

Andreas Luszczak

Using Microsoft Dynamics AX 2012

Updated for Version R3

4th Edition

 Springer Vieweg

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Wien, Austria

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Preface

When looking for a business management solution supporting business processes in mid-sized and large companies, Microsoft Dynamics AX is likely to be your favorite. Because of its deep functional and technological integration, it is also a good choice for universities teaching ERP systems.

Reading this Book

The primary purpose of this book is to provide you with a good knowledge of the standard application concept and functionality, enabling you to run business processes in Microsoft Dynamics AX 2012. This book applies to you, if you are an end user, student, or consultant interested in learning how to use Dynamics AX.

Going beyond the operations on the user interface, you will also learn how the different parts of the application work together. As a result, you will also take advantage from learning the end-to-end application concept, if you are a system administrator, developer, IT executive or experienced consultant not knowing the complete application already.

Actually working in an application is the best way to learn it. This book therefore includes exercises building up on each other in a comprehensive case study. If you need support for the exercises, a free download of sample solutions is available.

The current edition of this book is based on Microsoft Dynamics AX 2012 R3 and includes the core changes of Dynamics AX 2012 in the initial version and in R2. It is an update of previous editions of the book "Using Microsoft Dynamics AX 2012" published in 2012 and 2013.

Since Dynamics AX is a very comprehensive business solution, it is not possible to cover all parts of the application in a single book. In order to provide a profound understanding of the core application, this book addresses the primary functionality in supply chain (including trade, logistics and production control) and finance management. It shows the application, but does not cover tasks in system administration and development. If you want to learn more about the concepts and options for implementing Dynamics AX, the book "Implementing Microsoft Dynamics AX 2012 with Sure Step 2012" by Keith Dunkinson and Andrew Birch might be interesting for you.

Applicable Settings

In Dynamics AX, you can individually choose the language of your user interface. Descriptions and illustrations in this book refer to the language "EN-US". Whereas

it is obvious that the Dynamics AX client displays different labels when choosing languages like Spanish or Russian, there are also differences when selecting British English. For example, the label for the field “Sales tax” is “VAT” in British English. Other differences between your application and the descriptions in the book are possibly caused by your permissions, by applicable local features, or by specific modifications and features implemented in your Dynamics AX system.

In order to benefit from the explanations, it is recommended to access a Dynamics AX application. A separate test application for executing the exercises minimizes the risk of affecting actual company data.

The exercises and illustrations refer to a sample company “Anso Technologies Ltd.”, which shows a simple setup limited to the described functionality. In order to grant flexibility for selecting the training environment, the tasks in the exercises are specified in a way that you can also use the Microsoft standard demo environment (“Contoso”) or any other test environment.

This book has been updated for Microsoft Dynamics AX 2012 R3. If you are using Dynamics AX 2012 R2 or the initial version of Dynamics AX 2012, a limited number of features and settings work different. Notes in the book show the differences of the initial version and R2, enabling you to use this book in all versions of Dynamics AX 2012. If you want to know in which version you are working, click the button *Help* / *About Microsoft Dynamics AX* in the command bar of the Dynamics AX client – the dialog then shows if you use R2 or R3.

Available Support

In order to download solutions to the exercises in this book and other applicable resources, please access the online service of the publisher or following web site:

<http://axbook.addyn.com>

If you have comments or questions regarding the book or the exercises, please contact me through the web site mentioned above or via e-mail to *lua@addyn.com*.

Acknowledgements

Many people have been involved in finalizing this book, directly and indirectly, from the first edition in German to the current English edition. I want to thank all of them. In particular, I would like to mention:

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- Ingo Maresch (Solution Architect at Semantax Business Consulting)
- Keith Dunkinson (Owner at ERP advisers)

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1 What is Microsoft Dynamics AX?

