

MODULE 9: ROLE TAILORING

Module Overview

In Microsoft Dynamics NAV 2013, the RoleTailored user interface design gives users a quick overview of the information that is relevant to their job and enables them to focus on their own tasks. At the core of the RoleTailored user interface is the *Role Center*. This is the main entry point into the application for every user.

The primary goal of a Role Center is to increase user productivity. A Role Center maps to the user's role in the organization. It provides access to those functions and features that relate to the role, and hides any rarely used functions or features. Microsoft Dynamics NAV 2013 has more than 20 Role Centers. Each Role Center is represented by a page object.

When you develop custom application areas for Microsoft Dynamics NAV 2013, you must provide new Role Centers for any roles that are not represented in the default set. Or you must customize existing Role Centers to provide access to the new functions or features that you introduced.

Objectives

- Define the components of the RoleTailored user interface.
- Explain the structure, purpose, and functionality of a Role Center-type page.
- Create the **Seminar Manager Role Center** page.
- Describe the functionality of the **Departments** page and the MenuSuite object type.
- Integrate the Seminar Management department into the **Departments** page.

Prerequisite Knowledge

Microsoft Dynamics NAV 2013 supports more than 20 default roles with a default installation. Those roles combine the functionality of the application areas that are available in the standard application. When you create new application areas or customize existing ones, you may have to provide new Role Centers for any user roles that are not included in the default set. Or you may have to integrate any new pages into relevant existing Role Centers to give users access to frequently used features.

A Role Center is a composite page that consists of the following:

- Other pages, such as activities and lists
- System parts, such as notifications or Outlook
- Definitions of the actions in the ribbon
- Definition of the navigation pane and its contents

RoleTailored User Interface Overview

The RoleTailored user interface design gives users a quick overview of the information that is relevant to their job. This design paradigm enables users to do the following:

- Focus, prioritize, and apply their expertise quickly and efficiently.
- Visualize and understand key data.
- Reduce the time that is spent searching for functionality and data.

Research shows that the greatest challenges to users are frequent interruptions and balancing multiple concurrent tasks. Microsoft Dynamics NAV 2013 helps resolve this issue with a RoleTailored design that is combined with a familiar and easy-to-use interface. Instead of mapping to the structure of the database, the RoleTailored user interface maps to the tasks that a role must perform. This role-based navigation reduces complexity by promoting areas of the application that are relevant to each role. Role-based navigation reduces the information that users must understand. It does this by removing application areas that users rarely access.

Role Center

The Role Center links users to the processes in which they participate. By exposing the most frequently used functions in a single location, a Role Center serves as the entry point for every user. It enables users to focus on their tasks, without spending unnecessary time locating features in the user interface.

The Order Processor Role Center is a typical example of a Role Center. It provides salespeople with quick access to different types of sales documents and allows them to easily access and manage important information, such as customers, items, or notifications.

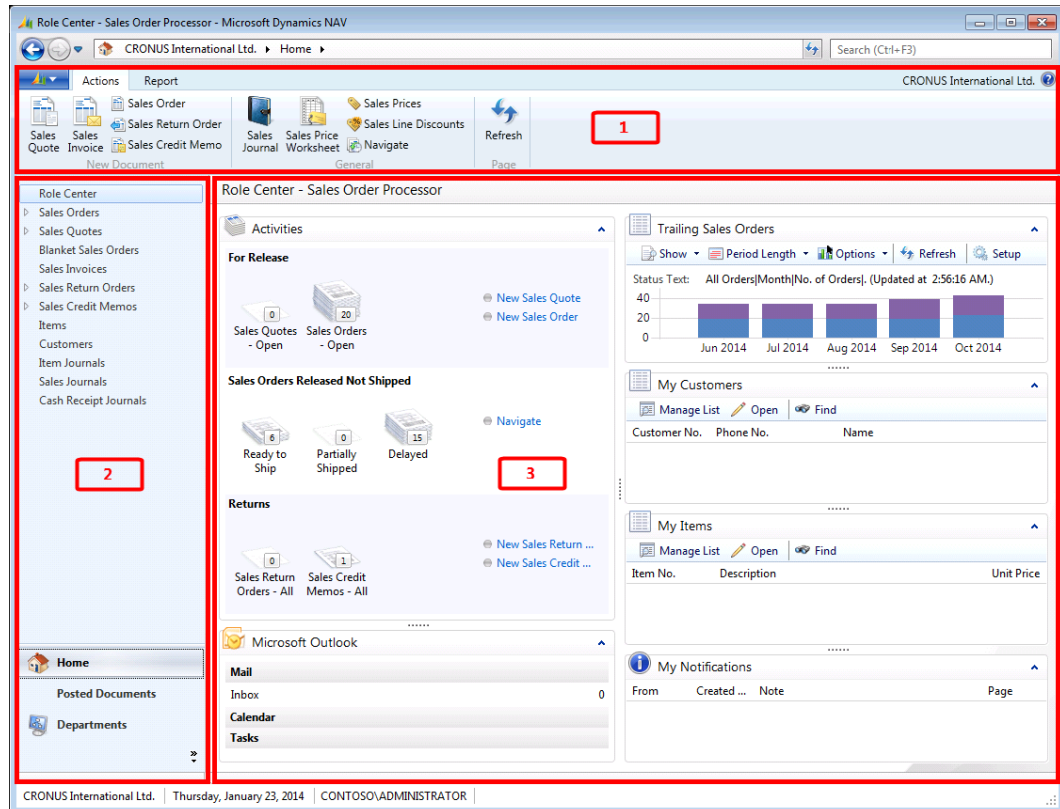


FIGURE 9.1: ORDER PROCESSOR ROLE CENTER

The components of a Role Center are as follows:

1. Ribbon
2. Navigation pane
3. Role center area

You define all these components in a page of type RoleCenter by using the Page Designer window. The role center area is the main area of a **Role Center** page, and replaces the content area that all other page types have.

The “Page 9006, Order Processor Role Center” image shows the components of the **Order Processor Role Center** page in Page Designer.

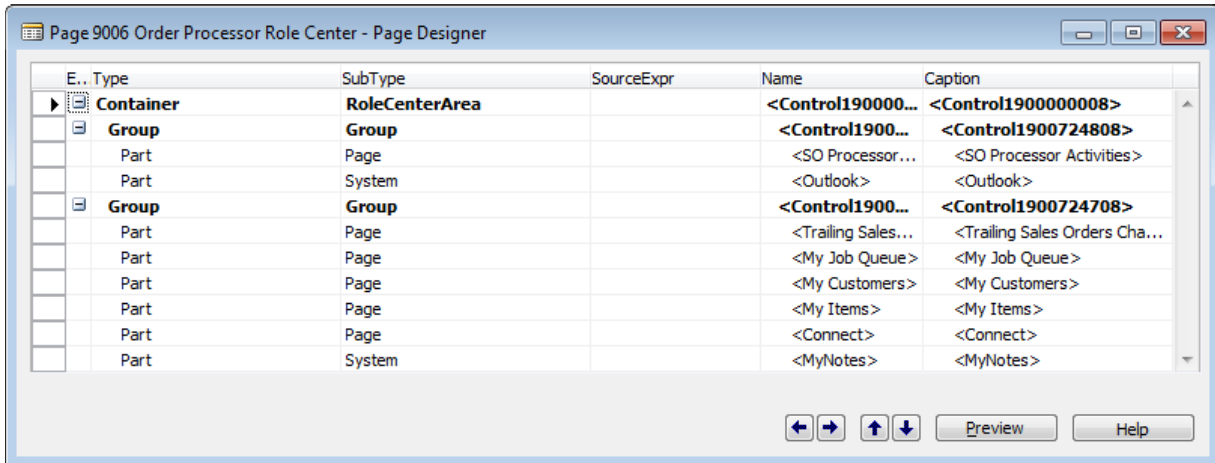


FIGURE 9.2: PAGE 9006, ORDER PROCESSOR ROLE CENTER



Note: You cannot write any trigger code on pages of type RoleCenter. This applies not only to page triggers, such as *OnOpenPage* or *OnClosePage*, but also to action triggers. Any action that is defined in a **Role Center** page may only use the *RunObject* property. Any code in the triggers prevents you from compiling or saving the page.

Actions and Ribbon

Actions let users access features of an application, such as a List Place, or run a function, such as posting an invoice. The ribbon organizes action types into tabs and groups for quick and easy access by users. The ribbon is available from most page types.

The "Ribbon" image shows the ribbon for the **Customer List** page, and it shows the **Home**, **Actions**, **Navigate**, and **Report** tabs, and New, Manage, Process, Report, View, and Show Attached groups.

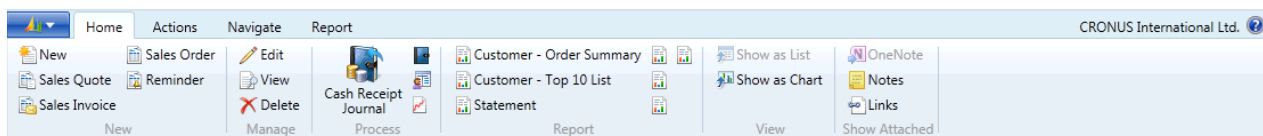


FIGURE 9.3: THE RIBBON

For each page, you define all actions in the Action Designer. This includes the contents of the ribbon. For pages of type RoleCenter, you also use Action Designer to define the contents of the navigation pane.

You define where an action is shown in the user interface by using different action container types. This is how different action container types map to elements of the RoleTailored user interface.

Action Container Type	RoleTailored Client Element
NewDocumentItems	Actions tab, New Document group
ActionItems	Actions tab
RelatedInformation	Navigate tab
Reports	Report tab
HomeItems	Home menu of the Navigation pane
ActivityButtons	Other menus of the Navigation pane, such as Posted Documents



Note: If an action container of type *ActionItems*, *RelatedInformation* or *Reports* contains action groups, these groups appear as separate group in the **Actions**, **Navigate** and **Report** tabs. Any actions that do not belong to an action group and are defined at the action container level, appear in the **General** group of the appropriate tab.

When you define actions in the *HomeItems* or *ActivityButtons* action containers in the **Role Center** page, the following actions appear in the navigation pane for any user who belongs to a profile that uses this **Role Center** page:

- Actions in the *HomeItems* action container appear in the **Home** menu, and you cannot group these actions into action groups.
- Actions in the *ActivityButtons* action container are displayed as separate menus. You must group these actions into action groups. Every action group is listed as a separate menu in the navigation pane.

In addition to the **Home** menu, the navigation pane for the production planner profile includes **Journals**, **Worksheets**, **Product Design**, and **Capacities** menus. Each of these additional menus is defined as an action group in the *ActivityButtons* action container in page 9010, **Production Planner Role Center**.

