="text"/>
*Name 1: <input type="text"/>	Postal Code/City: <input type="text"/> <input type="text"/>
Name 2: <input type="text"/>	Country: <input type="text"/> <input type="text"/>
Search Term: <input type="text"/>	Region: <input type="text"/> <input type="text"/>
Rating: <input type="text"/> <input type="text"/>	National Version(s): <input type="checkbox"/>
Employee Responsible	Language: <input type="text"/> <input type="text"/>
Employee ID: <input type="text"/> <input type="text"/>	Transport Zone: <input type="text"/> <input type="text"/>
	Phone/Extension: <input type="text"/> <input type="text"/>
	Fax/Extension: <input type="text"/> <input type="text"/>
	E-mail: <input type="text"/>
	Website: <input type="text"/>
	Communication Method: <input type="text"/>

Notes

Figure 6-14 shows the different kinds of buttons. The visual design of these button types is defined in section 13.

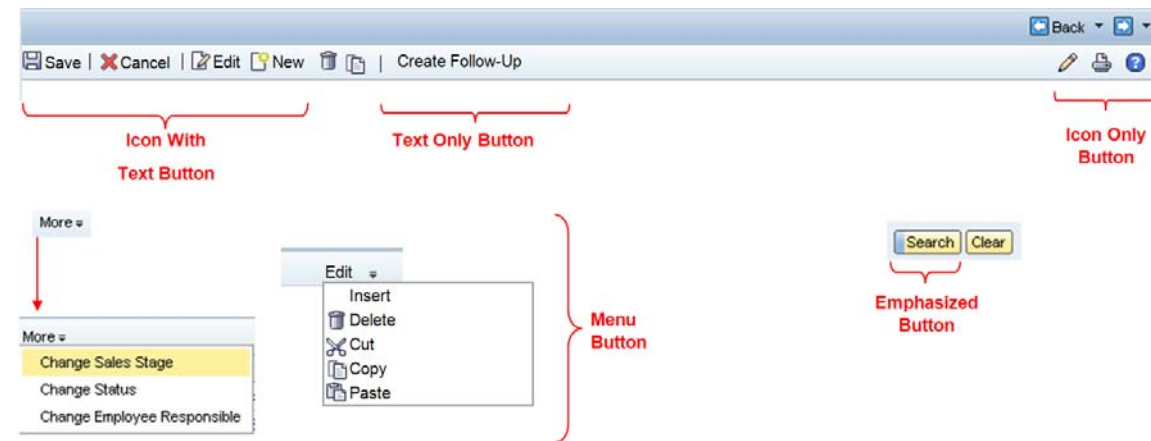


Figure 12-1. Button Types

To structure buttons in toolbars, **toolbar dividers** are available. These small vertical lines are used to logically group buttons on a toolbar. They are not used to visually separate single buttons from one other.

Generic buttons:

In CRM, some generic buttons exist that have to be used in a consistent manner as described in the table below:

Table 12-1. Generic Buttons

Groupname (for menu buttons)	Function	Type	Tooltip
Grouping not allowed	Back	Icon + Text	No tooltip
Grouping not allowed	Save	Icon + Text	No tooltip
Grouping not allowed	Save and New	Icon and Text	No tooltip
Grouping not allowed	Cancel	Icon + Text	No tooltip
Grouping not allowed	New	In toolbars: Icon + Text As one-click action: Icon	In toolbars: No tooltip As one-click action: New
Grouping not allowed	Add	Icon + Text	No tooltip
Edit	Insert	Text	No tooltip
Edit	Delete	Icon	Delete
Grouping not allowed	Details	Link as one-click action	No tooltip
Edit	Copy	Icon	Copy

Groupname (for menu buttons)	Function	Type	Tooltip
Edit	Edit	In toolbars: Icon + Text As one-click action: Icon	In toolbars: No tooltip As one-click action: Edit
Edit	Edit List	Text	No tooltip
More	More	Text Menu Button	No tooltip
Grouping not allowed	Export to Spreadsheet	Icon	Export to Spreadsheet
Go To...	Go To...	Icon Menu Button	Go To...
Grouping not allowed	Personalize	Icon	Personalize
Grouping not allowed	Print	Icon	Print Page
Grouping not allowed	Help	Icon	Help
Grouping not allowed	Back to Top	Icon	Back to Top
Tbd by solution / knowledge management	Application-specific	Text	No tooltip
Grouping not allowed	Move to Right	Icon	Move to Right
Grouping not allowed	Move to Left	Icon	Move to Left
Grouping not	Expand Hierarchy	Icon	Expand Hierarchy

Groupname (for menu buttons)	Function	Type	Tooltip
allowed			
Grouping not allowed	Collapse Hierarchy	Icon	Collapse Hierarchy
Grouping not allowed	Copy Line	Icon	Copy Line
Grouping not allowed	Remove Line	Icon	Remove Line
Grouping not allowed	Show Configurable Areas	Icon	Show Configurable Areas
Grouping not allowed	Configure Page	Icon	Configure Page
Grouping not allowed	Tag	Icon	Tag current Item
Grouping not allowed	Add to Favorites	Icon	Add to Favorites
Grouping not allowed	Define Tab Order	Icon	Define Tab Order
Grouping not allowed	Open Chart	Icon	Open Chart

Special rules:

- The *Back* and *Save* buttons may be replaced by text buttons that describe the finalizing action on the page. The e-mail send screen, for example, offers the *Send* button instead of the *Save* button (Figure 12-2, left side).
- Some pages need multiple *New* buttons to create different new objects. In this case, *New* is replaced with the name of the object and the tooltip contains the

content *New <Object>*, for example, *New Corporate Account* (Figure 12-2, right side).



Figure 12-2. Special Rules

12.2. Button Placement

On the CRM WebClient user interface, buttons appear in different places. Where a button has to be placed depends on the area that the button influences.

Possible button placements and usages (Figure 12-3):

- The **work area toolbar** is used if a button has an influence on the whole page content. Examples: *Save* or *Help*.
- A button is placed in the **assignment block toolbar** if the function only influences the content of the assignment block. Examples: *Edit* or *Edit List*.
- Use the **table or hierarchy toolbar** if a button has influence on each entry or the whole table or hierarchy. Examples: *Insert* or *Export to Spreadsheet*.
- Buttons are placed in the **first column (Actions column)** of an assignment block table if they are one-click actions that only influence one row of the table. Examples: the one-click actions *Edit* or *Delete*.
- Buttons are placed **below a group of form fields** if they belong to the whole group. Examples: *Save* and *Clear* in the search area.
- Buttons are placed **directly beside a form field** if the button has an impact only on this specific field. Example: *Save*, which belongs to the *Save Search As* input field.

Alignment of buttons on the screen:

- On toolbars and below groups, buttons are always left-aligned.
- Exception:
Some generic buttons on toolbars are always right-aligned (*Print*, *Personalize*, or *Help*, for example). For further details, refer to the order of buttons in section 12.5.

Buttons in dialog boxes appear at the bottom of the dialog box. Depending on the dialog box type, they are centered or left-aligned. Details are provided in section Dialog Boxes.

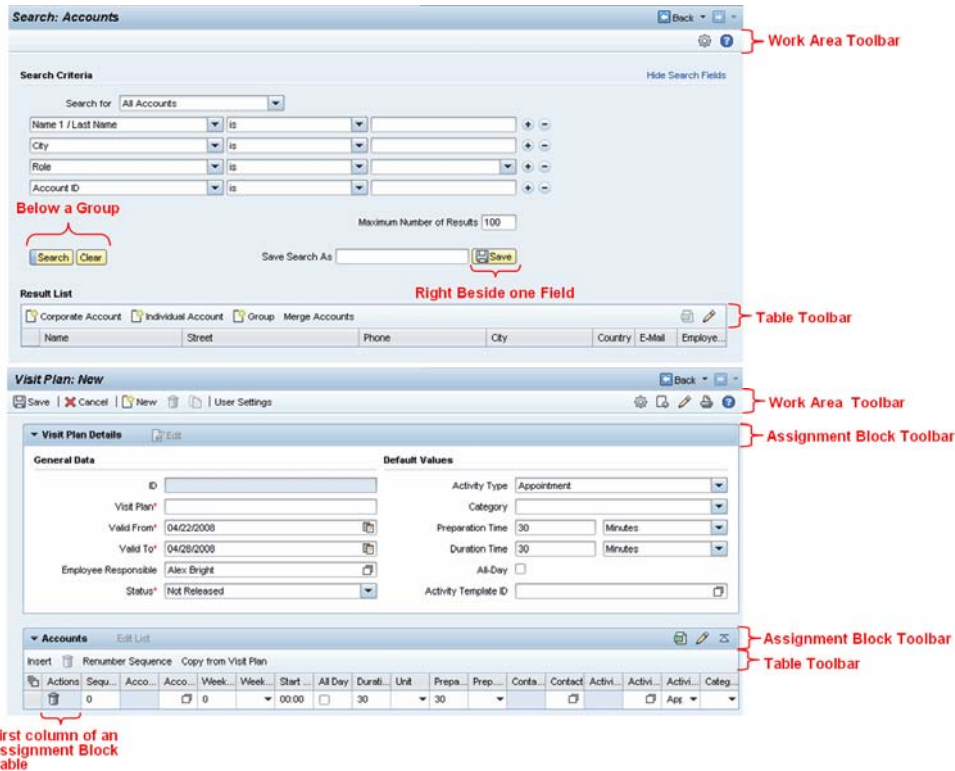


Figure 12-3. Button Placement

12.2.1. Special Case: More Button

The *More* button may appear in each toolbar. It contains functions that are less important. This button is a menu button and is used to avoid line breaks in toolbars. **Line breaks in toolbars are not allowed.**

If the *More* button is used, it is always the last left-aligned button in a toolbar.

If a toolbar of a work area, table, or hierarchy offers more than eight buttons, the *More* button has to be placed in position eight and all other functions (starting with function number eight) have to be moved into the menu of the *More* button.

The *More* button can also appear in an earlier position than position eight. This has to happen when grouping functions that are not as important as the previous ones, because they may not meet the “80% case”.

Generic buttons are never contained in the menu of the *More* button.

Currently it is not possible to show an icon in the menu of the *More* button.