Dynamics AX is Microsoft's core business management solution, designed to meet the requirements of mid-sized companies and multinational organizations. Based on state-of-the-art architecture and deep integration, Dynamics AX shows comprehensive functionality while ensuring high usability at the same time.

In version Dynamics AX 2012, it shows a vast number of innovations including a new user interface consequently applying the role tailored user experience across the application, increased capabilities in administration, finance and product data management, and an enhanced industry foundation. The R2 version enhances Microsoft Dynamics AX 2012 with data partitions, country-specific features for additional key countries like Brazil, China, India, Japan and Russia – included in a single layer for all country localizations – and several functional enhancements.

Microsoft Dynamics AX 2012 R3 contains functional enhancements in multiple areas of the application, including but not limited to:

- Warehouse and transportation management
- Trade allowances and incentive management
- Other enhancements in sales and distribution
- Product change management – Use case management for releasing products and approving or activating BOMs and routes
- Master data management – Synchronize master data like customers, vendors and products across Dynamics AX databases through SQL MDS (Microsoft SQL Server Master Data Service)
- Demand forecasting – Export transaction data from Dynamics AX, create forecasts through the advanced forecasting features available in Microsoft SQL Server Analysis Services, and import the forecasts to Dynamics AX
- e-Procurement – Enhancements for obtaining and comparing RFQs
- Project accounting – Improved resource scheduling and Microsoft Project Client integration
- Retail – Various enhancements, including the new channel “Call Center”

1.1 Axapta and the History of Dynamics AX

Dynamics AX in its origin has been developed under the name *Axapta* by Damgaard A/S, a Danish software company. The first version released to market has been published in March 1998. At that time, the founders of Damgaard – Erik and Preben Damgaard – have already had more than ten years of experience designing ERP systems. Among others, they have been co-founders of PC&C, where they joined the development of Navision (now Dynamics NAV).

Version 1.0 of Axapta has been available in Denmark and the USA only. Version 1.5, published in October 1998, included support for several European countries. Releasing version 2.0 in July 1999 and version 3.0 in October 2002, Axapta provided continuously increasing application functionality and support of additional countries. Until releasing Axapta under the new brand Dynamics AX in version 4.0, improvements have been deployed in a number of service packs.

After signing a merger agreement in November 2000, Damgaard A/S united with the local rival Navision A/S, a successor of PC&C. Finally, Microsoft acquired Navision-Damgaard in May 2002 and accepted their main products, Navision and Axapta, as the core business solutions of Microsoft. Whereas Dynamics NAV (Navision) in functional and technological aspect applies to small companies, Dynamics AX (Axapta) is the product for mid-sized and large companies.

When releasing version 4.0 in June 2006, Microsoft rebranded Axapta to Dynamics AX. Microsoft Dynamics AX 4.0 differs from previous versions not only by functional enhancements but also by a new user interface, showing a complete redesign with a Microsoft Office-like look and feel.

In June 2008, Dynamics AX 2009 has been published including role centers, workflow functionality and an improved user interface. Dynamics AX 2009 also provided enhanced functionality, including the multisite foundation and additional modules ensuring an end-to-end support for the supply chain requirements of global organizations.

Dynamics AX 2012 has been published in August 2011, showing an updated user interface with an action pane in all forms and applying list pages for replacing the Overview tab on forms. Role-based security, the new accounting framework with segmented account structures, the enhanced use of shared data structures and other features facilitate collaboration across legal entities and operating units within the application, also suitable to large multinational enterprises.

Updated versions of Dynamics AX 2012 have been released later:

- Dynamics AX 2012 Feature Pack, adding industry features for retail and process manufacturing, in February 2012
- Dynamics AX 2012 R2, adding data partitions, additional country features and support for the latest Microsoft platform with Windows 8, in December 2012
- Dynamics AX 2012 R3, adding the advanced warehouse and transportation management solution, in May 2014

1.2 Dynamics AX 2012 Product Overview

Microsoft Dynamics AX is an adaptable business management solution, which is easy to use and nevertheless supports the complex requirements of multinational companies. Another characteristic is the deep integration to Microsoft technologies

and applications like Microsoft SQL Server, SharePoint Services and BizTalk Server.