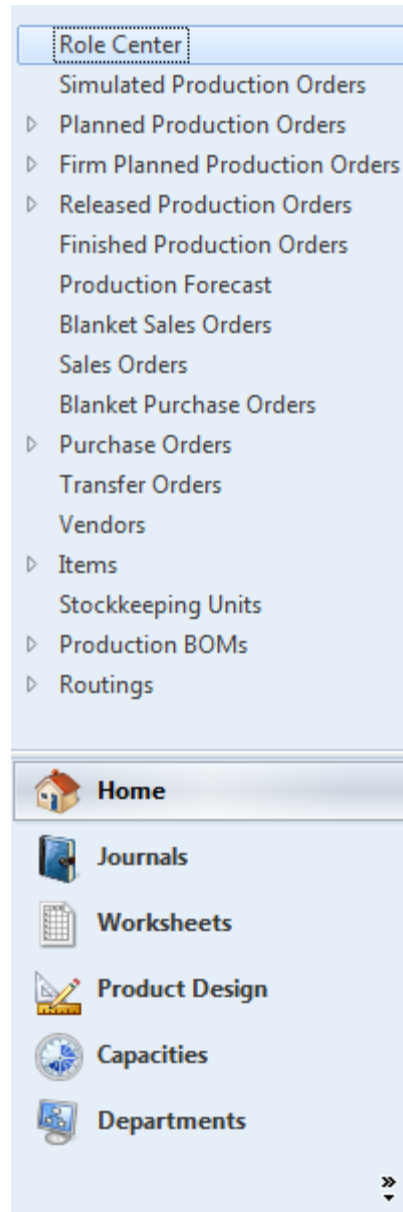


FIGURE 9.4: NAVIGATION PANE FOR THE PRODUCTION PLANNER PROFILE

Activities

Every Role Center includes the Activities part that contains stacks of documents. These are known as *cues*. A cue visually shows the number of documents of a specific type that exists in the application. Cues also let users quickly access the list of documents with an appropriate filter applied. For example, if a cue shows the number of released sales orders, and a user clicks the cue, the list of released sales orders is displayed.

The Activities part is defined as a CardPart page, and uses groups of type CueGroup to show the cues. Every cue is defined as a field in the source table of the **Activities** page.

CueGroup is the only control type in Microsoft Dynamics NAV 2013 that lets you define control actions. Any control action that is defined on a CueGroup is displayed as a link on the right side of the cues.

Page 9060, **SO Processor Activities** is an example of an activities page. It includes three CueGroups that are named as follows: For Release, Sales Orders Released Not Shipped, and Returns. Each group contains actions. For example, the For Release group includes the New Sales Quote and New Sales Order actions.

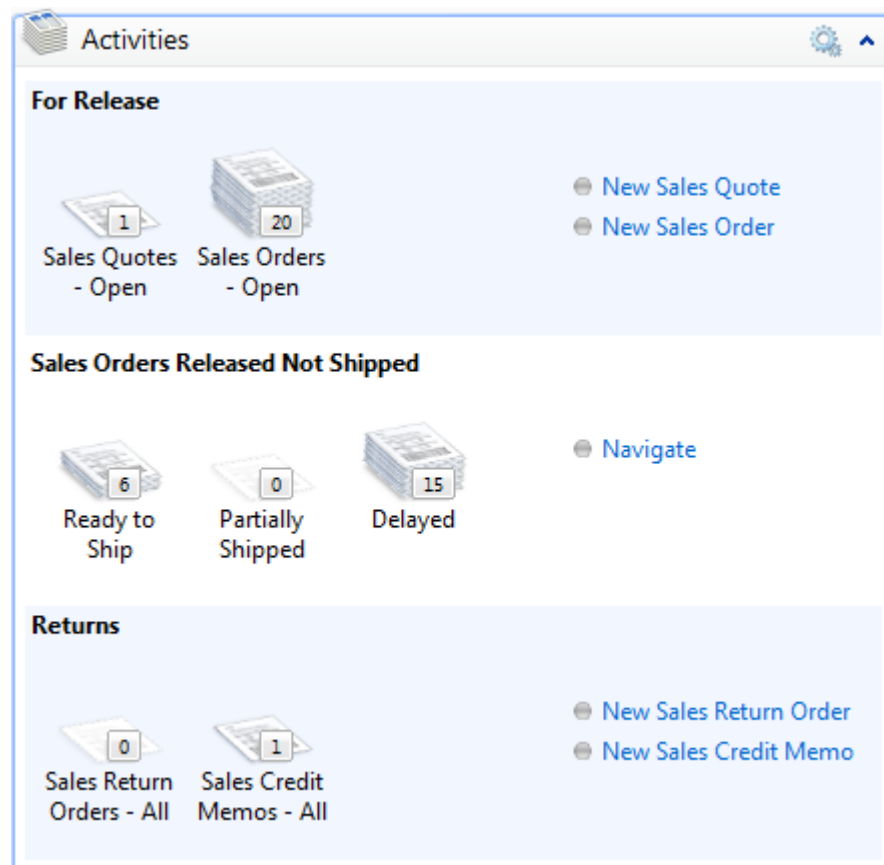


FIGURE 9.5: PAGE 9060, SO PROCESSOR ACTIVITIES

A field must be of type Integer to correctly show as a cue. If there is no record in the source table, the **Activities** page inserts one.

The source table of the **Activities** pages has the following characteristics:

- It is always named after the functional area, and ends with the word **Cue**. Examples are **Sales Cue**, **Finance Cue**, or **Purchase Cue**.
- It can only contain a single record.

- It has the primary key that has a single field that is named **Primary Key**.
- Every cue is defined as an integer field of FlowField class and it uses the Count method.

Lists

Role Centers may contain one or more lists, such as customers, vendors, or items. These lists are defined as page parts. Each page is defined as a ListPart page. The caption of each list is preceded by the word "my," so that the lists are displayed as **My Customers**, **My Vendors**, or **My Items**.

The **Order Processor Role Center** page includes the **My Customers** and **My Items** lists.

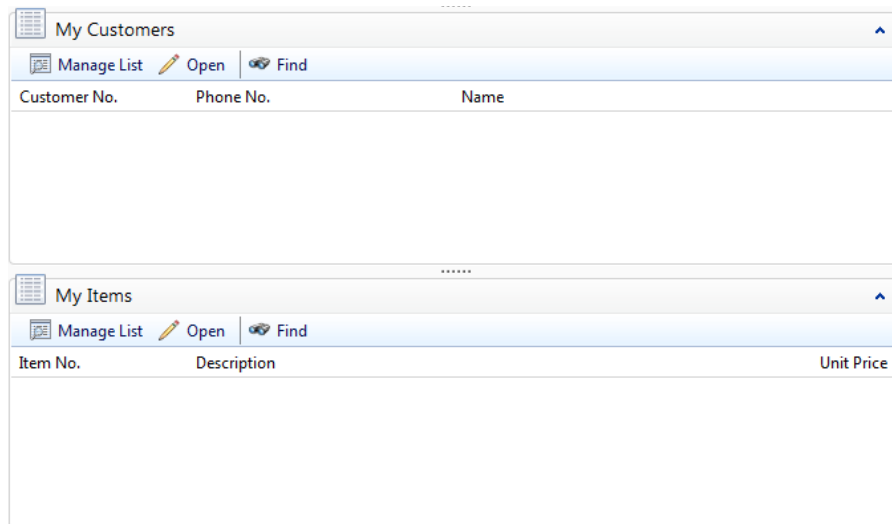


FIGURE 9.6: LISTS IN THE ORDER PROCESSOR ROLE CENTER

When a Role Center contains such a list, the system automatically shows the Manage List action. This lets users select the records to show in the list. Every user can decide which records, such as customers or vendors, to include in the list. The list is different for each user, and users manage their own lists independently.

To manage the lists for different users, every list page uses the source table that has the following characteristics:

- It is named after the record type of the list, preceded by the word "my." Examples of source tables for list pages are **My Customer**, **My Vendor**, and **My Item**. The name is always singular.

- It contains only two fields: **User ID** that specifies to which user the record belongs, and another field that relates to the specific record of the type that list page shows. For example, the **My Customer** table contains the **Customer No.** field.
- Its primary key always contains both fields.

When a list page is opened, the OnOpenPage trigger sets the range on the **User ID** field to the current user. This guarantees that the page only shows the records that belong to the current user. When a new record is inserted in the page, the **User ID** field is automatically populated with the ID of the current user.

Each list page must include an action named Open that opens the appropriate page for managing the record type that is shown in the list. For example, clicking Open in the **My Customer** list opens the **Customer Card** page.

Charts

Charts are graphical representations of business data combinations that you can view in list places, FactBoxes, and Role Centers. A Role Center may contain one or more charts that display information that is relevant to a profile.

The "SO per Location Chart" figure shows a chart that users can add to their Role Centers.

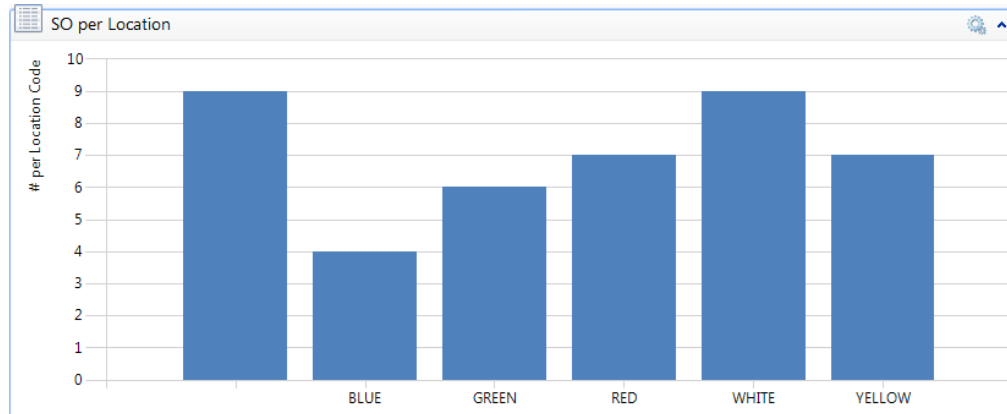


FIGURE 9.7: THE SO PER LOCATION CHART

Charts are not defined as objects in the development environment, but as records in the **Chart** table. To access the list of available charts, click **Departments > Administration > Application Setup > RoleTailored Client > Charts**. You create charts by defining data and chart properties in the **Generic Chart Setup** page.

The "Generic Card Setup Page" figure shows the SO per Location chart in the **Generic Chart Setup** page.

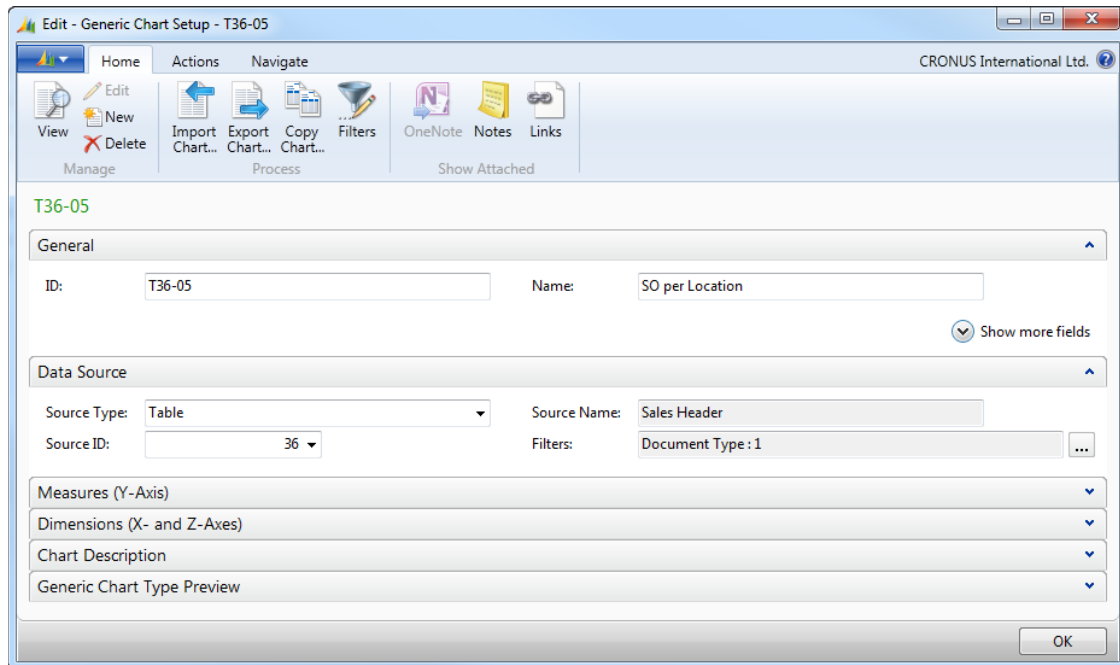


FIGURE 9.8: GENERIC CARD SETUP PAGE

Profiles

Profiles link Role Centers to users and align with the roles and responsibilities that users have in an organization.