Exceptions:

- If a toolbar includes many icon-only buttons, the placement of the *More* button could be at a higher position than position eight. In this case, three icon buttons count as one normal button. This counting rule is shown in Figure 12-4.

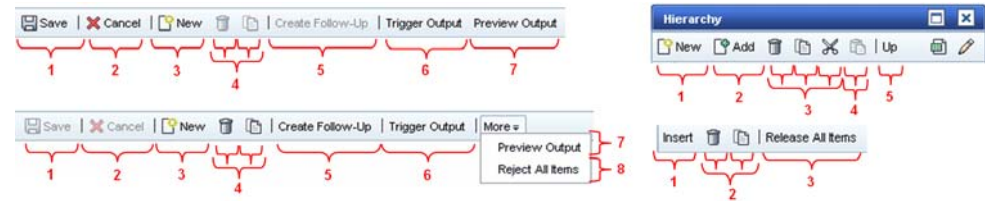


Figure 12-4. Counting Rule

- In the assignment block toolbars, the *More* button appears at position three.
- If the maximum of eight buttons leads to a toolbar line break at the standard screen resolution of 1024 x 768, the *More* button has to appear earlier because line breaks are not allowed in toolbars.

12.3. Tooltips

Icon buttons always provide a descriptive tooltip. Tooltips are never available for text buttons, because you cannot provide further information for text buttons with a tooltip. Icon + text buttons only provide a tooltip if the interpretation of the icon is different from the text meaning.

Examples:

- A button includes the icon for *New* and the text *Corporate Account*. In this case the tooltip includes the text *New Corporate Account*.

- The *Save* button consists of the *Save* icon and the text *Save*. This button does not provide a tooltip because icon and text provide the same information.

The previous tooltip rules are also relevant for the *Menu* buttons.

12.4. Enabling and Disabling Buttons

This section only describes the button behavior that is not influenced by authorization rules. For further details concerning authorizations and their influence on buttons, refer to the section *Authorizations and User Interface Behavior*.

A function that is **never available** to a user in a specific role is not displayed on the user interface. The button is hidden from the user. The button *Forecast*, for example, could only be used if a SAP NetWeaver Business Intelligence (SAP NetWeaver BI) is available. If the customer has no SAP NetWeaver BI, this button has to be invisible for that customer.

The buttons are always enabled if they are also **used for navigation**. The navigation buttons execute the navigation and raise an error message on the new page if at least displaying the page content is allowed. Example:

- Using an *Edit* button on a currently locked object navigates to the edit page. The page is opened in display mode and an error message informs the user about the lock.

If it is **obvious** why a function is currently not available, the buttons are disabled.

- Examples:
 - Buttons in table toolbars that require a selection.
 - The *Save* button is disabled if nothing was changed. The system assumes that something was changed if a new object is created, if the *Edit* or *Edit List* button was used, or if a one-click action was used on an overview page.
 - A user used a navigation *Edit* button and sees a dependent edit page in display mode together with an error message that editing is not allowed. The buttons on this page are disabled. Exception: Navigation buttons such as the *Back* button are still enabled to allow users to leave the page.

If it is **not obvious** why a function is currently not supported, the buttons are enabled. If the user tries to use such a function, an error message is raised that explains why this action is currently not available.

- Examples:
 - The *Edit* button for an object that is currently locked by another user.

- The current status of an object does not allow any changes.

12.4.1. Special Case - Buttons in Table Toolbars

- **Buttons which require a row selection** are always disabled if nothing is selected. After at least one row is selected, these buttons are always enabled. If the amount of selected items does not fit the selected function, an error message is raised. For example, the function *Merge Accounts* is only available when exactly two accounts are selected. An error message appears if only one or more than two accounts are selected.
- **Buttons that are independent from the selection** in the table are always enabled. Example: *New* button.
- **The *More* button** is always enabled to allow the user to see which functions are available. The menu entries behave like the buttons described in the two previous rules of this section.

12.5. Order in Toolbars and in the Actions Column

The availability of the generic buttons depends on the page type and the toolbar type.

On the toolbars, the application-specific buttons always appear after the generic ones. You cannot mix them.

For all application-specific buttons, the application owners have to ensure that the order of the buttons used is consistent in the whole application.

Between application-specific buttons, you can define additional toolbar dividers to group buttons logically.

All toolbar dividers mentioned in the following sections are mandatory if they are surrounded by buttons.

Toolbar dividers never appear as the first or last element on a toolbar.

12.5.1. Search Page



Figure 12-5. Work Area Toolbar Search Page

Order of left-aligned buttons (Figure 12-5):

- *Archive Search* (optional, toggles between *Archive Search* and *Back to Standard-Search*)

Order of right-aligned buttons:

- *Show Configurable Areas* (possible, depends on authorizations and personalization)
- *Help* (mandatory)

12.5.1.1. Table Toolbar Search Result List

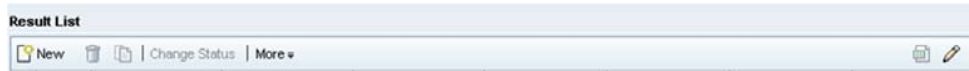


Figure 12-6. Table Toolbar for Search Result List

Order of left-aligned buttons (Figure 12-6):

- *New* (optional)
- *Delete* (optional)
- *Copy* (optional)
- Toolbar divider
- Application-specific buttons (optional)
- Toolbar divider
- *More* (optional)

Order of right-aligned buttons:

- *Open Chart* (optional)
- *Export to Spreadsheet* (optional)
- *Personalize* (optional)

12.5.2. Editable Overview Page

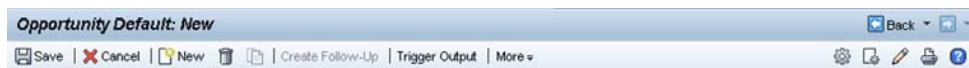


Figure 12-7. Work Area Toolbar for Editable Overview Page

Order of left-aligned buttons (Figure 12-7):

- *Save* (mandatory)
- *Save and New* (optional, should replace *New*)
- Toolbar divider
- *Cancel* (mandatory)
- Toolbar divider
- *New* (mandatory, could be replaced by *Save and New* dependent on the use case -> see below)
- *Edit* (optional)
- *Delete* (optional)
- *Copy* (optional)
- Toolbar divider
- Application-specific buttons (optional)
- Toolbar divider
- *More* (optional)

Special use cases for the “Save and New”button:

- The *Save and New* button is to be used only if definitely required.
- Use it only if a creation of multiple new objects is a 99% use case.
- Contrary to the *New* button, no data loss popup appears if the user wants to create a new object.
- If you use the *Save and New* button, you should take possession that the *New* button does not appear in this toolbar.

Order of right-aligned buttons :

- *Show Configurable Areas* (possible, depends on authorizations and personalization)
- *Configure Page* (possible, depends on authorizations and personalization)
- *Tag current Items* (possible, depends on personalization)
- *Add to Favorites* (possible, depends on personalization)

- *Go To...* (mandatory)
- *Personalize* (mandatory)
- *Print* (mandatory)
- *Help* (optional)

12.5.3. Suboverview Page

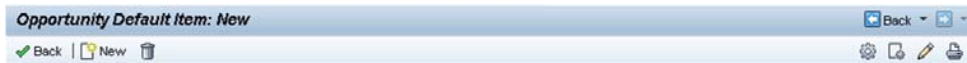


Figure 12-8. Work Area Toolbar Suboverview Page

Order of left-aligned buttons (Figure 12-8):

- *Back* (mandatory)
- Toolbar divider
- *New* (mandatory)
- *Delete* (optional)
- *Copy* (optional)
- Toolbar divider
- Application-specific buttons (optional)
- Toolbar divider
- *More* (optional)

Order of right-aligned buttons:

- *Show Configurable Areas* (possible, depends on authorizations and personalization)
- *Configure Page* (possible, depends on authorizations and personalization)
- *Tag current Items* (possible, depends on personalization)
- *Add to Favorites* (possible, depends on personalization)
- *Go To...* (mandatory)
- *Personalize* (mandatory)
- *Print* (mandatory)

- *Help* (optional)

12.5.4. Assignment Blocks

12.5.4.1. Form View



Figure 12-9. Form View-Based Assignment Block Toolbar (Display Mode)

Order of left-aligned buttons (Figure 12-9):

- *Edit* (optional)
- Toolbar divider
- Application-specific buttons (optional)
- Toolbar divider
- *More* (optional)

Order of right-aligned buttons:

- *Define Tab Order* (possible, depends on authorizations and personalization)
- *Back to Top* (mandatory, but not available in the first assignment block *Details* of the overview page)

12.5.4.2. Table View – Display Mode

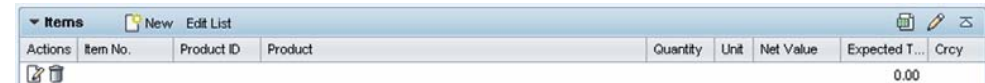


Figure 12-10. Table-Based Assignment Block Toolbar (Display Mode)

Order of left-aligned buttons (Figure 12-10):

- *New* (optional)
- *Add* (optional)
- *Edit List* (optional)
- Toolbar divider
- Application-specific buttons (optional)
- Toolbar divider
- *More* (optional)

Order of right-aligned buttons:

- *Open Chart* (optional)
- *Export to Spreadsheet* (optional)
- *Personalize* (mandatory)
- *Back to Top* (mandatory)

12.5.4.3. Table View – Edit Mode

After a table-based assignment block has been switched to the in-place edit mode with the *Edit List* button, the *Edit List* button is disabled. No other changes appear in the assignment block toolbar. A table toolbar may appear between the assignment block toolbar and the table.



Figure 12-11. Table-Based Assignment Block Toolbar (Edit Mode)

Order of left-aligned buttons:

- *Insert* (optional)
- *Delete* (optional)
- *Copy* (optional)
- Toolbar divider
- Application-specific buttons (optional)

- Toolbar divider
- *More* (optional)

Right-aligned buttons are not available in this kind of table toolbar.

12.5.4.4. Table Actions Column

In the *Actions* column of an assignment block table, a maximum of three one-click actions are allowed.