When accessing Dynamics AX for the first time, most people feel comfortable from the very beginning because the user interface is already known from Microsoft Windows and Microsoft Office. The intuitive user experience helps to start working in Dynamics AX easily and efficiently, supported by a tight integration to other Microsoft software. Role centers grant an easy and fast overview of information required by individuals.

1.2.1 Functional Capabilities

The end-to-end support of business processes across the whole organization allows integrating external business partners like customers and vendors on the one hand and internal organization units on the other hand.

Multi-language, multi-country and multi-currency support, the organization model for managing multiple hierarchies of operating units and legal entities, and the option to manage several sites within one legal entity enable managing complex global organizations in a common database.

The basic ERP capabilities of Dynamics AX include following main areas:

- Sales and marketing
- Supply chain management
- Production
- Procurement and sourcing
- Service management
- Financial management
- Project management and accounting
- Human capital management
- Business intelligence and reporting

Supplementing the basic ERP solution, industry specific capabilities for manufacturing, distribution, retail, services and the public sector included in the core standard application provide a broad industry foundation.

The workflow system in Dynamics AX (see section 10.4) provides configurable workflows to support routine procedures like the approval process for a purchase requisition. The workflow infrastructure in Dynamics AX is based on the Windows Workflow Foundation enabling workflow messages in Microsoft Outlook, the Enterprise Portal or the regular Dynamics AX Windows client.

High scalability and adaptability make it easy to manage changes in the organization and in business processes. If applicable for example, only deploy finance at the beginning and simply add new functional areas like production or warehouse management later. Enhancing Dynamics AX with additional users or legal entities is also possible at any time.

Local features are available in order to comply with country-specific requirements. In Dynamics AX 2012, they are controlled by the country/region of the primary address of your company (legal entity).

1.2.2 Business Intelligence

In order to access data for analysis, integrated functionality for reporting and business intelligence grants a fast and reliable presentation of business data. Business intelligence features are not only available for analysis in finance, but also for users in all other areas of Dynamics AX who need to analyze their data. Depending on the requirements, different types of reporting tools including structured and ad-hoc reports are required.

In Dynamics AX, business intelligence is based on the platform of the Microsoft SQL Server. The basis for structured Dynamics AX standard reports is provided by SQL Server Reporting Services (SSRS). Business intelligence components like Key Performance Indicators apply OLAP cubes, which are provided by SQL Server Analysis Services (SSAS).

1.2.3 Collaboration Features

Collaboration functionality for connecting external partners is available in two ways:

- Enterprise Portal
- Application Integration Framework

The Enterprise Portal as the first option provides direct access to Dynamics AX through a regular Internet browser like the Microsoft Internet Explorer. Limiting access to role-specific data, the Enterprise Portal is not only applicable to internal employees but also to external customers and vendors.

The Application Integration Framework (AIF) as the second option supports automatic data exchange with other business applications inside and outside your company. It enables receiving and sending documents like invoices, packing slips or price lists in XML format. An external converter then may convert the documents to any other format like EDIFACT if necessary.

For legal entities within a common Dynamics AX database and partition, the intercompany functionality enables automatic purchase and sales processes between companies.

1.2.4 Implementation

Microsoft does not directly sell Dynamics AX to customers, but offers an indirect sales channel. Customers may purchase licenses from certified partners, which also offer their services to support the implementation of Dynamics AX. This support includes application training and consulting as well as system installation and the development of enhancements to the core functionality.

In order to assist the implementation of Dynamics applications, Microsoft provides a standardized implementation methodology for partners – Microsoft Dynamics Sure Step. The Microsoft Dynamics Sure Step Methodology is a comprehensive approach to implement Microsoft Dynamics solutions including project management principles and solution-specific guidelines and tools.