To manage profiles, click **Departments > Administration > Application Setup > RoleTailored Client > Profiles**.

Use the **Profiles** page for an overview of all profiles.

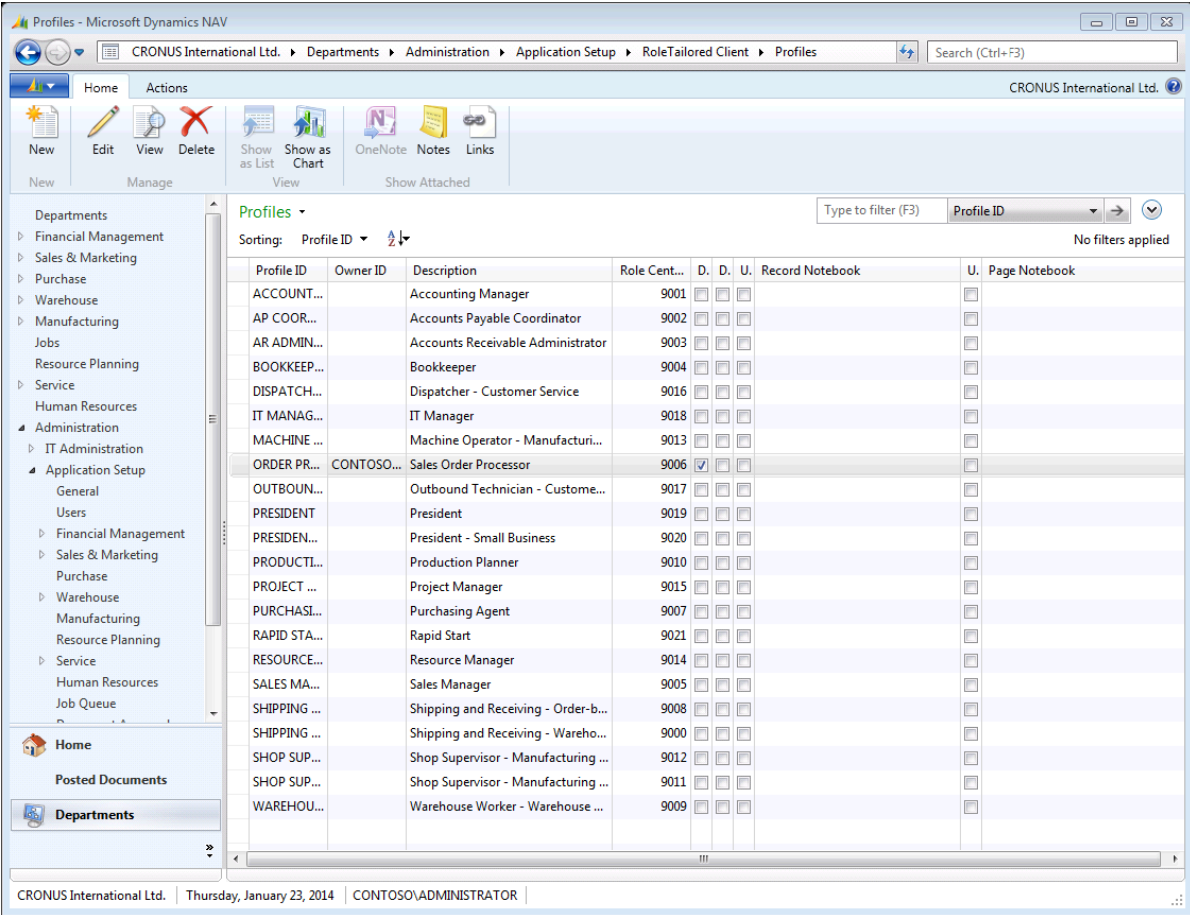


FIGURE 9.9: PROFILES LIST WINDOW

Use the **Profile Card** page to create new profiles or change existing ones.

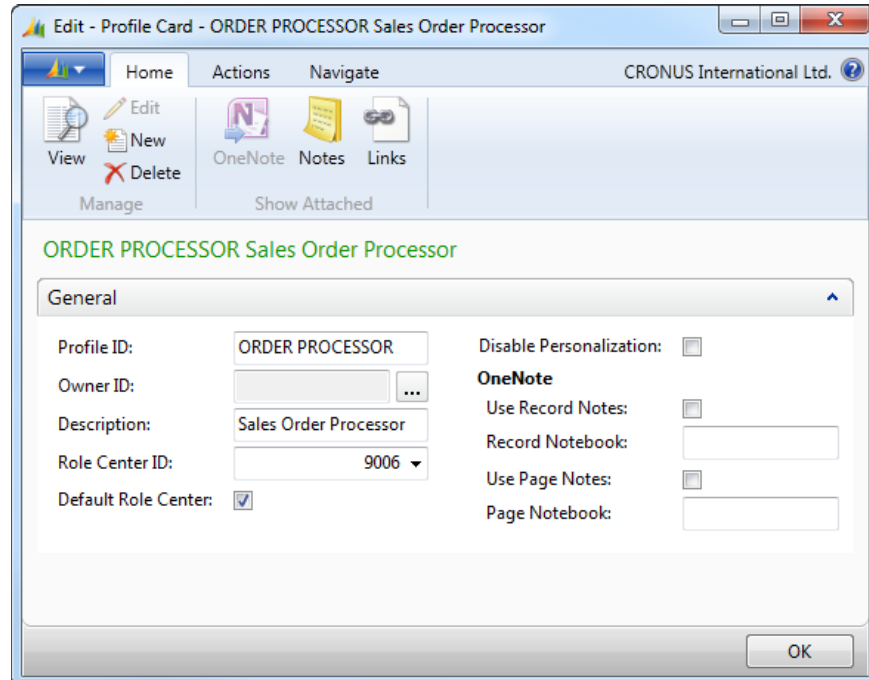


FIGURE 9.10: SALES ORDER PROFILE IN THE PROFILE CARD PAGE

Seminar Manager Role Center

Managing seminars and seminar registrations is a core process of CRONUS International Ltd. There are many employees in their organization who manage seminar information, organize new seminars, manage instructors and rooms, and perform other seminar-related activities.

To enable CRONUS employees to be as productive as possible, you must provide a Role Center that makes the most frequently used features available to users in as few clicks as possible, and hides any unnecessary information.

Solution Design

CRONUS International Ltd. functional requirements do not specifically mention Role Center functionality. However, there is a nonfunctional requirement that the solution must let users be as productive as possible by reducing the amount of searching and filtering.

Role Centers are one of the core productivity features of Microsoft Dynamics NAV 2013. It aligns with the following goals of the nonfunctional requirement:

- It helps users be as productive as possible.
- It significantly reduces time that is spent searching features.
- It significantly reduces time that is spent filtering lists.

To provide a consistent user experience with other application areas, you must provide a **Seminar Role Center** page that includes all features that are typically found on Role Centers. These features let users quickly enter and process information.

At a minimum, the **Seminar Manager Role Center** page must contain the following features:

- Include the Activities part with cues that indicate the number of documents in various statuses.
- Include the **My Seminars** and **My Customers** lists.
- Include links in the **Home** menu to enable users to access master data (seminars, instructors, rooms, customers, and contacts) and documents (registrations).
- Include the **Posted Documents** menu to enable users to access posted information for seminars.
- Enable users to create new seminar registration and invoice documents directly from the Role Center.
- Enable users to run the invoice creation batch job.
- Enable users to run the **Navigate** page.
- Enable users to print the **Participant List** report.

Development

A Role Center is not a single page object. It depends on several other objects, including pages and tables, to provide users with familiar functionality.

Tables

To enable the Role Center functionality, you must create the following tables.

Table	Remarks
123456740 Seminar Cue	Contains the flow fields for the cues on the Activities page part of the Role Center page.
123456741 My Seminar	Contains the list of seminars that each user has included in the My Seminars list.

Pages

You must create the following pages:

Page	Remarks
123456740 Seminar Manager Role Center	The Role Center page.

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Page	Remarks
123456741 Seminar Manager Activities	The Activities page part for the Role Center page.
123456742 My Seminars	A list part for the Role Center page that lets users manage their list of favorite seminars.

The “Seminar Manager Role Center” figure shows the Seminar Manager Role Center with all its components.

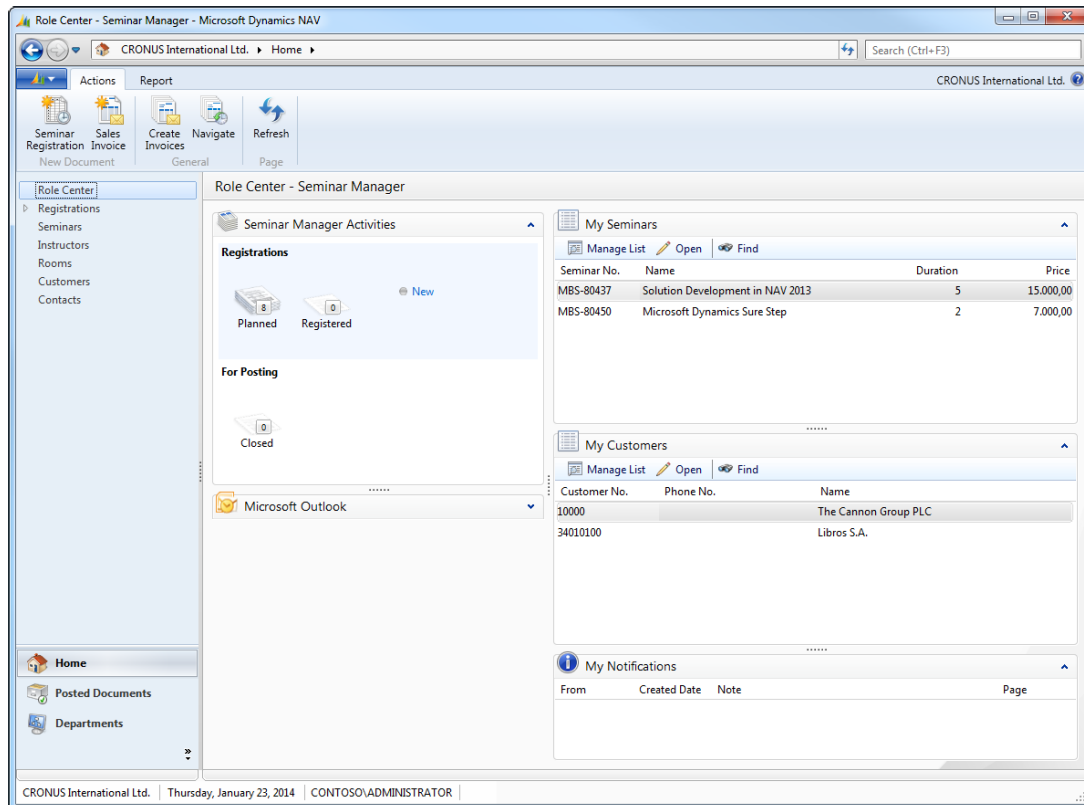


FIGURE 9.11: SEMINAR MANAGER ROLE CENTER

Lab 9.1: Create the Seminar Manager Role Center

Scenario

You are a developer at the company that is implementing Microsoft Dynamics NAV 2013 for CRONUS International Ltd. Your task is to develop the **Role Center** page for the Seminar Manager role. The **Role Center** page must contain the functionality that is normally found in a Microsoft Dynamics NAV 2013 **Role Center** page.