Figure 12-12. Assignment Block Table Actions Column

Order (Figure 12-12):

- *Edit* (optional)
- *Delete* (optional)
- *Details* link (optional)
- Application-specific link (optional)

Special use cases for the “Details” link:

- The *Details* one-click action is to be used only if definitely required.
- Use it only if the user needs more detailed information (maybe read-only) with the aim to only display, not edit this information.
- The link navigates to a separate page that is displayed either in edit or in read-only mode (depending on the available authorization).
- Contrary to the *Edit* one-click action, no error message appears if the user only has read access.
- Example:
 - The user enters a closed contract that is no longer editable to see some contract-specific conditions and price details.
 - The user just wants to see the details page behind the conditions/prices assignment block (which is a table).

- The user knows that he or she cannot edit the information. He or she just wants to view the information.
- Here, the *Details* link makes sense and may be used.

12.5.5. Edit Page

12.5.5.1. Work Area Toolbar

12.5.5.1.1. Form View



Figure 12-13. Work Area Toolbar for Edit Page (Form View)

Order of left-aligned buttons (Figure 12-13):

- *Back* (mandatory)
- Toolbar divider
- *New* (optional)
- Toolbar divider
- Application-specific buttons (optional)
- Toolbar divider
- *More* (optional)

Order of right-aligned buttons:

- *Define Tab Order* (possible, depends on authorizations and personalization)
- *Show Configurable Areas* (possible, depends on authorizations and personalization)
- *Help* (optional)

12.5.5.1.2. Table View

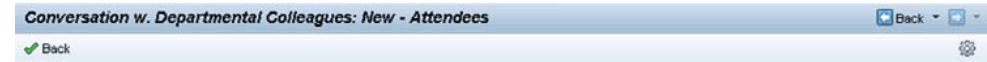


Figure 12-14. Work Area Toolbar for Edit Page (Table View)

Order of left-aligned buttons (Figure 12-14):

- *Back* (mandatory)
- Toolbar divider
- Application-specific buttons (optional)
- Toolbar divider
- *More* (optional)

Order of right-aligned buttons:

- *Show Configurable Areas* (possible, depends on authorizations and personalization)
- *Help* (optional)

12.5.5.1.3. Table Toolbar

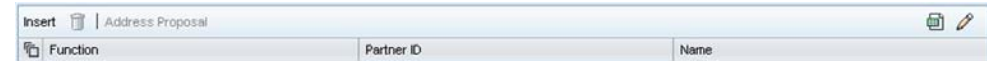


Figure 12-15. Table Toolbar for Edit Page

Order of left-aligned buttons (Figure 12-15):

- *Insert* (optional)
- *Delete* (optional)
- *Copy* (optional)
- Toolbar divider
- Application-specific buttons (optional)
- Toolbar divider
- *More* (optional)

Order of right-aligned buttons:

- If the table is not part of an editable overview page: *Open Chart* (optional)
- If the table is not part of an editable overview page: *Export to Spreadsheet* (optional)
- *Personalize* (optional)

12.5.6. Guided Maintenance

12.5.6.1.1. Work Area Toolbar



Figure 12-166. Work Area Toolbar Guided Maintenance

Order of left-aligned buttons (figure 12.16):

- Finalize Action (mandatory)
- Save (optional)
- Toolbar divider
- *Cancel* (mandatory)
- Toolbar divider
- Application-specific buttons (optional)
- Toolbar divider
- *More* (optional)

Order of right-aligned buttons:

- *Personalize* (optional)
- *Help* (optional)

12.5.6.1.2. Roadmap Toolbar



Figure 12-17. Roadmap Toolbar Guided Maintenance

Order of right-aligned buttons:

- *Previous* (mandatory)
- *Next* (mandatory)
- Toolbar divider
- Application-specific buttons (optional)
- Toolbar divider
- *More* (optional)

Right-aligned buttons are not available in this kind of roadmap toolbar.

12.5.7. Dialog Boxes

Buttons may be centered or left-aligned at the bottom of the dialog box, depending on the dialog box type (refer to section Dialog Boxes).

The finalizing button is always the leftmost button and if it makes sense, it is an emphasized button.

Buttons in dialog boxes are always text-only buttons. Icon buttons are not permitted.

12.6. Specific Guidelines for SAP CRM On-Demand Solution

12.6.1. Editable Overview Page

In SAP CRM on-demand solution, the work area toolbar of the editable overview page has some special button rules. Below, these buttons with special rules are marked in bold.

Order of left-aligned buttons:

- **Save and Back** (mandatory)
- **Save** (mandatory)
- Toolbar divider
- **Cancel** (mandatory)
- Toolbar divider
- **New** (optional, but only rarely used)
- **Delete** (optional)
- **Copy** (optional)
- Toolbar divider
- **Add to Favorites** (optional)
- Toolbar divider
- **Web Links** (optional)
- Toolbar divider
- Application-specific buttons (optional)
- Toolbar divider
- **More** (optional)

13. Visual Design

All information in this section refers to the Signature Design theme. Theme changes do not affect the overall visual design concept.

13.1. Icons and Pictograms

13.1.1. Icons

All icons have a standard size (14x14 pixels) and a tooltip for accessibility reasons. If required, the tooltip of an icon can be modified, but the original meaning of the icon should be kept.

Icon types:





- **Function icons.** There is a fixed set of function icons that can occur on buttons or as one-click actions in tables.
- **One-click action icons** in tables are shown in the following figure:
 -  Edit
 -  Delete
 -  Copy
 -  Add to Sales Order

Figure 13-1. Icons for One-Click Actions

Further information about icons and buttons can be found in section Buttons.

- **User interface control icons** are used to operate the UI controls. These icons are implemented by the framework and cannot be used separately for application-specific functions. Examples of this kind of icon are the sorting arrows in the table and the images used to expand and collapse assignment blocks.
- **Application icons.** The application icons are used in different applications such as marketing, sales, and so on. In general, when we talk about icons and icon usage, we are referring to application icons.

Application icons that are allowed, but should be used very restrictively:

- **File types**
- **Mixed objects in hierarchies or tables.** In hierarchies or tables, object icons will be used if the objects are easily confused.

- **General status.** General status icons in the sense of *OK/Not Due*, *Warning/Due* and *Error/Due*, shown in the following figure, can be used:




-  OK/Not Due
-  Warning/Due
-  Error/Due

Figure 13-2. Icons for Status

Tips for avoiding icons:

- Use text instead of icons
- Use text on application-specific buttons
- Use a general status icon combined with text to refine the meaning instead of requesting a new icon

All application icons that are not listed or have a different meaning in your application than the listed ones need to be approved by the UI concept team. The first step is for you or your team to contact the UI concept team and request the icon. The request is not only necessary to keep an overview of all icons, but also to ensure a consistent visual design for all icons and to ensure that these icons are available for all skins throughout the framework.

13.1.2. Pictograms

SAP pictograms have a completely different visual style than icons, and a different purpose. They help users to differentiate between categories when different categories appear together on a home page. Pictograms should only appear on a home page, workcenter page and on the recent objects and create areas in all skins besides Signature Design.

13.2. Page Types

The visual design of the different page types is mainly defined using the framework tags. Details about the visual design used on the different page types are described in the following sections:

- *Home and Work Center Pages*, section 5
- *Advanced Search*, section 7
- *Overview and Edit Pages*, section 6

- *Dialog Boxes*, section 8
- *Tables*, section 9
- *Hierarchies*, section 10
- *Guided Maintenance*, section 11
- *Toolbars and Buttons*, section 12

13.2.1. Freestyle Applications – Edit Style vs. Overview Style

Freestyle applications that do not follow the overview page pattern may use either edit style or overview style. A combination of both styles is not allowed.

Edit Style (Figure 13-3):

- Forms are organized by **group headers** that are displayed with a blue underline.
- **Table headers** have the same styling as the group headers.

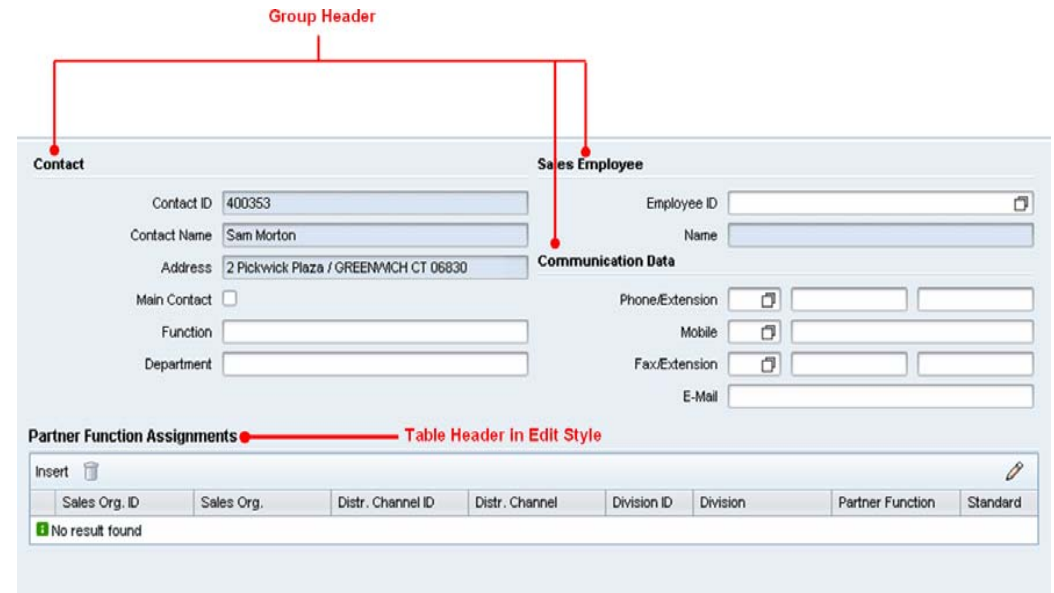


Figure 13-3. Examples of Edit Style: Group Headers, Table Headers, and Border

Overview Style (Figure 13-4):

- The overview page style is characterized by the visual design of assignment blocks. Here, tables, hierarchies, and forms have an assignment block header.