Additional resources including product information, customer stories and online demos are available in a global version on the Microsoft Dynamics AX web page <http://www.microsoft.com/en-us/dynamics/erp-ax-overview.aspx> or in a local version accessible through the Microsoft homepage of your country.

The Microsoft web pages also provide support for finding an implementation partner or accessing the Microsoft Dynamics Marketplace with an overview of partner add-on solutions.

1.3 Technology and System Architecture

The development of Dynamics AX (formerly Axapta) from the very start aimed to support international implementations and to provide a deep integration of components. Integration is not limited to components within Dynamics AX – it also includes the Microsoft software stack with Windows operating systems, SQL Server, SharePoint, Internet Information Server and other applications.

Three core technological characteristics are essential in Dynamics AX:

- Development environments
- Model driven layered technology
- Three-tier architecture

1.3.1 Development Environments

Dynamics AX 2012 stores the application objects (like tables and forms) within a SQL database. The Application Object Tree (AOT) shows a tree structure of these application objects.

For modifying application objects, choose between different development environments:

- **Microsoft Visual Studio**
- **MorphX IDE** – Integrated development environment in Dynamics AX

The MorphX IDE in the developer workspace directly within the Dynamics AX Windows client provides access to the AOT for designing, editing, compiling and debugging code.

The Visual Studio development environment, which is closely integrated with MorphX, supports managed code and is required for some tasks like creating reports. Reports in Dynamics AX 2012 are only delivered by SQL Server Reporting Services (SSRS).

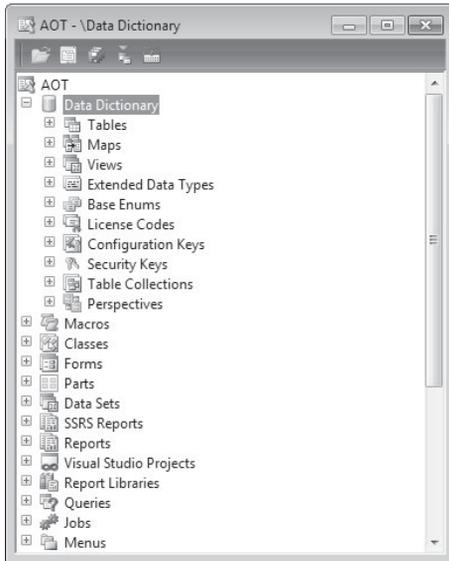


Figure 1-1: The Application Object Tree (AOT) containing programmable objects

The programming language in the MorphX development environment is X++, an object-oriented, proprietary language similar to C# and Java. Since application objects in MorphX show an open source code, you can adjust and enhance Dynamics AX functionality in the development environment.

1.3.2 Layer Technology

Applying a layer structure, Dynamics AX provides a hierarchy of levels in the application source code separating the standard application from modifications. Different application object layers make sure that customer-specific modifications do not interfere with standard objects stored in other layers. The layering system therefore facilitates release upgrades on the one hand and the implementation of industry or generic solutions on the other hand.



Figure 1-2: Hierarchy of application object layers in Dynamics AX 2012

The lowest object level in Dynamics AX is the SYS layer, which together with the GLS layer contains the core Dynamics AX standard objects. The FPK layer

containing industry solutions and features is the third layer of the base solution reserved for Microsoft. The layers SLN, ISV and VAR are available for partners and independent software vendors (ISV) to provide industry, vertical or multi-customer solutions. The highest object level is the USR layer, which contains installation specific modifications.

In addition, each layer refers to a patch layer with a name ending with “P” (e.g. “USP” for the USR layer). The patch layers are reserved for application updates to the related regular layer.

When accessing the Dynamics AX application, the kernel looks for a version of every object required. The version search starts from the highest layer, the USR layer. If no object version is available in the USR layer, the kernel will go through the lower layers until finding the object – locating it in the SYS layer if no modifications apply.