Exercise 1: Seminar Activity Page

Exercise Scenario

Start by creating the supporting objects. The first supporting object is the **Activities** page that is used as a page part on the **Seminar Manager Role Center** page. The **Activities** page uses a source table. Therefore, you must first develop the table, and then the page.

Task 1: Create the Cue Table

High Level Steps

1. Create the **Seminar Cue** table.
2. Set the flow field properties on the appropriate fields to indicate the count of planned, registered, and closed seminar registrations.

Detailed Steps

1. Create the **Seminar Cue** table.
 - a. Create a new table, and save it as 123456740, **Seminar Cue**.
 - b. Define the following fields in the table.

Field No.	Field Name	Data Type	Length
1	Primary Key	Code	10
2	Planned	Integer	
3	Registered	Integer	
4	Closed	Integer	

2. Set the flow field properties on the appropriate fields to indicate the count of planned, registered, and closed seminar registrations.
 - a. Set the properties on the **Planned** field to be the flow field, and to show the number of seminar registrations in status Planned.



Note: `Count("Seminar Registration Header" WHERE (Status=CONST(Planning)))`

- b. Set the properties on the **Registered** field to be the flow field, and to show the number of seminar registrations in status Registration.



Note: `Count("Seminar Registration Header" WHERE (Status=CONST(Registration)))`

- c. Set the properties on the **Closed** field to be the flow field, and to show the number of seminar registrations in status Closed.



Note: `Count("Seminar Registration Header" WHERE (Status=CONST(Closed)))`

- d. Compile, save, and then close the table.

Task 2: Create the Activities Page

High Level Steps

1. Create the **Seminar Manager Activities** page.
2. Define two cue groups: **Registrations** and **For Posting**.
3. Add fields to cue groups.
4. Add an action to the Registrations cue group to enable users to create new seminar registrations.
5. Add code to the OnOpenPage trigger to make sure that there is always one record in the source table.

Detailed Steps

1. Create the **Seminar Manager Activities** page.
 - a. Create a new page for the **Seminar Cue** table, with the CardPart Page Wizard.
 - b. Finish the wizard without adding any fields.
 - c. Save the page as 123456741, **Seminar Manager Activities**.
2. Define two cue groups: **Registrations** and **For Posting**.
 - a. Under the ContentArea container, add the following controls.

Type	SubType	Caption
Group	CueGroup	Registrations
Group	CueGroup	For Posting

- b. Make sure that you indent both cue group controls at the same level, which is one level under the parent container.

3. Add fields to cue groups.
 - a. Add field controls for the **Planned** and **Registered** fields to the Registrations cue group.
 - b. Add field controls for the **Closed** field to the For Posting cue group.
 - c. Make sure that all controls are properly indented under their parent cue groups.

The "Page 123456741, Seminar Manager Activities in the Page Designer" figure shows the **Page Designer** window for the **Seminar Manager Activities** page, with all controls correctly aligned and indented.

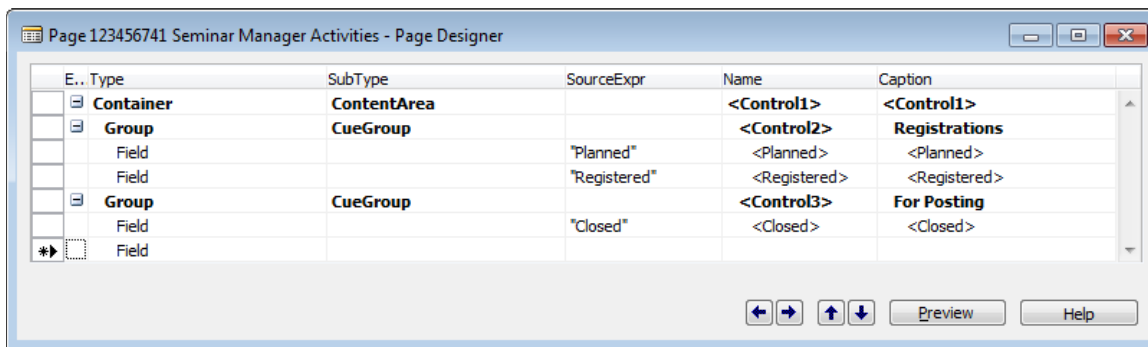


FIGURE 9.12: PAGE 123456741, SEMINAR MANAGER ACTIVITIES IN THE PAGE DESIGNER

- d. For each field control (Planned, Registered, and Closed), set the DrillDownPageID property to "Seminar Registration List".
4. Add an action to the Registrations cue group to enable users to create new seminar registrations.
 - a. Select the Registrations cue group, and then click **View > Control Actions**.
 - b. In the **CueGroup - ActionDesigner** window on the first row, set **Type** to Action, and in the Caption column, enter "New".
 - c. Set the following properties for the New action.

Property	Value
RunPageMode	Create
RunObject	Page Seminar Registration

5. Add code to the OnOpenPage trigger to make sure that there is always one record in the source table.
 - a. Open the C/AL Editor for the page.
 - b. In the OnOpenPage trigger, enter the following code.

```

RESET;

IF NOT GET THEN BEGIN

    INIT;

    INSERT;

END;
    
```

- c. Compile, save, and then close the page.

Exercise 2: My Seminars Page

Exercise Scenario

The next supporting Role Center object is the **My Seminars** page. This page also uses a source table. Therefore, before developing the page, you must first develop the underlying table. After you create the **My Seminar** table, you create the **My Seminars** page.

Task 1: Create the My Seminar Table

High Level Steps

1. Create the **My Seminar** table.
2. Define table relations on fields.
3. Define the appropriate primary key for the **My Seminar** table.

Detailed Steps

1. Create the **My Seminar** table.
 - a. Create a new table, and save it as 123456741, **My Seminar**.
 - b. Define the following fields in the table.

Field No.	Field Name	Data Type	Length
1	User ID	Code	50
2	Seminar No.	Code	20

2. Define table relations on fields.
 - a. On the **User ID** field, set the TableRelation property to User."User Name".
 - b. On the **Seminar No.** field, set the TableRelation property to "Seminar".

3. Define the appropriate primary key for the **My Seminar** table.
 - a. Click **View > Keys**.
 - b. In the Key column, enter "User ID,Seminar No."
 - c. Compile, save, and then close the table.

Task 2: Create the My Seminars Page

High Level Steps

1. Create the **My Seminars** page. The page must show only records that belong to the current user.
2. Define a variable for the **Seminar** table, and add more fields from the **Seminar** table to the **My Seminars** page.
3. Enter code in appropriate triggers to make sure that the Seminar record always points to the record that is specified in the **Seminar No.** field of the current My Seminar record.
4. Add the **OpenSeminarCard** function to run the **Seminar Card** page for the current record.
5. Define an action to run the **OpenSeminarCard** function.

Detailed Steps

1. Create the **My Seminars** page. The page must show only records that belong to the current user.
 - a. Create a new page for the **My Seminar** table, with the ListPart Page Wizard.
 - b. Add the **Seminar No.** field by using the wizard, and finish the wizard.
 - c. In the OnOpenPage trigger, enter the following code.

```
SETRANGE("User ID",USERID);
```

- d. Save the page as 123456742, **My Seminars**.
2. Define a variable for the **Seminar** table, and add more fields from the **Seminar** table to the **My Seminars** page.
 - a. Define a new global variable of type Record for the **Seminar** table, and name it Seminar.
 - b. Under the Seminar No. field control, add the following controls.

Type	SourceExpr	Name	Caption
Field	Seminar.Name	<Control4>	Name
Field	Seminar."Seminar Duration"	<Control5>	Duration
Field	Seminar."Seminar Price"	<Control6>	Price

The "Page 123456742, My Seminars" figure shows the **Page Designer** window for the **My Seminars** page with all controls correctly aligned and indented.

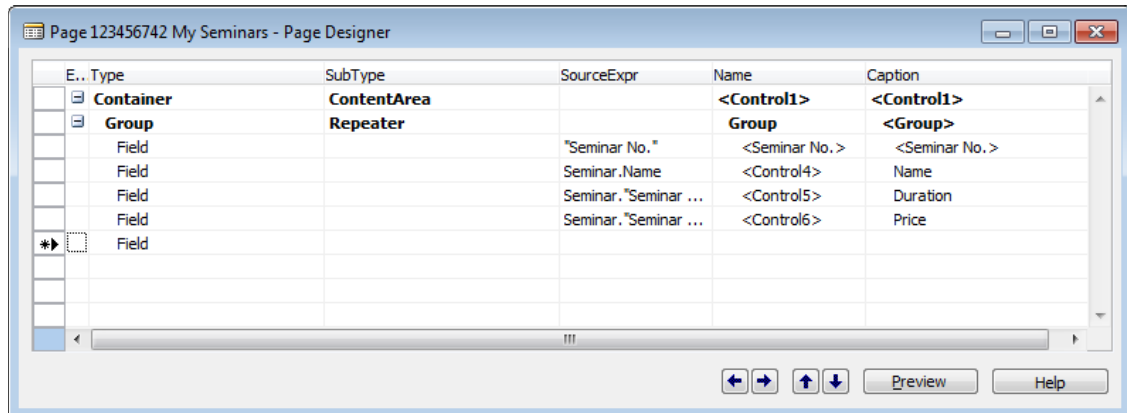


FIGURE 9.13: PAGE 123456742, MY SEMINARS

3. Enter code in appropriate triggers to make sure that the Seminar record always points to the record that is specified in the **Seminar No.** field of the current My Seminar record.
 - a. In the **C/AL Globals** window, define a new function, and name it **GetSeminar**. The function does not receive parameters.
 - b. In the function trigger for the **GetSeminar** function, enter the following code.

```
CLEAR(Seminar);
IF Seminar.GET("Seminar No.") THEN;
```

- c. In the OnAfterGetRecord trigger, enter the following code.

```
GetSeminar;
```

- d. Enter the same code in the OnValidate trigger of the Seminar No. field control.
 - e. In the OnNewRecord trigger, enter the following code.

```
CLEAR(Seminar);
```

4. Add the **OpenSeminarCard** function to run the **Seminar Card** page for the current record.
 - a. In the **C/AL Globals** window, define a new function, and name it **OpenSeminarCard**. The function does not receive parameters.
 - b. In the function trigger for the **OpenSeminarCard** function, enter the following code.

```
IF Seminar.GET("Seminar No.") THEN
PAGE.RUN(PAGE::"Seminar Card",Seminar);
```

5. Define an action to run the **OpenSeminarCard** function.
 - a. Show the Actions Designer for page actions.
 - b. In the SubType column, select ActionItems.
 - c. On the new row, in the Caption column, enter "Open."

The "Action Designer for the My Seminars Page" figure shows how the **Action Designer** should look now.