Task Details Edit

Assignment Block Header of Form View

General Data

Description: New Task
 Due Date: 04/24/2008
 Start Date: 04/24/2008
 Importance: Medium
 Status: Open
 Category: Task

References

Account: Test Account
 Contact: MR. JOHN DOE
 Employee: MS. JANE DOE
 Reference: CONTRACT
 Reference Desc.:
 Private:

Notes

Description

Contacts New Add

Assignment Block Header of Table

Actions	Name	Function	Department	Phone/Ext.	E-Mail	Mobile
	Wendy Baker	Manager	Purchasing	+1 (18524) 325235	Wendy.Baker@test.com	
	Ann Peters	Team Lead	Marketing	+1 (12423) 43636	Ann.Peters@test.com	
	Andreas Mueller	HR Business Partner	HR	+1 (34566) 363567	Andreas.Mueller@test.com	
	Peter Wahl	Lead Purchaser	Purchasing	+1 (5657576) 568658	Peter.Wahl@test.com	

Account Hierarchy Edit List

Assignment Block Header of Hierarchy

ID	Description	Valid From	Valid To
415251	1st Level		
415251	2nd Level	12/31/2006	12/30/9999
25345	Leaf	04/24/2008	12/30/9999
4567457	3rd Level	04/24/2008	12/30/9999
34566	4th Level	04/24/2008	12/30/9999
AFASF	Leaf	04/24/2008	12/30/9999

Figure 13-4. Examples of Overview Style: Form View, Table and Hierarchy

14. Scrolling

14.1. General Behavior (Defined by Framework)

In general, the upper area of the navigation frame (header area) and the work area toolbar are always fixed on the screen and do not have their own scrollbars. Line breaks for these areas are not allowed in the standard screen resolution of 1024 x 768.

The navigation area, the message bar, and the work area get their own scrolling mechanisms if the content is larger than the available visible space (Figure 14-1).

If the screen resolution is different than the standard screen resolution, automatic resizing is supported. The minimum screen resolution that should be supported using resizing is 800 x 600. If a screen has a smaller resolution (available screen size for the CRM application without browser content is smaller than 800 x 445), a vertical and a horizontal browser scrollbar appears for the whole application window.

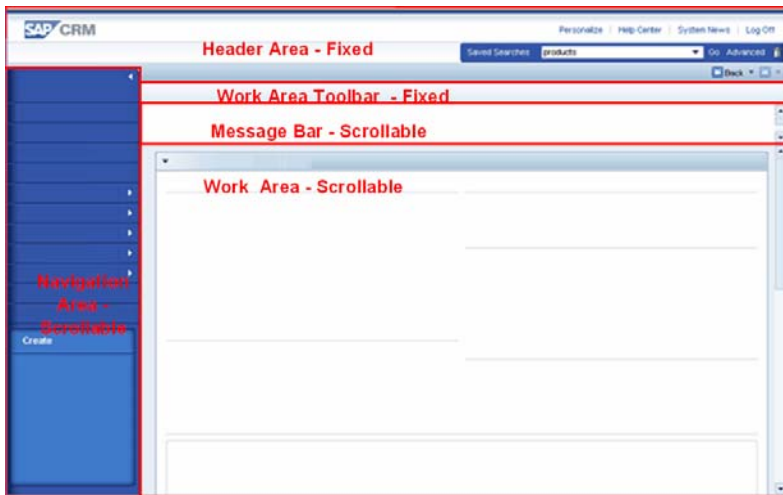


Figure 14-1. Fixed and Scrollable Areas

The standard screen resolution for the CRM WebClient user interface is 1024 x 768. The following rules apply for this screen resolution.

Independent scrollable areas:

- The **navigation area** has two scroll areas, one at the top and the other at the bottom of the navigation area, if the content exceeds the visible space of this area. Horizontal

scrolling for this area is not supported. A line break will appear if the text for an entry is too long.

- The message bar is collapsed by default (one message is displayed). If there are one to ten messages, the height of the message area is dynamically adapted to the number of available messages. If more than ten messages appear, the message area will get a vertical scrollbar (for further information see the Message Handling section). Horizontal scrollbars are not supported.
- The **work area** will get a vertical scrollbar if the content exceeds the visual space of the work area. A horizontal scrollbar for the work area is not supported.

14.2. Tables and Hierarchies

14.2.1. Tables

Tables using the entire visible work area width (Figure 14-2):

- By default, such tables will not get their own scrollbars.
- If the available space in a table is not sufficient, the content will be cut. This cut is indicated by three dots at the end of the cell's content.
- It is possible to define the width of each column in the UI Configuration Tool and in the table personalization dialog box to avoid negative cutting effects like hiding a button in the *Actions* column of an assignment block.
- Hiding value helps, date selections, dropdown listbox icons, and one-click actions is not allowed in the standard system (screen resolution 1024 x 768). To achieve this, sometimes the table column width needs to be adapted to its content.
- For customers and for some freestyle tables, it should be possible to allow a **horizontal scrollbar** instead of the cut mode.
 - This mode switch is available in the UI Configuration Tool.
 - The horizontal scrollbar moves the whole table column (data cells and column header cells) either right or left.
 - The horizontal scrollbar should not have an influence on the table toolbar or the table paging area. This means all buttons and links in these two areas should always be visible; hiding functions by scrolling is not possible.
- **Vertical scrollbars** are not allowed for this kind of table.
- A **pager** will appear for this kind of table.

Tables not using the entire visible work area width:

- If the available width of a table is not sufficient, the table content is cut.
- For **horizontal scrollbars**, the same rules as in the previous section apply.
- If needed, a **vertical scrollbar** can be used.
 - The table has a fixed height, and if more entries are available, a vertical scrollbar appears.
 - The column header cells, the table toolbar, and the paging area are not influenced by the vertical scrollbar.
 - If two tables or a table and a form view are displayed side by side in one group and the visible height of the table is not needed, the table should be filled with empty table rows to avoid extensive empty spaces on the screen (for example, personalization of tables, or navigational hierarchy in the marketing campaign).
 - The table height can be adapted to the table content.
- If the table has more than 100 entries, in addition to the vertical scrollbar, a **pager** appears for performance reasons.

Tables with horizontal (Figure 14-2) and vertical scrollbars:

- Both scrollbars should have a fixed location and should always be visible.
- It should not be possible that by scrolling vertically, the horizontal scrollbar is hidden, and vice versa.

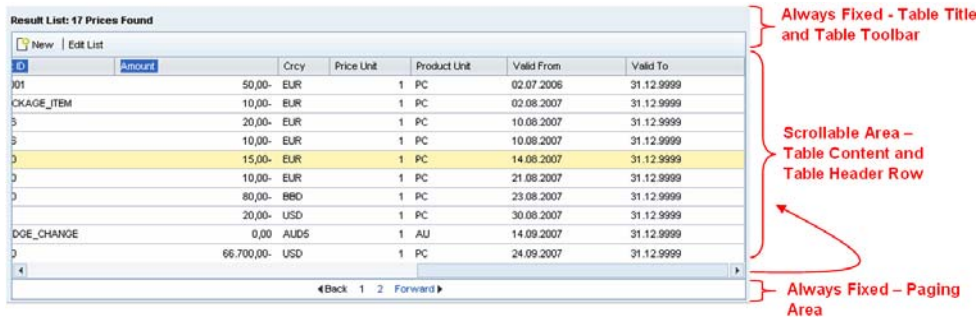


Figure 14-2. Horizontal Table Scrollbar

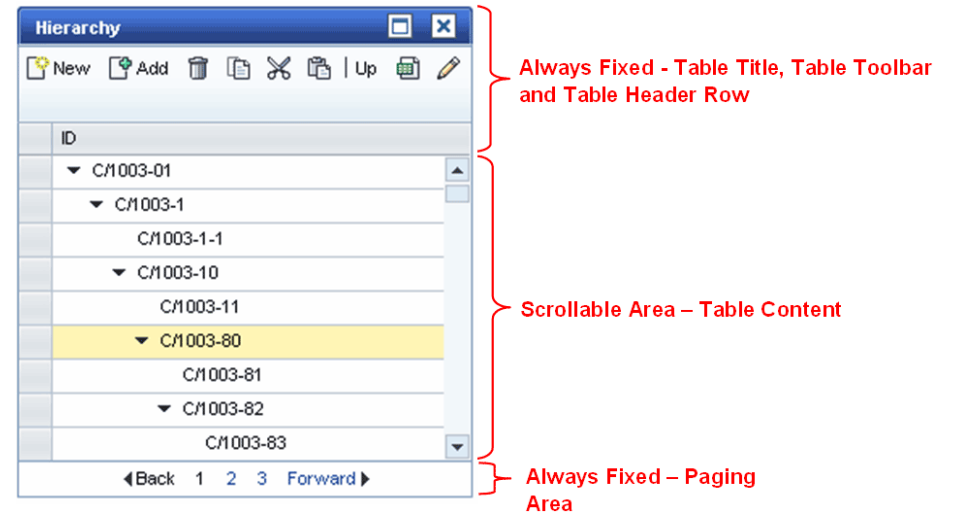


Figure 14-3. Vertical Hierarchy Scrollbar

14.2.2. Hierarchies

In general, hierarchies should get a **vertical scrollbar** (figure 14-3) instead of a pager if the visual height of the hierarchy is not sufficient.

A horizontal scrollbar should not appear in the standard system. For customers, however, it is possible to switch from the cut mode to a horizontal scrollbar in the UI Configuration Tool. Further details can be found in section Hierarchies.

Due to performance restrictions, a **pager** should only appear if a hierarchy has more than 100 entries.

Recommendation:

- A hierarchy that only uses one third of the visible work area width should have a maximum of two columns to ensure that the content is legible without any cutting or horizontal scrolling.

14.3. Applets and Other Freestyle Elements

In general, such elements could get their own vertical and horizontal scrollbars, depending on the space they need. Examples are the graphical buying center and the campaign automation applets (Figure 14-4).

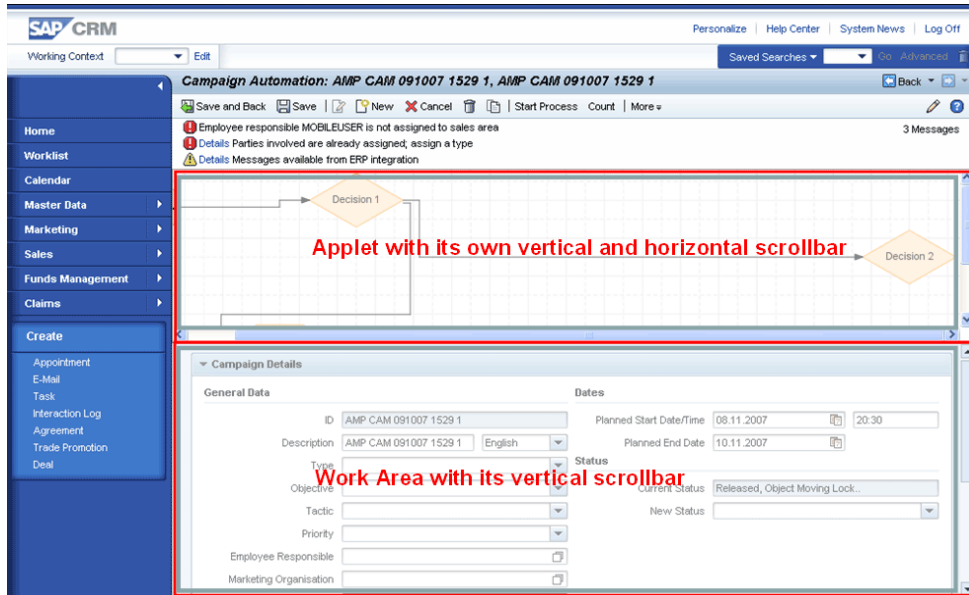


Figure 14-4. Applet with Its Own Scrollbars

15. Message Handling

15.1. Message Bar

System messages provide information to users concerning errors, warnings, alerts, success, or general system events. Alerts and error messages are system messages that are displayed in order to trigger some user action. Alerts require immediate user feedback, while error messages do not necessarily interrupt the user's interaction flow. Errors have to be treated accordingly before saving an object. Warnings inform users about potential problems that they should be aware of but that do not have an impact on the further processing of an object. Success messages state that a function triggered by the user has been finished correctly (for example, saving an object). General system information lets the user know what the system is currently doing or has previously done without requiring user reactions. Messages occur in the following positions: the message bar, in tables, and in (usually modal) dialog boxes.



Figure 15-1. . Message Bar in collapsed mode

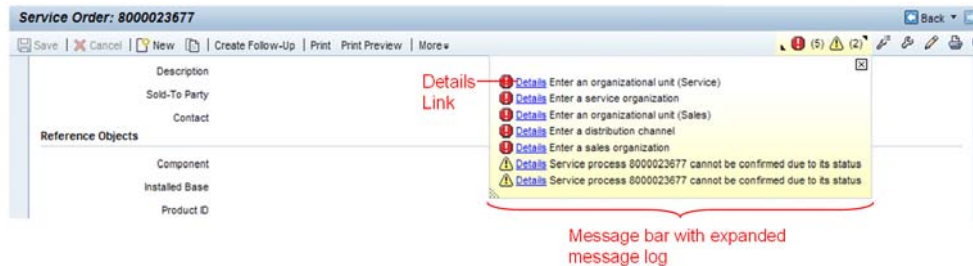


Figure 15-2. Message Bar with expanded message log

15.2. Message Bar Occurrence

The message bar is found between the work area toolbar and the work area (Figure 15-1 and Figure 15-2). If no messages are available, the message bar is invisible. In its default position, the bar overlays the work area toolbar. It may, however, be dragged to each position of the work area or the left navigation bar. Figure 15-1 and Figure 15-2 display the bar in closed and expanded mode. In its final state the message bar will show new messages within a so-called “toast-up” window that is opened above the message bar as soon as a message comes in. The toast-up will be modeless, i.e. the user can proceed interacting with the UI while the toast-up is displayed.

The message bar may also occur within search help dialog box windows (Figure 15-3). There, the message bar looks different. This bar takes the width of the search help dialog box and displays 3 messages at the most. If more than 3 messages exist, a scrollbar occurs. No toast-up window will be displayed in the dialog box version of the message bar.

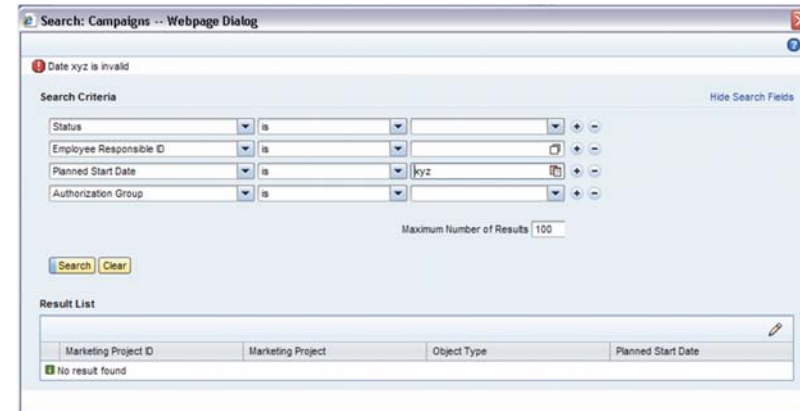


Figure 15-3. Message Bar in Search Help Dialog Box Window





15.3. Message Bar Elements

15.3.1. Message Bar

The message bar may contain all message log elements listed below. This area is visually indicated using a dedicated background color (yellow in the examples shown here). The size of the message log area is automatically adapted to the length and number of the messages contained in the log.

15.3.2. Message Icons

Each message in the message log is marked by one of four icons:

-  Alert messages
-  Error messages
-  Warning messages
-  Success or general system event messages

15.3.3. Details Link

If additional detailed information is available for a message, a *Details* link is inserted between the message icon and message text. A click on this link opens a dialog box window with further information.

15.3.4. Message Text

The message text provides a short and comprehensive description of the alert, error, warning, success, or general system event. If required, the message text may be equipped with a hyperlink in order to trigger an action. Only one action associated with the message text is permitted and the complete message text is shown as a hyperlink.

The text should not contain purely technical information that the users may not understand. If necessary, the message ID may be displayed, since the ID might be required for purposes like error escalation. User interface-related messages should only refer to the user interface of SAP CRM 5.1 and above.

15.3.5. Message Counter

If more than one message is in the message area, the message counter displays the total number of messages. If at least one message exists, the counter is constantly visible in order to inform the user of the total number of messages.

15.4. Message Log Behavior

- Messages are sorted chronologically with the most recent message always on top.
- Success messages and general system event messages disappear after the next roundtrip.

- Alerts, errors and warnings disappear after the invoking system property no longer exists and a roundtrip has been triggered (for example, the user enters a missing value has been entered in a mandatory field).

15.5. Message Dialogs

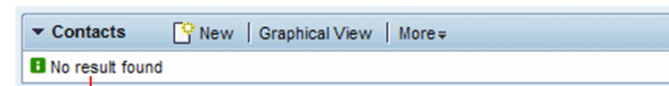
Message dialogs are used in order to request decisions or confirmations of the user.

Specific message dialog box dialogs have been defined for the following purposes:

- To provide system information, in an information dialog box. This dialog has to be confirmed by the user (usually by clicking a finalize button like “OK”).
- To interrupt interaction, with a modal alert dialog box.
- To interrupt interaction, with a decision dialog box. An example for a decision dialog is the “data-loss” dialog, where the user is asked to decide for one of the following alternatives after having triggered a certain navigation: (1) Save the current object and proceed with navigation, (2) do not save the current object and proceed with navigation, or (3) cancel the navigation, stay at the current page, and close the dialog.
- For information concerning dialog box design, see section 8.

15.6. Messages in Tables

The only table-related message that is displayed directly in tables is the *No result found* message for search result lists. This message is equipped with the green icon for general system event messages (Figure 15-4). This message is only displayed after a search has been run.



“No result found”
Message

Figure 15-4. “No Result Found” Message in Search Result List

Another table-related message is integrated in the table title. If results were found, then the table header displays the number of records that were found. The general format of the result list table header is:

Template: **Result List:** <number of records> <object type> found

Examples: “**Result List:** 28 Accounts Found”, “**Result List:** 1 Service Order Found”

The examples show that the name of the object is displayed in singular or plural accordingly. If the number of results found exceeds the given maximum number of hits, then the general format of the result list table header is:

Template: **Result List:** More Than <maximum number of records> <object type> Found

Example: “**Result List:** More Than 100 Leads Found”

No messages concerning the exceeded maximum number of records appear in the message bar.

Special guideline for assignment block tables: If an assignment block table displays only a limited number of records (according to a maximum number of records set for this assignment block), then a message may be displayed in the message area. The general format of this message is as follows:

Template: Assignment block <Assignment Block Title>: More than <maximum number of records> entries exist

Example: Assignment block Marketing Plan Elements: More than 100 entries exist

16. Personalization

16.1. What Does Personalization Mean?

Offering personalization means that end users can adapt the software to fit their needs best. It improves user productivity by adapting the application to a user's individual working style.

Personalization is done by end users, while configuration in any form, such as administration or Customizing, is done by project teams, solution consultants, key users, and administrators. Personalization influences the user interface (UI) of an individual end user, while configuration influences the UI of a group of users.

Personalization is valid longer than just one working session. It is done once, or several times at greater intervals (not daily or weekly, for example), with the goal of achieving a permanent state.

Personalization should be reduced to a minimum. It is not the users' task to define their UI. Users who want to adapt their user interface to individual preferences are provided with personalization capabilities where appropriate.

16.2. Personalization Dialogs

A personalization dialog is the UI with which a user can adapt the UI of the application itself. Mostly one single object, the personalization object, can be adapted, for example the columns of a search result list. Most of the personalization dialogs are built generically. The UI structure of the dialogs cannot be changed, but the content has to be adjusted according to the use cases.

Besides the generically built dialogs, application-specific dialogs can be implemented as well. In this case, "application-specific" means having the option to change the structure of the dialog partially. But we strongly recommended following the dialog structure of the generically built dialogs for consistency.

A personalization dialog can call further dialogs as popups, e.g. a value help or a further personalization popup to do detail settings. If a popup is called out of another popup it is strongly recommended to call no further popups from there.

Generally the interaction behavior has to be consistent in all personalization dialogs.