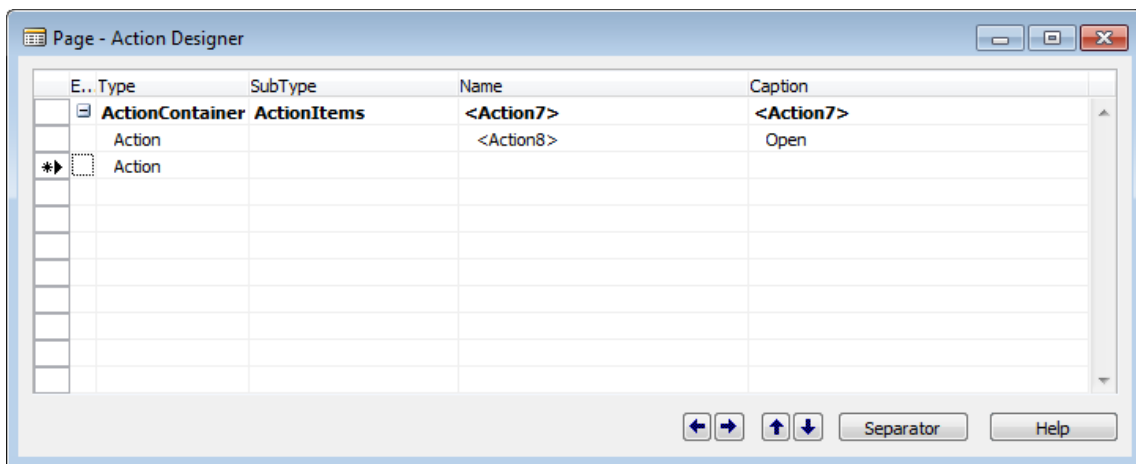


FIGURE 9.14: ACTION DESIGNER FOR THE MY SEMINARS PAGE

- d. On the Open action, define the following properties.

Property	Value
Image	Edit
ShortCutKey	Return

- e. In the OnAction trigger for the Open action, enter the following code.

```
OpenSeminarCard;
```

- f. Compile, save, and then close the page.

Exercise 3: The Role Center Page

Exercise Scenario

After you have completed development of all supporting tables and pages, you are ready to define the **Seminar Manager Role Center** page. For this page, you must design the page layout, and arrange various page parts in a manner that is consistent with standard Microsoft Dynamics NAV 2013 **Role Center** pages. Then you must define the navigation pane elements. This includes the Home items and any additional menus. Finally, you must define the ribbon actions for the **Role Center** page.

Task 1: Create the Seminar Manager Role Center Page

High Level Steps

1. Create the **Seminar Manager Role Center** page.
2. Add relevant controls to the **Seminar Manager Role Center** page.

Detailed Steps

1. Create the **Seminar Manager Role Center** page.
 - a. Create a new page of type RoleCenter.
 - b. Save the page as 123456740, **Seminar Manager Role Center**.
2. Add relevant controls to the **Seminar Manager Role Center** page.
 - a. Add two group controls, and then indent them one level under the RoleCenterArea control.
 - b. To the first group, add a page part and a system part control.
 - c. For the page part control, set properties to show the **Seminar Manager Activities** page.



Note: Set the PagePartID property.

- d. For the system part control, set properties to show the Outlook part.
-



Note: Set the SystemPartID property.

- e. To the second group, add the following part controls.

SubType	Part ID
Page	My Seminars
Page	My Customers
Page	Connect Online

SubType	Part ID
System	MyNotes

f. For the **Connect Online** part, set the **Visible** property to FALSE.

The "Page 123456740 Seminar Manager Role Center in Page Designer" figure shows the **Seminar Manager Role Center** page in the **Page Designer** window.

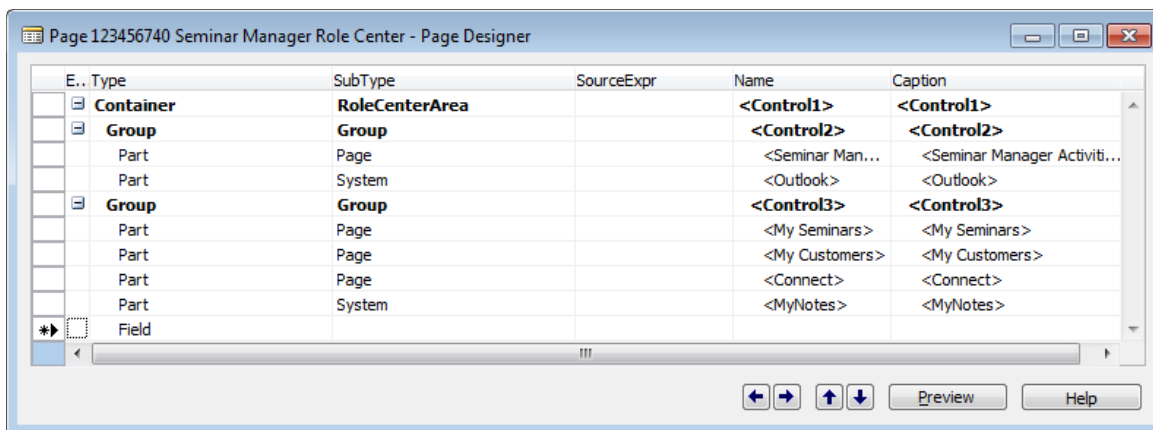


FIGURE 9.15: PAGE 123456740 SEMINAR MANAGER ROLE CENTER IN PAGE DESIGNER

g. Save the page.

Task 2: Add Home Items

High Level Steps

1. Define actions for home items to include list pages for relevant **Seminar Management** pages.

Detailed Steps

1. Define actions for home items to include list pages for relevant **Seminar Management** pages.
 - a. Access the Action Designer for the **Seminar Manager Role Center** page actions.
 - b. Define a Homeltems container.
 - c. Add the following actions to the Homeltems container.

Caption	RunObject
Seminar Registrations	Page Seminar Registration List
Seminars	Page Seminar List
Instructors	Page Resource List
Rooms	Page Resource List
Customers	Page Customer List
Contacts	Page Contact List

- d. For the Instructors action, set the RunPageView property to "WHERE(Type=CONST(Person))".
- e. For the Rooms action, set the RunPageView property to "WHERE(Type=CONST(Machine))".
- f. Save the page.

Task 3: Add Activity Buttons

High Level Steps

1. Add the **Posted Documents** activity button.
2. Add page links for posted documents to the **Posted Documents** activity button.

Detailed Steps

1. Add the **Posted Documents** activity button.
 - a. In the **Action Designer** window for the **Seminar Manager Role Center** page, define a new action container of type ActivityButtons.
 - b. Under the ActivityButtons container, add an action group, and set its caption to "Posted Documents".
 - c. On the Posted Documents action group, set the Image property to "RegisteredDocs".
2. Add page links for posted documents to the **Posted Documents** activity button.
 - a. Under the **Posted Documents** action group, add the following actions.

Caption	RunObject
Posted Seminar Registrations	Page Posted Seminar Reg. List
Posted Sales Invoices	Page Posted Sales Invoices
Registers	Page Seminar Registers

Task 4: Add Ribbon Actions

High Level Steps

1. Define actions to appear in the New Document group of the ribbon on the **Seminar Manager Role Center** page.
2. Define actions to appear in the General group of the ribbon on the **Seminar Manager Role Center** page.
3. Define an action for the **Report** tab of the ribbon on the **Seminar Manager Role Center** page.

Detailed Steps

1. Define actions to appear in the New Document group of the ribbon on the **Seminar Manager Role Center** page.
 - a. In the **Action Designer** window for the **Seminar Manager Role Center** page, define a new action container of type NewDocumentItems.
 - b. Under the NewDocumentItems container, add the following actions.

Caption	RunObject	Image
Seminar Registration	Page Seminar Registration	NewTimesheet
Sales Invoice	Page Sales Invoice	NewInvoice

- c. For both actions, set the RunPageMode property to Create.

2. Define actions to appear in the General group of the ribbon on the **Seminar Manager Role Center** page.
 - a. In the Action Designer window for the **Seminar Manager Role Center** page, define a new action container of type ActionItems.
 - b. Under the ActionItems container, add the following actions.

Caption	RunObject	Image
Create Invoices	Report Create Seminar Invoices	CreateJobSalesInvoice
Navigate	Page Navigate	Navigate

3. Define an action for the **Report** tab of the ribbon on the **Seminar Manager Role Center** page.
 - a. In the Action Designer window for the **Seminar Manager Role Center** page, define a new action container of type Reports.
 - b. Under the Reports container, do the following:
 - Add an action.
 - Set its caption to "Participant List".
 - Set its RunObject property to "Report Seminar Reg.- Participant list".
 - Set its Image property to "Report".
 - c. Compile, save, and then close the page.

Task 5: Define a Profile for the Seminar Manager

High Level Steps

1. In the Microsoft Dynamics NAV 2013 client for Windows, define a new profile and configure it for use in the **Seminar Manager Role Center** page.

Detailed Steps

1. In the Microsoft Dynamics NAV 2013 client for Windows, define a new profile and configure it for use in the **Seminar Manager Role Center** page.
 - a. Start Microsoft Dynamics NAV 2013 client for Windows.
 - b. In the **Search** text box, enter "Profiles".
 - c. In the search results, click **Profiles**.



Note: Or, browse to **Departments > Administration > Application Setup > RoleTailored Client > Profiles**.

- d. Click **New**.
- e. In the **New – Profile Card** window, enter the following information.

Field	Value
Profile ID	SEMINAR MANAGER
Description	Seminar Manager
Role Center ID	123456740

- f. Select the **Default Role Center** check box.

The "Seminar Manager Profile Card" figure shows the **Profile Card** page for the Seminar Manager profile.

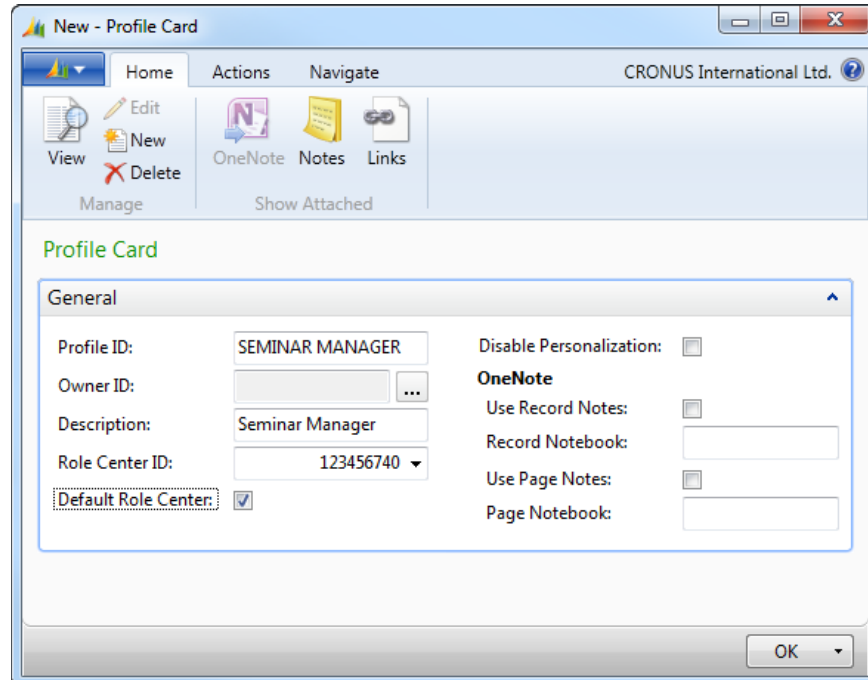


FIGURE 9.16: SEMINAR MANAGER PROFILE CARD

- g. Restart the Microsoft Dynamics NAV 2013 client for Windows.