The following elements make up the structure of a personalization dialog:

- **Dialog frame** is the body of the personalization dialog and can be placed within a dialog box or within the work area. It contains all screen elements for further structuring.
- **Dialog title** names the personalization object or group of personalization objects.

- **Message bar** displays error messages which might occur when users choose *Save*.
- **Help text** is optional and can be used to give further explanations directly on the UI if needed. Help texts can be placed below every title which is displayed in the dialog.
- **Property group** groups all properties of a personalization object.
- **Property group title** names the property group and must be used only if multiple property groups are displayed.
- **Property values** can be changed for each property to adapt the UI.
- **Property group function buttons** trigger functions to change property values.
- **Finalizing buttons** generally save or discard the changes and close the personalization dialog in parallel.
- **Child Personalization** Entry point launches a secondary personalization dialog for further settings

Figure 16-1 and Figure 16-2 show two personalization dialogs, one displayed as a dialog box and another one displayed within the work area.

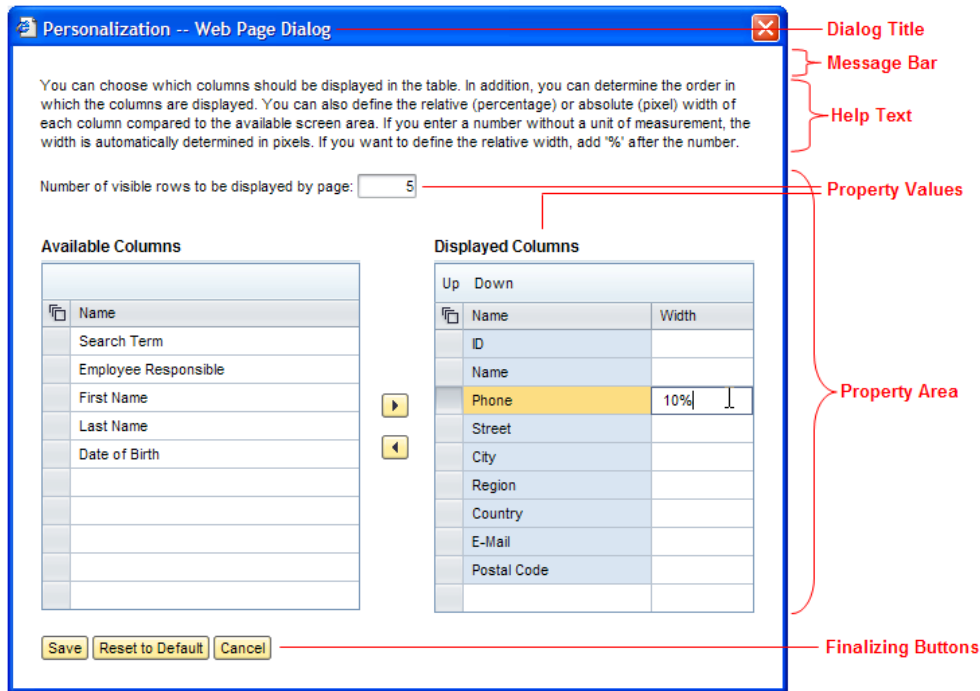


Figure 16-1. Dialog Box for the Personalization Dialog

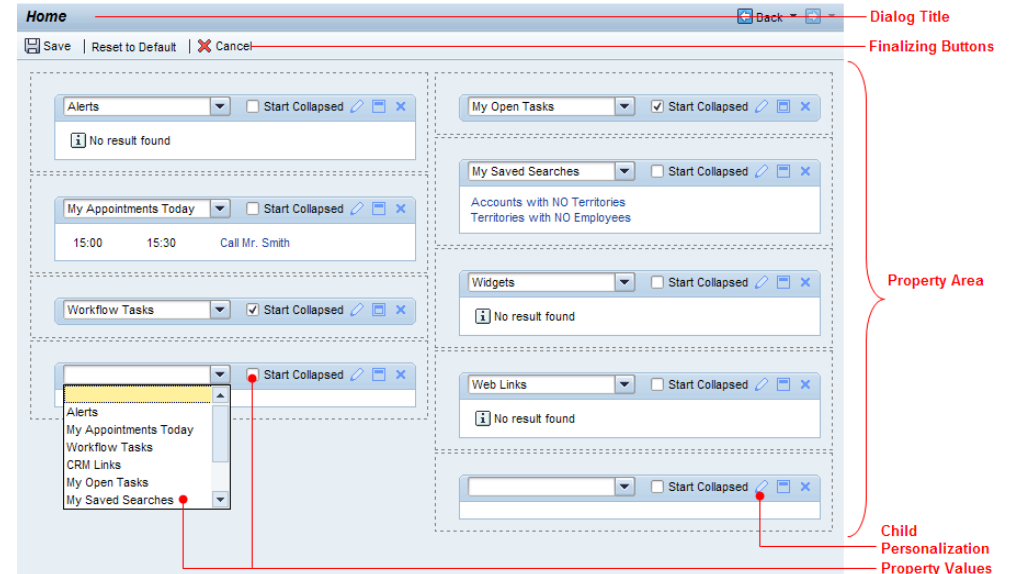


Figure 16-2. Finalizing and Reset to Default Buttons

Besides additional function buttons which might be needed to change property values, the finalizing buttons and the *Reset to Default* button must be used consistently in all personalization dialogs.

After changing some property values, the user can trigger three actions:

- **Reset to Default** sets the property value back to the default value of the application. This function has to be offered for each property in order to avoid data loss on properties for which the user did not want to reset to the default. If the dialog is not very complex, this button can also be placed in the button row of the finalization buttons.
- **Save** saves the changes, closes the personalization dialog box, and refreshes the corresponding UI immediately. Dialogs displayed within the work area use a *Save and Back* button instead to produce the same result.
- **Cancel** closes the current personalization dialog while navigating back to the previous page or closing the dialog box without saving any changes.

16.3. Launching a Dialog

A personalization dialog is launched by "entry points". An entry point is the link, button, or icon with which a user calls up a personalization dialog. The positions for these entry points are predefined for the generically built dialogs (see Figure 16-3 and Figure 16-4).

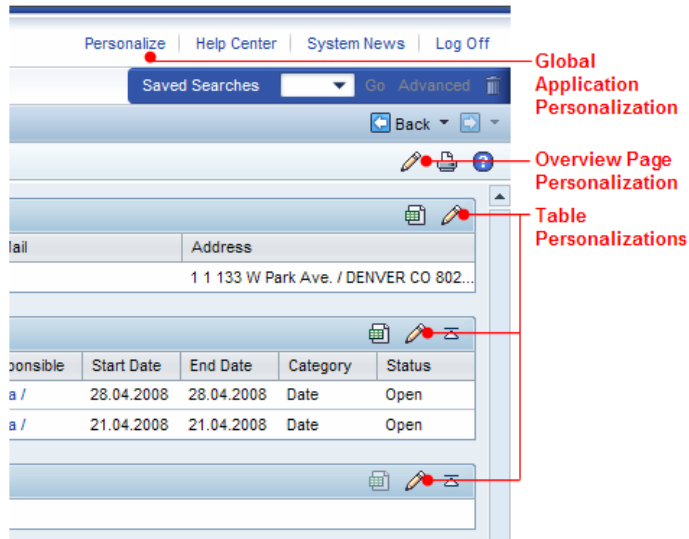


Figure 16-3. Entry Points of Generic Personalization Dialogs

For application-specific dialogs, the positions of entry points can deviate from the generically built ones in order to support their use cases optimally.

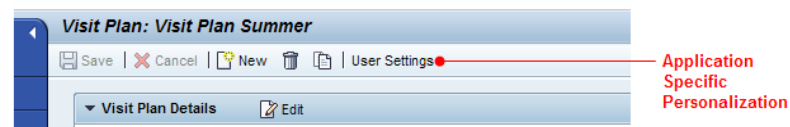


Figure 16-4. Entry Point of an Application-Specific Personalization Dialog

16.4. Examples

Figure 16-5 and Figure 16-6 show examples of some generic personalization dialogs. Figure 16-5 is a dialog for showing and hiding assignment blocks that can appear on an overview page. Additionally, the sequence of visible assignment blocks can be changed.

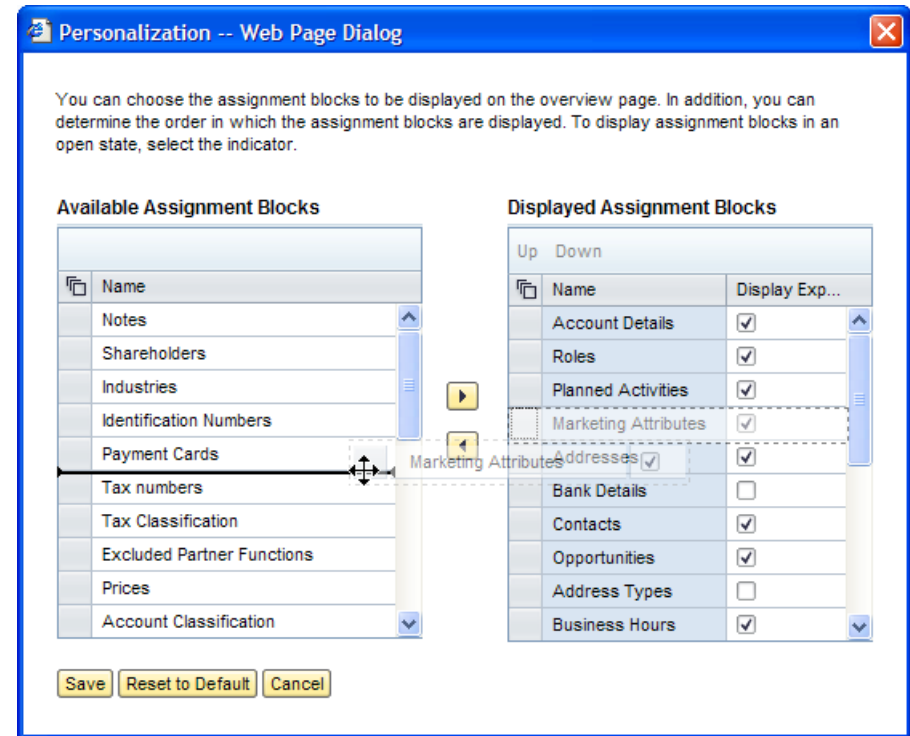


Figure 16-5. Overview Page Personalization

Figure 16-6 shows a dialog for showing and hiding table columns within a table control. The sequence of the displayed columns can be changed, as well as the width of individual columns. There is also an option to define the number of visible rows that will be displayed per table page.

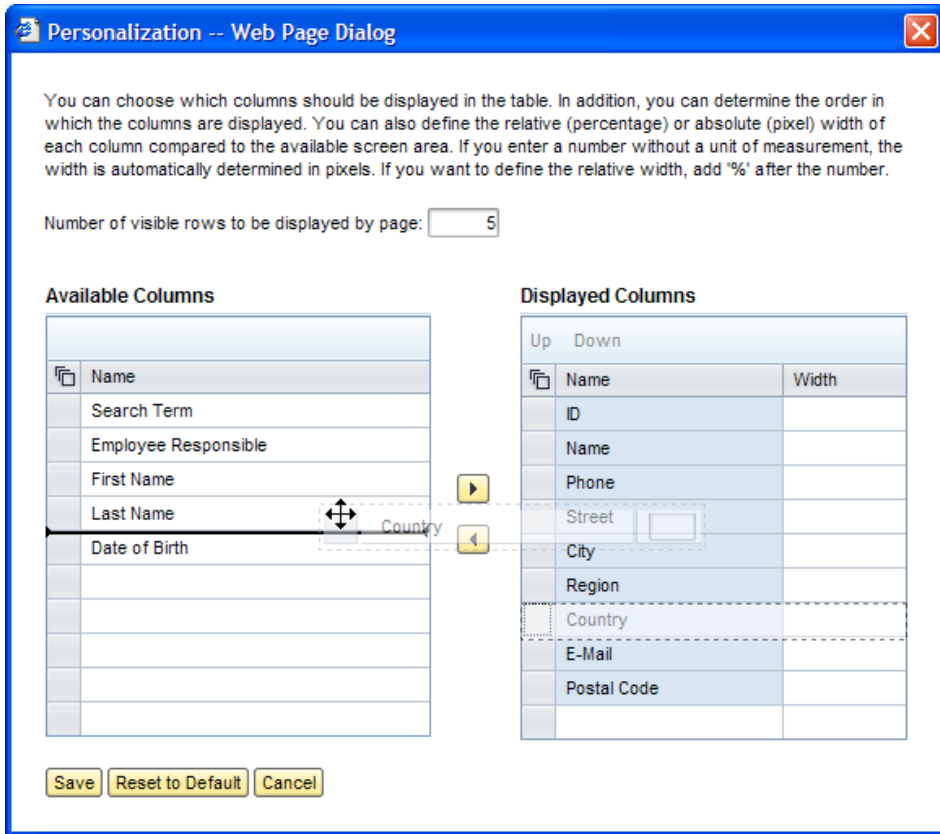


Figure 16-6. Table Personalization

16.5. Drag and Drop

Additionally, drag and drop functions are available to support faster and more direct personalization without launching a personalization dialog popup. Drag and drop works for the following personalization objects:

- Table columns (change of column width, change of column order)
- Home page and workcenter page (change of content block position)
- Overview page (change of assignment block sequence)

Drag and Drop is within the personalization popup dialogs itself available, too.

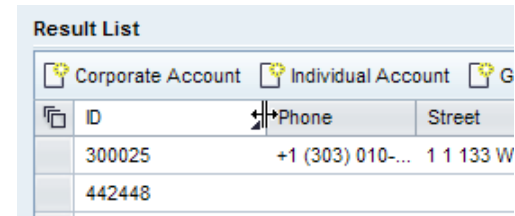


Figure 16-7. Personalize Column Width Using Drag and Drop

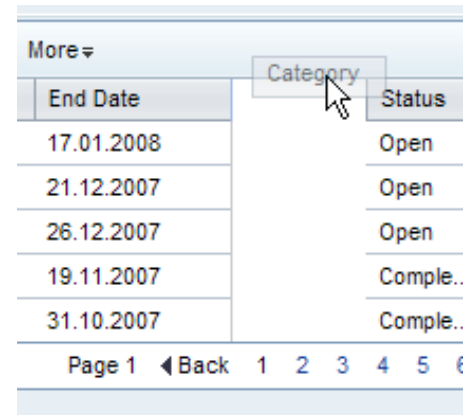


Figure 16-8. Personalize Column Sequence Using Drag and Drop

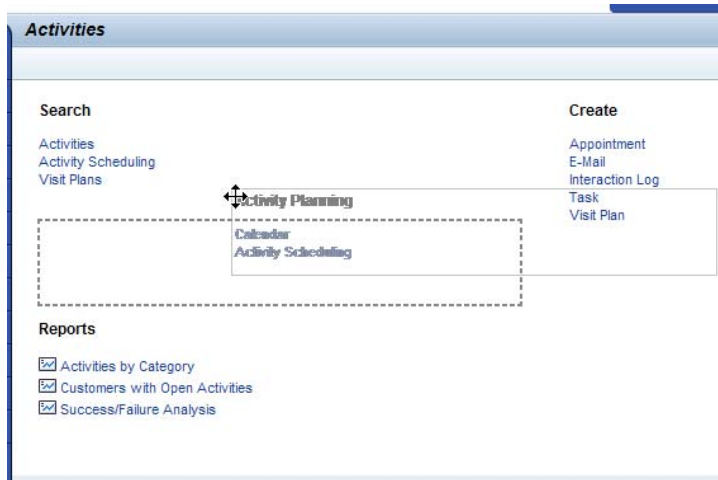


Figure 16-9. Personalize Content Blocks Using Drag and Drop

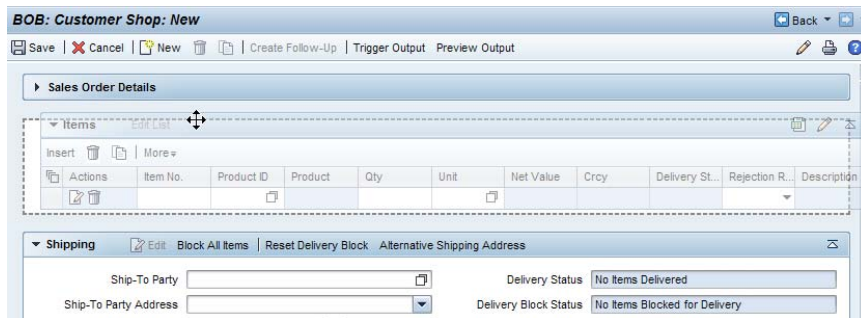


Figure 16-10. Personalize Assignment Blocks Using Drag and Drop

16.6. Usage of Application specific Personalization

Settings that are done frequently and routine tasks, such as maintaining key performance indicators (KPIs) or defining rules, are **not** part of a typical personalization. Instead, they belong to the application functions. In many cases, it is difficult to distinguish whether you should incorporate the application settings to the application UI or to use a separate dialog. The workflow is basically the same. Therefore, we recommend that you use for these kinds of application specific settings the UI dialogs of the personalization. The following sequence of control questions may be useful to assist you in defining when to use a personalization dialog for application settings.

If the following questions can be answered with “Yes”, the settings can belong to a personalization. If the answer is generally “No”, a redesign of the application or availability of the settings in Customizing should be considered.

1. Do the settings optimize the individual workflow of the user?
2. Are the settings adjusted once or occasionally (at greater intervals, not daily) with the goal of achieving a permanent state?
3. Does the user expect to be able to make such a setting here?
4. Is the user being offered the settings because this is a useful feature here (and is not a kind of workaround due to design/resource issues)?
5. Do the settings help the user to adapt the application to his or her personal working style?
6. Is the application still fully accessible after the settings have been made?

17. Authorizations and User Interface Behavior

This section provides an overview of the behavior of the CRM WebClient user interface whenever authorization becomes relevant. It provides the status agreed on and implemented across the CRM solution.

This user interface guideline is not intended to provide any statements or guidelines regarding the technical authorization concept, authorization business rules to be maintained in the standard CRM delivery, and so on, since these authorization guidelines are specific to the customer, business scenario, and role.

The focus of this section is a consistent user interface behavior across CRM, given a set of circumstances (for example, authorizations are maintained according to business needs).

The statements below are based on the assumption of a hierarchical dependency between authorizations, where the next-highest level includes the previous levels.

Levels of authorizations (simplified model needed for the explanations below):

- Display/read authorization
- Change authorization
- Create authorization
- Delete authorization

17.1. Areas of the CRM WebClient User Interface That Are Generally Affected by Authorizations

The following areas of the CRM WebClient are generally affected when maintaining authorizations, as a specific user interface behavior is expected as the outcome of the maintained authorizations.

Areas potentially affected by authorization settings:

(This is not yet a statement regarding concrete, decided, and consistently implemented behavior, but a summary of affected areas with related information to understand the overall environment of authorizations and UI discussions.)

- **Navigation frame: First-level and second-level navigation bar entries**
 - Independent of the customizing of technical roles, the authorization settings determine which objects are available for a user in the first-level and second-level navigation.