MenuSuite Object Type

In Microsoft Dynamics NAV 2013, you can create MenuSuite objects. These objects contain menu content that is displayed in department pages of the Microsoft Dynamics NAV 2013 client for Windows. The MenuSuite object that is provided in Microsoft Dynamics NAV is a basic MenuSuite object that you can change. You can also create new MenuSuite objects from the basic MenuSuite object. Each menu in the basic MenuSuite represents a department such as Financial Management, Jobs, and Manufacturing. Each department contains menu items that are specific to that department area.

Fundamentals

A *MenuSuite* is a set of menus, groups, and menu items. Each menu contains content for a specific application area, such as Financial Management, Jobs, or Manufacturing. You design MenuSuites in the Navigation Pane Designer in the Microsoft Dynamics NAV 2013 Development Environment.

A MenuSuite object has the following characteristics:

- It consists of a set of menus.
- A menu contains a collection of menu nodes, which are displayed in the **Departments** page.

- It is organized in a tree structure.
- A menu node can be either a group or a menu item.
- A menu node has a Globally Unique Identifier (GUID) and other properties.
- A group contains a collection of menu nodes.
- A menu item is the lowest level in the tree. When you click a menu item, its associated application object runs.

Design Levels

For each MenuSuite object that you create, you select a design level. Design levels are permissions that allow different roles to create MenuSuite objects for specific functions. The design level that you can work in depends on your active license. In other words, you can only design MenuSuite objects or create MenuSuites that your active license and permissions allow. For example, if your active license enables you to localize and you design an application that will be localized, your design level is at the Country or Region level. If you are a developer working at a Microsoft Certified Partner, you might design a MenuSuite object at the Partner level.

Unlike any other application objects, the ID and Name properties of a MenuSuite object are determined by the development environment depending on the design level. The following table shows the predefined MenuSuite IDs and their corresponding levels.

ID	Level	Remarks
1010	Dept – MBS	<p>The base MenuSuite object that is defined by Microsoft. It defines the default Departments menu of standard Microsoft Dynamics NAV 2013, and it includes all W1 (worldwide) version objects. This object is the same for all local versions of Microsoft Dynamics NAV 2013.</p> <p>Any MenuSuite that you create inherits from this base design level or a design level that is inherited from this base design level.</p>

Module 9: Role Tailoring

ID	Level	Remarks
1020	Dept – Region	Includes menus that are defined by Microsoft for any non-W1 functionality that is provided for a specific region. There is no strict definition of a region, and MenuSuite 1020 is not necessarily present in all localized versions. Regional functionality may include some specific functions or features that are the same for several countries. They otherwise have different local functionality.
1030	Dept – Country	Includes menus for any local functionality that is specific to a single country. This MenuSuite is typically defined by Microsoft or another party that is officially authorized to develop localizations.
1051..1060	Dept – Add-on	Includes menus for any ISV solutions or third-party add-on modules that your application uses. This MenuSuite is typically defined by the partner company that implements the add-on solution for its customer. There may be up to ten add-on MenuSuite objects.
1080	Dept – Partner	Includes menus for any customizations that are provided by a single partner that this partner reuses at multiple company deployments of Microsoft Dynamics NAV 2013.
1090	Dept – Company	Includes menus for any customizations that are provided for a single customer company, such as CRONUS International Ltd.

You determine the design level of a MenuSuite at the same time that you create it. When you save a MenuSuite, its design level is embedded in its ID and Name properties.

The **Design Level** window shows you the list of levels. You must select the level for the new MenuSuite.

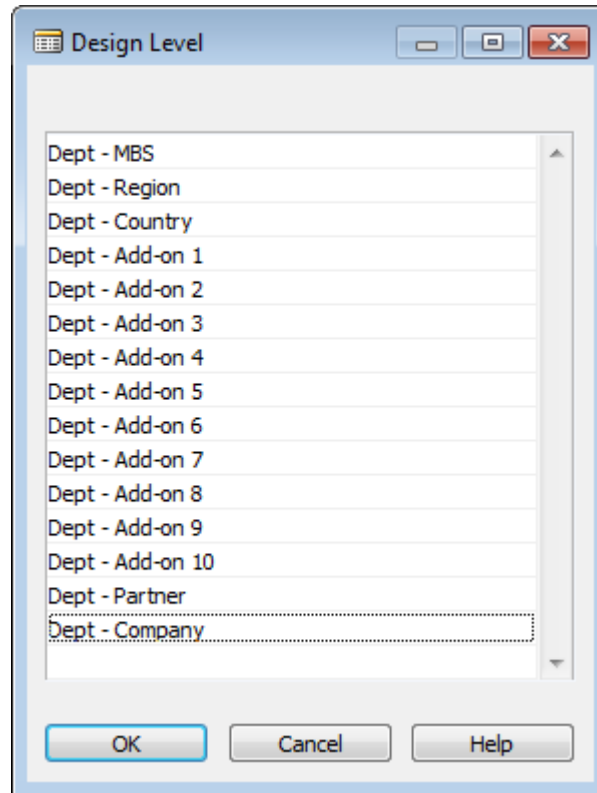


FIGURE 9.17: THE DESIGN LEVEL WINDOW

When you create a MenuSuite object, it inherits from the design level that is above the level that you selected. For example, if you design at the Region level, your MenuSuite object inherits all menus and menu items from the Dept - MBS level. Changes that you make to a MenuSuite object that you create are stored as the differences between the MenuSuite object at the Dept - MBS level and the Dept - Region level. The most basic design level is the Dept - MBS level. The highest design level is the Dept - Company level. You can create only one MenuSuite object for each level in an application. The Add-on level is the exception. It can have no more than ten instances of MenuSuite objects. At design time, the header area of Navigation Pane Designer displays the design level of the MenuSuite object.

Create and Design MenuSuites

Every new MenuSuite object that you create is designed at one of the design levels. If the Dept - MBS MenuSuite is the only MenuSuite in Object Designer, the MenuSuite object that you create inherits from the base 1010 Dept - MBS MenuSuite object. If there are other MenuSuite objects in Object Designer, the new MenuSuite inherits from one of the MenuSuite objects in Object Designer. The new MenuSuite object inherits from the MenuSuite object in the design level that is above the design level that you selected for the new MenuSuite object.

To create a new MenuSuite in the Object Designer, click **MenuSuite**, and then click **New**. To design an existing MenuSuite, select it, and then click **Design**.



Note: You can only have one Navigation Pane Designer open at the same time. Before you can create a new MenuSuite or edit another one, first make sure that the Navigation Pane Designer is closed.

Menus

Menus in the Navigation Pane Designer correspond to departments in the **Departments** menu. In the Navigation Pane Designer, each menu is displayed as a menu button with an icon and a caption. When you design MenuSuites, the Navigation Pane Designer header indicates the design level and the name of the menu that you are currently designing.

The "Navigation Pane Designer" image shows the Navigation Pane Designer for the **Financial Management** menu in the Company design level.

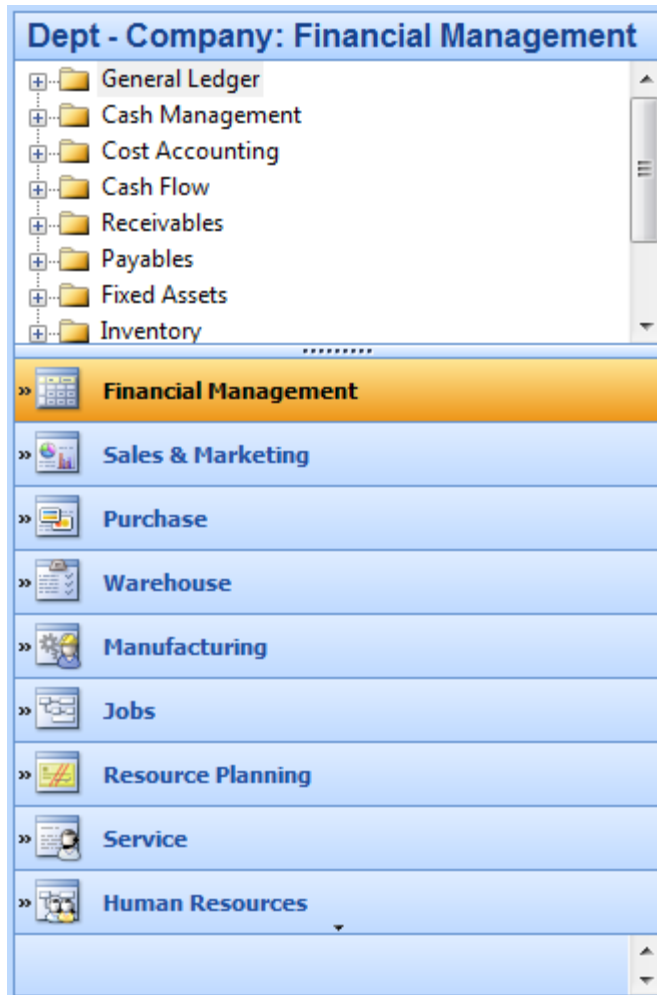


FIGURE 9.18: NAVIGATION PANE DESIGNER

Manage menus in the Navigation Pane Designer by right-clicking any of the existing menus, and then clicking any of the available options.

The “Managing Menus in the Navigation Pane Designer” image shows the shortcut menu in the Navigation Pane Designer after right-clicking any of the menus.

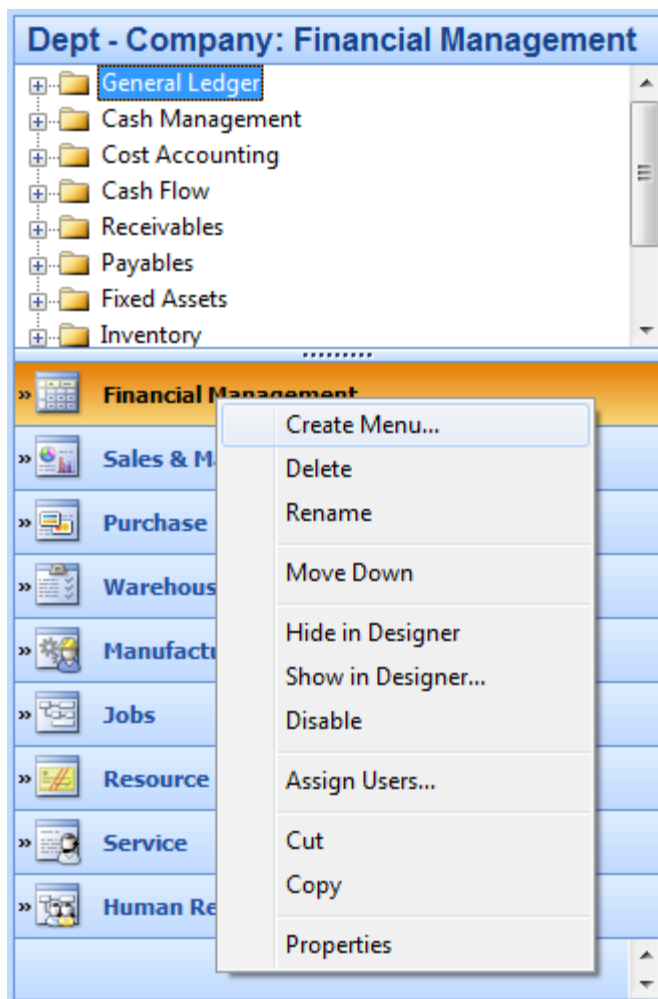


FIGURE 9.19: MANAGING MENUS IN THE NAVIGATION PANE DESIGNER

The following table explains the available options.

Option	Remarks
Create Menu...	Creates a new menu.
Delete	Deletes the selected menu.
Rename	Changes the caption of the selected menu.
Move Up / Down	Moves the selected menu up or down. Only the options that you can click are displayed.
Hide in Designer	Hides the menu from the Navigation Pane Designer. This does not hide the department from the Departments menu.
Show in Designer...	Shows the list of all hidden menus and lets you display the menus that you select.

Option	Remarks
Properties	Displays the properties for the menu. The properties include the Caption, CaptionML, and the Bitmap. The Bitmap property defines the icon that is shown next to the department in the Departments menu. Valid values for it are 0 to 15.



Note: *The Disable and Assign Users options are obsolete in Microsoft Dynamics NAV 2013 and have no effect.*

In the list of menu buttons, all menus (departments) that are inherited have the » symbol on the menu button. This symbol comes in front of the name of the menu on the menu button. Any menus that you created at the current design level do not have this symbol.

The “Seminar Management Menu” image shows the Navigation Pane Designer with the new **Seminar Management** menu that was created at the Company design level. The **Seminar Management** menu does not show the » symbol on the menu button to the left of the icon, whereas all other menus do.



FIGURE 9.20: SEMINAR MANAGEMENT MENU

Groups and Items

You can create groups and items in a menu. *Groups* are categories of items and they define the navigation hierarchy. *Items* are actions that users can click. Items run different application objects.

To manage groups or items, right-click the Navigation Pane Designer anywhere in the design area below the header.

The “Managing Menus in the Navigation Pane Designer” image shows the shortcut menu in the Navigation Pane Designer after you right-click any groups or items, or if you right-click in the blank design area below the header.

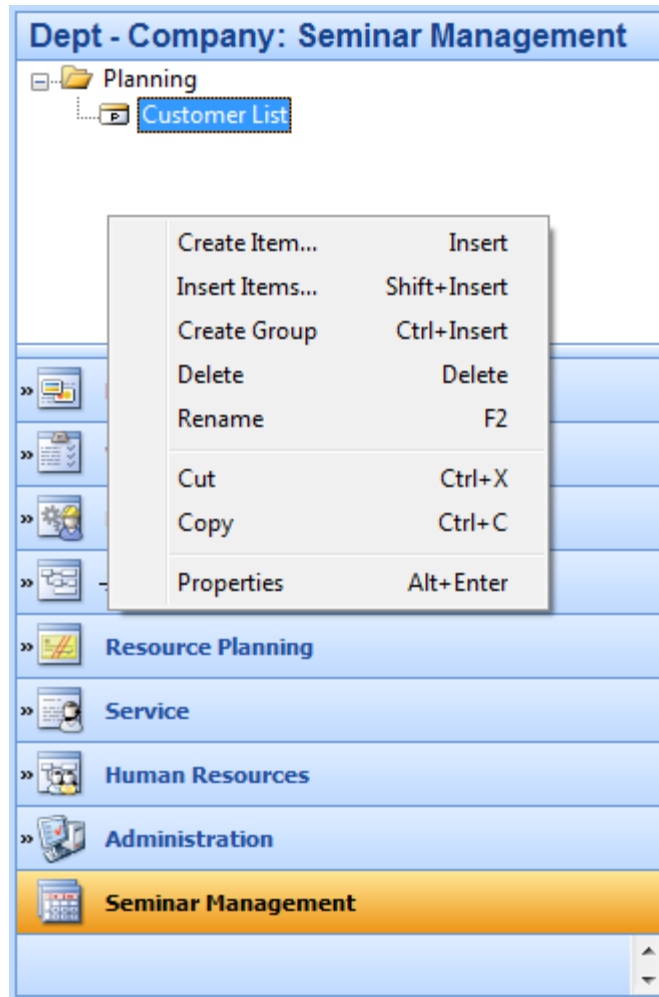


FIGURE 9.21: MANAGING MENUS IN THE NAVIGATION PANE DESIGNER

The following table explains the options.

Option	Remarks
Create Item...	Opens the Create Item window where you can define the item properties for a new item.
Insert Items...	Opens the Insert Items window where you can select from existing items in other menus. You can add items as a copy in the current group in the current menu.
Create Group	Creates a new group.
Delete	Deletes the currently highlighted item or group.

Option	Remarks
Properties	Shows the Item Properties window that lets you define item properties.

The **Create Item** and **Item Properties** windows let you define the same information for an item.

The “Item Properties” image shows the **Item Properties** window.

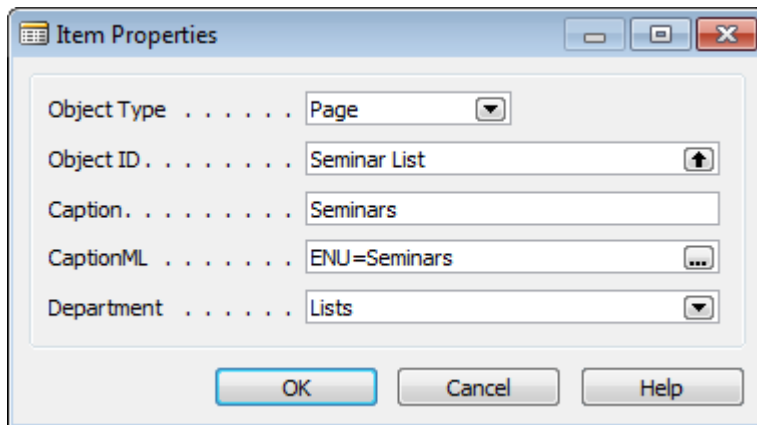


FIGURE 9.22: ITEM PROPERTIES WINDOW

You can define the following properties for each item.

Property	Remarks
Object Type	The type of the object that the item runs. It can be one of the following: <ul style="list-style-type: none"> • Report • XMLport • Codeunit • Page • Query
Object ID	The ID or name of the object that the item runs. You can look up the object or enter its ID or name manually.
Caption	The caption of the object in the currently active language. The caption is suggested automatically when you select the Object ID. However, you can later change it.

Property	Remarks
CaptionML	The multilanguage caption of the object. Similar to the Caption, it is suggested automatically. However, you can change it.
Department	The department category where the item appears in a Department page, and also the icon that is shown with the item in the search results when you use the Search field. It can have one of the following values: <ul style="list-style-type: none">• Lists• Tasks• Reports and Analysis• Documents• History• Administration

The "Departments" image shows the **Departments** page. There are menus on the first level. These menus map to the departments. The first-level groups of each department are shown together with the department. You can select by category after the list of the departments. Each department's categories are represented by the available items that are shown in the list.

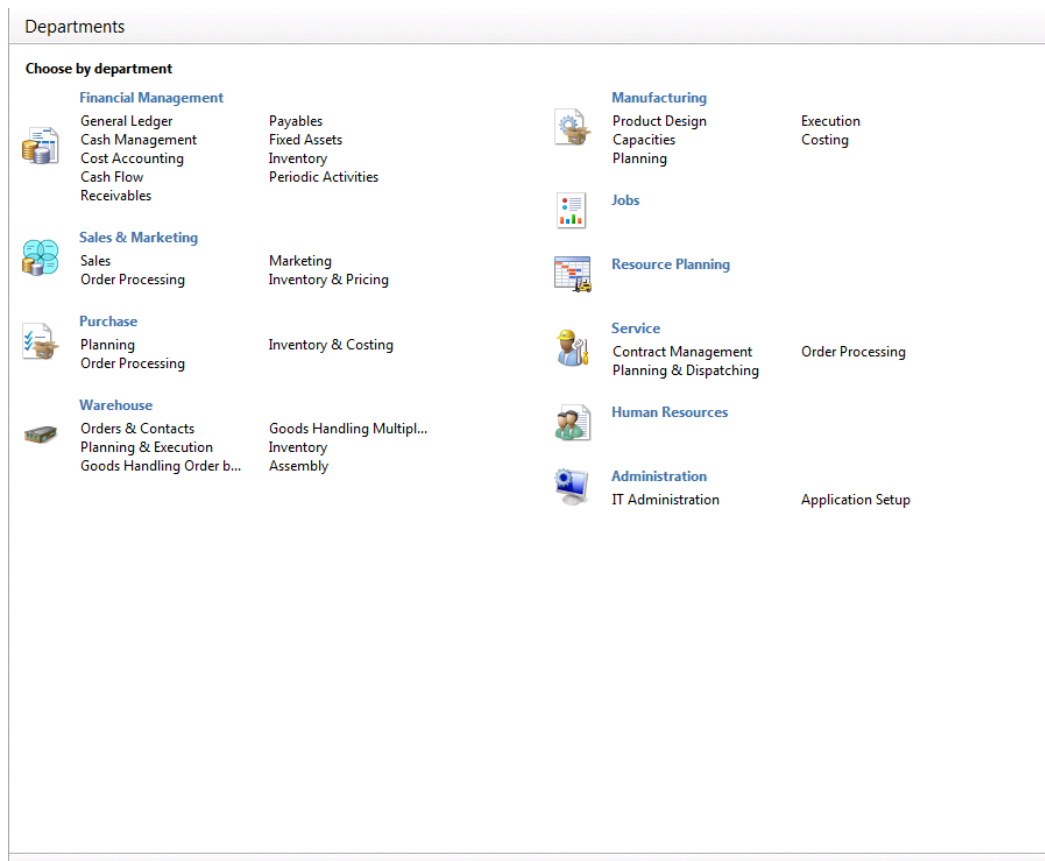


FIGURE 9.23: DEPARTMENTS WINDOW

Search

Microsoft Dynamics NAV 2013 client for Windows lets you search for application objects by using the **Search** field in the upper-right corner of the address bar. When you start to type characters in the **Search** field, a drop-down list shows object names that contain the characters that you enter. The drop-down list changes as you type more characters. Select the correct object from the list when it is displayed.

The second column in the drop-down list shows the navigation paths to the found objects. You can use the navigation to move to the **Departments** page where that page exists.

The Search feature can find only objects that can be accessed from the navigation pane. This includes any actions that are available in the **Home** menu, any of the additional menus (menu buttons) in the Role Center, and any actions in Departments.

Seminar Management Department Page

Provide a Role Center for users to work with a new application area as a way to increase user productivity. However, the Role Center alone is not the only task that is available to improve the user experience with the Microsoft Dynamics NAV 2013 client for Windows.

Many users do not belong to the seminar manager role, and use different Role Centers than the Seminar Manager Role Center. For example, accountants generally use the general ledger functionality, and accounts payable employees usually access the purchases and payables application area. However, these users may require occasional access to seminar-related information that their role centers do not provide.

To give all users access to the Seminar Management application area, you must define the **Seminar Management** department page. By providing this page, you make sure that every user can access the Seminar Management functionality in Departments, and that all objects that are related to Seminar Management can be accessed by using the **Search** field.

Solution Design

Similar to Role Center functionality, CRONUS International Ltd. functional requirements do not explicitly mention departments. However, the following nonfunctional requirement applies: The solution must be consistent, user-friendly, and easy to learn and to use. Any custom-built functionality must follow the standards, principles, and best practices of Microsoft Dynamics NAV 2013, and must seamlessly integrate into the standard application.

If you do not provide a department page for Seminar Management, your solution does not meet the goals of this requirement. Therefore, you must develop a new MenuSuite object that contains the menu definition for the **Seminar Management** department page.

Development

Your goal is to develop the **Seminar Management** department page that integrates in the **Departments** page in Microsoft Dynamics NAV 2013. To do this, you must develop the new **Seminar Management** menu in a new company-level MenuSuite.