- Example: If a role is customized to offer every user assigned to this role access to *Accounts*, but a specific user does not at least have display authorizations for *Accounts*, it makes no sense to show this navigation entry.
- **Navigation frame: Create hyperlinks in navigation bar (quick create)**
 - Independent of the technical role customizing, the authorization settings determine which *Create* links are finally available for a user in the *Quick Create* area of the navigation bar.
 - Example: If a role is customized to offer a *Create Account* link to every user assigned to this role, but a specific user does not at least have *Create* authorizations for *Accounts*, it makes no sense to show this entry.
- **Navigation frame: Saved searches**
 - Only relevant as soon as saved searches can be predefined in standard CRM to be delivered as content for a role.
 - Independent of the technical role customizing, the authorization settings determine which saved searches (which always relate to an object type) are available for a user in the *Saved Searches* dropdown list box in the navigation bar.
 - Example: If (in the future) pre-defined saved searches for *My Accounts* are assigned to a role, but a specific user does not at least have display authorizations for *Accounts*, it makes no sense to show this saved searches entry.
- **Home page**
 - All links and information on the home page in the areas for create links, search links, links to saved searches, and links to reports are affected by authorizations.
 - The rules and examples of the three navigation frame statements above apply.
 - Link to reports: The same logical rules apply as for the search and create links.
- **Work center pages**
 - Refer to home page
- **Reports page**
 - Refer to home page
- **Buttons/functions/one-click actions**

- Any button, function, or one-click action must only trigger its corresponding action if the user has the authorization to perform this action.
- If a button, function, or one-click action can be clicked even though the necessary authorization is not available, the user has to be informed with a message in the application log about the missing authorizations. For further rules concerning button behavior, see section 12.4.
- **Search result lists**
 - One option for entries in a search result list is to show only objects for which the user executing the search has at least display authorization (in other words, the result list is filtered based on maintained authorizations).
 - The other option is to also show objects for which the user does not at least have display authorization (in other words, the result list is not filtered based on maintained authorizations).
 - Special rule: Depending on the result list row, several hyperlinks can be available leading to different kinds of objects. The leading object (the object that was searched for) determines whether it is displayed or not.
- **Input help result lists**
 - Advanced search-based input help: The same behavior applies as for search result lists.
 - Simple input help offers no search field function or only a limited search field function: The two options described above for search result lists can generally be necessary from a business point of view.
- **Data in form views on details pages (such as overview pages)**
 - Display of existing, unauthorized information
 - Example: An object is forwarded to a user. This object has referenced information available in the header assignment block, for which the user does not at least have display authorization.
 - For such information, apply the two options described above for search result lists to decide if such information should be visible to the user or not.
 - Manual entry of unauthorized information in a field
 - Example: A user tries to access an account for which the user does not at least have display authorizations.
- In this case, apply the two options described above for search result lists to decide if it should be possible for a user to enter unauthorized information or not.
- **Data in table views on details pages (such as overview pages)**
 - Display of existing, unauthorized information
 - Example: A user is a member of the sales team that works on an opportunity. The opportunity shows all activities related to that opportunity. The user has at least display authorization for some of these activities, for others he or she does not have at least display authorization.
 - For such information, apply the two options described above for search result lists to decide if such information (in other words, the complete row) should be visible to the user or not.
 - Also consider the special rule from the advanced search paragraph above.
 - Manual entry of unauthorized information in a field
 - Example: For the opportunity mentioned above, the user wants to create a new entry in the document flow using the subsequent assignment function. The user wants to link the opportunity to a campaign, but he or she does not have at least display authorizations for the specific campaign.
 - In this case, apply the two options described above for search result lists to decide if it should be possible for a user to enter unauthorized information or not.
- **Hyperlinks navigating to object details**
 - Hyperlinks are always rendered as hyperlinks, independent of the authorization of the user for the navigation target.
 - If the user does not at least have authorization for the navigation target, two options are generally possible. One is to also allow navigation to unauthorized targets, the other to prevent navigation to unauthorized targets.

17.2. Master Rules Regarding Authorizations and UI Behavior

Besides further details and possible exceptions explained later on in this section, the following master rules are generally valid as they are the basis for a secure CRM solution.

- **Read authorization**
 - If a user has no read authorization for an object, he or she cannot see the detailed information of that object.
 - There are various special use cases (such as appearance in search result lists or in assignment blocks) that are detailed further in the next sections.
- **Create authorization**
 - A user can only create an object if he or she has create authorization.
 - Normally, the user also cannot access any create object pages if he or she has no authorization to create objects.
 - This affects all buttons that trigger the creation of a new object, such as *New*, *Copy*, or *Follow-Up*.
 - If the authorization is not handled directly at object level, but at any subtype level (such as transaction types for business transactions, categories in products, or roles in accounts) the previous rule might not be valid because only in a later step can the system decide if the corresponding authorization is available.
 - Example 1: If authorization for some transaction types for a business transaction exists, then *Create* is available, but the transaction type dialog box has to be filtered.
 - Example 2: Products can be created by the user, but only specific categories on the product create page can be accessed by user.
- **Edit authorization**
 - Overview pages are, by design, not directly available for input (exception: SAP CRM on-demand solution). Therefore, these rules apply for all pages that - at least in specific use cases - have edit options (such as edit pages of or within an overview page, or main pages of freestyle applications).
 - An editable page or view must be shown as not available for input (entry fields are inactive) if the user has no edit authorizations.
- Any process that leads to editing data will be stopped at the earliest step possible (for example, at click of an *Edit* button) so that the user does not have to perform unnecessary tasks. However, some steps are needed even if no editing is required.
- For example, edit buttons that lead to editing in-place on the overview page should have the following behavior: When the user clicks the button, the authorization is checked. If no edit authorization is available for the user, then a corresponding information message is shown and the assignment block stays in display mode.
- If an edit button leads to a separate edit page, where more information is available than on the overview page, the navigation to the edit page takes place, but the target edit page is shown in read-only mode, in other words, all normally editable fields are shown inactive.
- Example: Navigating from a search result list to a freestyle applications main page that is normally editable (viewing this information is still necessary, even though editing is not possible).
- Consider all buttons that change an object or parts of it, such as *Edit* buttons, *Edit List* buttons, one-click actions, the one-click action *Complete*, mass changes, and so on.
- **Delete authorization**
 - If a user has no delete authorization for an object, he or she cannot delete it.
 - This is valid for explicit and implicit deletion if not stated differently by any exception.

17.3. Hyperlinks

In this section, you can find the rules regarding hyperlinks and the software behavior when using hyperlinks.

Hyperlinks are always rendered as hyperlinks, independent of the authorizations of the user for the target object.

If the user does not at least have display authorizations for the target object, it should not be possible to navigate. The user stays where he or she currently is and a message is shown in the application log.

The text of the message is *You do not have display authorization*.

17.4. Specific Guidelines for SAP CRM On-Demand Solution

As explained above, various areas of the CRM solution are affected when it comes to authorizations.

Generally, the business use case of every customer decides what the concrete UI behavior should be, based on maintained authorizations.

SAP CRM on-demand solution has decided on a distinct behavior for each of the areas generally affected by authorizations (refer to section 17.1).

With respect to authorizations and its corresponding UI behavior, SAP CRM on-demand solution acts like a customer that has decided in which area the software has to behave and in which way, based on their concrete business needs. The currently implemented UI behavior is not explained here in detail, but you can contact the SAP CRM on-demand solution solution management team for details.

18. UI Texts

This chapter contains a collection of the most important rules concerning texts on the user interface (UI). This collection will be extended by other topics as they are required. The first central topic is capitalization.

18.1. Capitalization

This is a simplified summary of the most important English capitalization rules at SAP. For a complete list of capitalization rules, see the SAP Corporate Portal under the quick link /infodev -> Standards and Guidelines -> General Standards and Guidelines for Writing at SAP (General S&G). If you are unsure of capitalization, always ask your author, language editor, or translator. A quick question now can save you from a more complex fix later.

Table 18-1. Title Capitalization

Text Type	Capitalization Style	Examples
Most texts that appear on the UI (exceptions in table below)	Title	Created By Save Template (Default Form) Maintain Business Partners Templates and Add-Ins Including Terms a User Is Likely to Look Up

Title capitalization means:

- o As a rule, the first letter of each word is capitalized.
- o Do not capitalize small words with four letters or less, such as:

a	at	for	nor	or	The
an	but	from	of	per	to
and	by	in	on	some	with
- o Always capitalize the first and last word of the text, even if it is a small word (see list above).

Table 18-2. Exceptions (Sentence Capitalization)

Text Type	Capitalization Style	Punctuation at End	Examples
Error messages	Sentence	None	Data was not saved; see long text
Status messages	Sentence	None	Order was transferred
Complete sentences or questions on the UI	Sentence	Complete sentences have punctuation; fragments do not	Enter a transaction ID, service ticket ID, or reference number. Do you want to save your entries?
Labels of boxes/callouts in graphics/flowcharts	Sentence	None	Warehouse request Run logistics scenario

Sentence capitalization means:

- o Only the first letter of the sentence is capitalized. All other words are written in lower case, except for proper nouns.
- o Do not capitalize these words in normal text:

directory	folder	report	table
field	menu	screen	transaction
file	program	system	transaction code

18.2. Message Texts

This is a simplified summary of the most important message text guidelines at SAP. If you are unsure about how to formulate a message text, ask your author, language editor, or translator.

General Guidelines

Category	Guideline	Example
Word choice	Do not use please	Enter the company code
	Provide assistance instead of just declaring what is wrong	Enter conditions in rule &1 <i>Not: Conditions are not maintained</i>
Capitalization /punctuation	Begin the first word with a capital letter	Order is not available; check your entry
	No period (.) at the end of messages	
	Use periods (.) following message texts <i>only if a question follows</i>	Unsaved data will be lost. Do you want to save?
	Separate two sentence parts with a semicolon (;)	Data is not available; define the result areas first
	Do not use all capitals or exclamation points (!) for emphasis	All data is deleted <i>Not: ALL data is deleted!</i>
	To emphasize texts that appear on the UI, such as field names, use <i>italics</i> . If italics are not possible, use quotation marks ("").	To view the contract item you created, go to the <i>Contract Overview</i> page Enter a date in the correct format in the "Date From" field

Templates

Use the following standard formulations to help you create messages correctly.

Category	Template	Example
Error	Cannot display <object>;	Cannot display revision status; period is

	<reason>	already completed
	Error <while/during> <operation>; <instruction>	Error while posting; see log
	<Error>; contact technical support	Database inconsistency; contact technical support
	<Action> is not permitted; <reason>	Deletion is not permitted for user status; relevant authorization does not exist
	<Action> is not possible; <reason>	Deletion is not possible; actual values exist
	You cannot <action>; <reason>	You cannot save the planning variant; vendor address is invalid
Authorization	You are not authorized to <action>	You are not authorized to change the contract
Instructions	Enter <object>	Enter a valid period
	Select <object>	Select the lines to be deleted
Confirmation	Additional <objects> are not selected	Additional status profiles are not selected
	<Object> <past participle>	Contract created <i>Not: You have successfully created a contract</i>
	<Object> does not exist	Business partner does not exist
	<Object> is not available; <instruction or reason>	Data is not available; define the result areas first
	<Object> already exists	Class type already exists
Search	<Object> found	14 documents found

results	<Object> not found	Contract not found
	No <objects> found	No materials found