The “Seminar Management menu in the Navigation Pane Designer” image shows the Navigation Pane Designer for the **Seminar Management** menu.

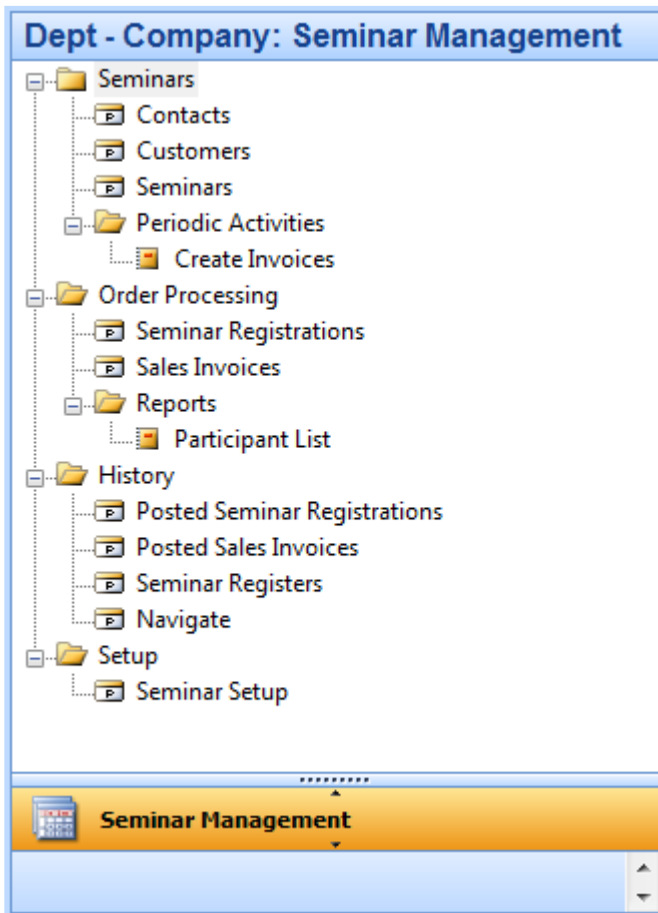


FIGURE 9.24: SEMINAR MANAGEMENT MENU IN THE NAVIGATION PANE DESIGNER

The “Seminar Management Department Page” image shows the **Seminar Management** Department page in the Microsoft Dynamics NAV 2013 client for Windows.

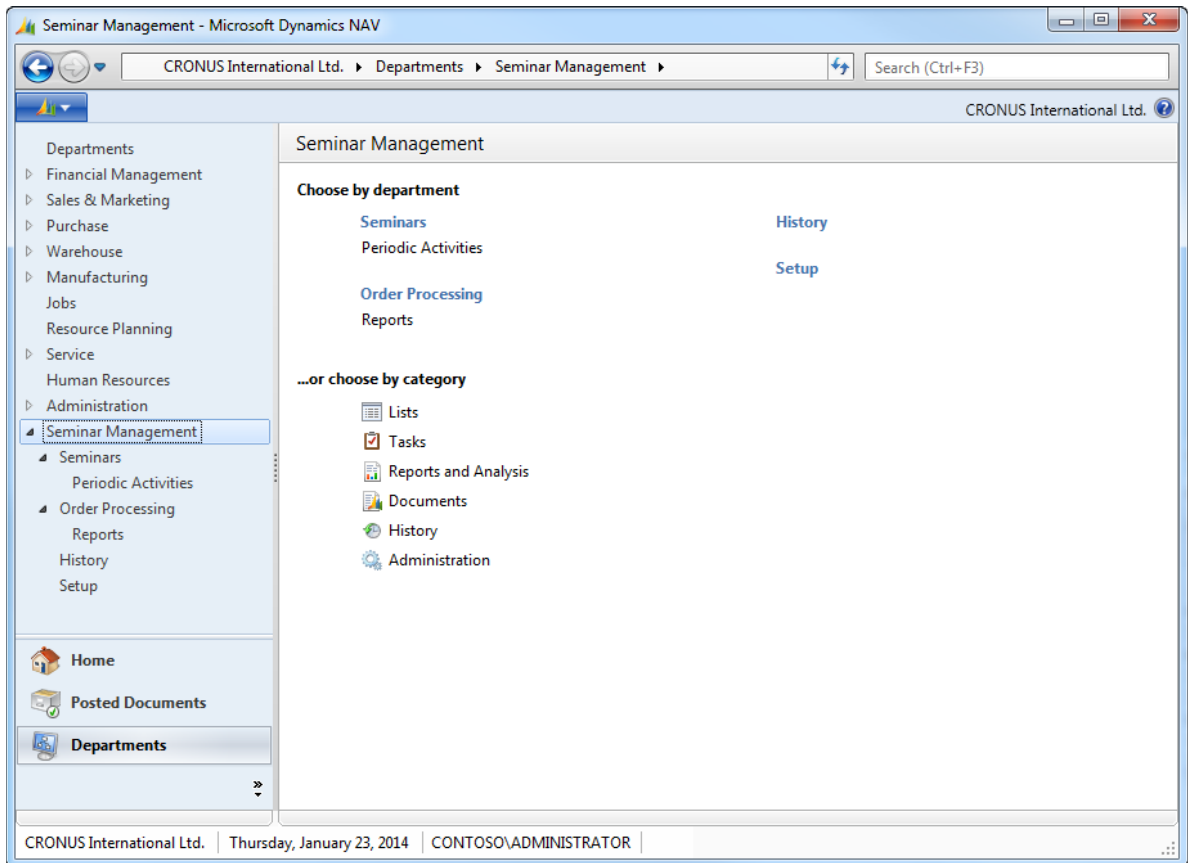


FIGURE 9.25: SEMINAR MANAGEMENT DEPARTMENT PAGE

Lab 9.2: Create Seminar Management Department Page

Scenario

You must develop the **Seminar Management** department page to enable users to access the Seminar Management application area functionality from the **Departments** page and to make Seminar Management objects available to search.

Exercise 1: Create and Design the MenuSuite

Exercise Scenario

To create the **Seminar Management** department page and make Seminar Management objects available to search, you must create a new MenuSuite, and then create a new menu with appropriate groups and items.

Task 1: Create the MenuSuite

High Level Steps

1. Create and save a new MenuSuite at the company level.
2. Add the **Seminar Management** menu.

Detailed Steps

1. Create and save a new MenuSuite at the company level.
 - a. In Object Designer, click **MenuSuite**, and then click **New**.
 - b. In the **Design Level** window, select the Dept – Company level, and then click **OK**.
 - c. Click any of the menu buttons in the Navigation Pane Designer.
 - d. On the **File** menu, click **Save**.
2. Add the **Seminar Management** menu.
 - a. Right-click any of the menu buttons.
 - b. In the shortcut menu, click **Create Menu**.
 - c. In the **Create Menu** window in the **Caption** field, enter "Seminar Management", in the **Bitmap** field, enter "13", and then click **OK**.

Task 2: Define the Group Hierarchy

High Level Steps

1. Define the groups as shown in Figure 9.24.

Detailed Steps

1. Define the groups as shown in Figure 9.24.
 - a. Right-click the **[Empty Menu]** item in the Navigation Pane Designer, and then click **Create Group**.
 - b. Right-click the **New Group**, click **Rename**, and then enter "Seminars".
 - c. Expand the Seminars group.
 - d. Right-click the **[Empty Group]** item and then click **Create Group**.
 - e. Rename the New Group to Periodic Activities.
 - f. Right-click the Seminars group, create a new group, and then rename it "Order Processing".
 - g. Expand the Order Processing group, right-click the **[Empty Group]** item, create a new group, and rename it "Reports".
 - h. Right-click the Seminars group, create a new group, and then rename it "History".
 - i. Right-click the Seminars group, create a new group, and then rename it "Setup".

Task 3: Add Items to Groups

High Level Steps

1. Add items to groups as shown in Figure 9.24.

Detailed Steps

1. Add items to groups as shown in Figure 9.24.
 - a. Under the Seminars group, right-click the Periodic Activities group, and then click **Create Item**.
 - b. In the **Create Item** window, enter the following information.

Field	Value
Object Type	Page
Object ID	Contact List
Caption	Contacts
Department	Lists

- c.

d. Click **OK** to create the new item.

e. Under Seminars group, create the following two items.

Object ID	Caption	Department
Page Customer List	Customers	Lists
Page Seminar List	Seminars	Lists

f. Under the Periodic Activities group, right-click the **[Empty Group]** item, and then create the following item.

Object ID	Caption	Department
Report Create Seminar Invoices	Create Invoices	Tasks

g. Under the Order Processing group, create the following items.

Object ID	Caption	Department
Page Seminar Registration List	Seminar Registrations	Documents
Page Sales Invoice List	Sales Invoices	Documents

h. Under the Reports group, create the following item.

Object ID	Caption	Department
Report Seminar Reg.- Participant list	Participant List	Reports and Analysis

i. Under the History group, create the following items.

Object ID	Caption	Department
Page Posted Seminar Reg. List	Seminar Registrations	History
Page Posted Sales Invoices	Posted Sales Invoices	History
Page Seminar Registers	Seminar Registers	History
Page Navigate	Navigate	History

j. Under the Setup group, create the following items.

Object ID	Caption	Department
Page Seminar Setup	Seminar Setup	Administration

k. Save the MenuSuite object.

Module Review

Module Review and Takeaways

RoleTailored clients for Microsoft Dynamics NAV 2013 give users Role Centers that increase user productivity. It enables users to focus on their most important tasks and locate information quickly and efficiently without spending unnecessary time on a complex user interface.

A Role Center typically includes the following:

- An Activities part
- Several lists that enable users to select their favorite records, such as customers or items
- Several system parts, such as Outlook or My Notifications.

The Activities part contains several groups of cues that are defined as flow fields in the **Activities** page source table.

The Role Center also defines the contents of the navigation pane that is visible and available on every list place or department page. It also defines the contents of the ribbon when users click the Role Center item in the **Home** menu.

Even though the Role Center is the most important feature that increases productivity based on user role, you must always provide a department page for any application area that you develop. This guarantees that the users can use the Departments page to manually browse to your custom application area functionality, and that all the pages that you create for a new application area can be accessed from the Search field.

Test Your Knowledge

Test your knowledge with the following questions.

1. Which page type do you use to define role centers for profiles in Microsoft Dynamics NAV 2013?

2. Which control type do you use to show stacks of documents called cues?
What type of control must be the parent?

3. What kind of data is contained in fields shown by cues?

4. How do you add new menus to the Navigation pane of the RoleTailored client?

5. Role center pages are data bound.

True

False

6. An action in role center page can contain code in the OnAction trigger. This code executes when the user clicks the action.

True

False

Test Your Knowledge Solutions

Module Review and Takeaways

1. Which page type do you use to define role centers for profiles in Microsoft Dynamics NAV 2013?

MODEL ANSWER:

RoleCenter

2. Which control type do you use to show stacks of documents called cues? What type of control must be the parent?

MODEL ANSWER:

Use Field controls within CueGroup controls to show cues.

3. What kind of data is contained in fields shown by cues?

MODEL ANSWER:

To show as cues, fields must be of integer type. Typically, they are FlowFields with Count calculation type.

4. How do you add new menus to the Navigation pane of the RoleTailored client?

MODEL ANSWER:

For each new menu, define the ActivityButtons action container.

5. Role center pages are data bound.

True

False

6. An action in role center page can contain code in the OnAction trigger. This code executes when the user clicks the action.

True

False