If you have modified the vendor list page for example, Dynamics AX applies the form *VendTableListPage* which you have modified in the USR layer – and not the standard object with the same name in the SYS layer.

1.3.3 Three-Tier Architecture

In order to support large implementations with a high number of users, Dynamics AX consequently applies a three-tier architecture. The three-tier architecture is characterized by separating database, application and client.

Data managed in Dynamics AX 2012 are stored in a relational Microsoft SQL Server database. A database cluster may be used in large installations.

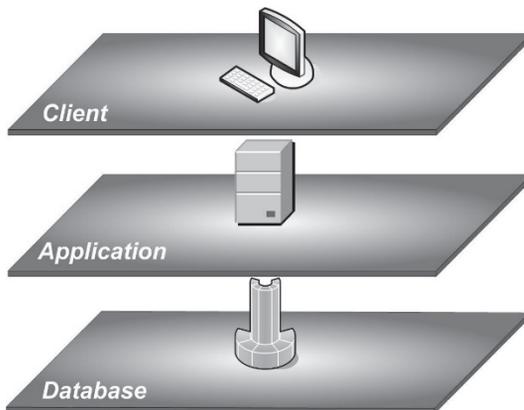


Figure 1-3: The three-tier architecture in Dynamics AX

The application tier contains the business logic of Dynamics AX, executing the code designed in the development environment. It may run on a single Application Object Server (AOS) or on a server cluster.

The client tier contains the graphical user interface, which is required for processing data input and output. Apart from the regular Dynamics AX Windows

client, web browsers (applying the Enterprise Portal), Microsoft Office (applying the Office add-ins) and other applications (e.g. for mobile devices) are further options for accessing restricted areas of Dynamics AX.

Database, application (AOS) and client usually run on different computers. In case of small implementations, optionally install database and application together on a single server. For testing purposes, all three tiers may run on a common device.

1.3.4 Data Structure

When working in Dynamics AX (or any other business software), you are accessing and creating data describing processes (e.g. item transactions). As a prerequisite for transactions, you need to manage data describing objects (e.g. customers).

Three data types group the different kinds of data:

- Setup data
- Master data
- Transaction data

Setup data determine the way business processes work in Dynamics AX. For example, choose in the setup whether to apply warehouse locations, pallets or serial numbers. Apart from modifying programmable objects, setup is the second way to adapt the application according to the requirements of an enterprise. Setup data are entered when initially setting up the system. Later modifications of core setup data need to be checked carefully.

Master data describe objects like customers, main accounts or products. They do not change periodically, but only at the time related objects change – for example when a customer gets a new address. Master data are entered or imported initially before a company starts working in the application. Later on, you need to insert or edit master data occasionally depending on your business.

Transaction data are continuously created when processing business activities. Examples for transaction data are sales orders, invoices or item transactions. In Dynamics AX, the application generates transaction data for every business activity. Registration and posting of transaction data complies with the voucher principle.

1.3.5 Voucher Principle

If you want to post a transaction, you have to register a voucher containing a header and one or more lines first. Every voucher is processed in two steps then:

- **Registration** – Registering the voucher (creating a non-posted document)
- **Posting** – Posting the voucher (creating a posted document)

Vouchers are based on master data like main accounts, customers or products. It is not possible to post a voucher as long as it does not comply with the rules defined

by setup data and the Dynamics AX-internal business logic. Once a voucher is posted, it is not possible to change it any more.

Examples for vouchers in Dynamics AX are orders in sales or purchasing as well as journals in finance or inventory management. After posting, the posted documents are available as packing slips, invoices, ledger transactions or inventory transactions.

Note: Some minor vouchers like quarantine orders show an exception regarding the voucher structure – they do not contain a separate header and lines part.

2 Getting Started: Navigation and General Options

One of the core principles of Microsoft Dynamics AX is to grant a familiar look and feel to people, who are used to Microsoft software. However, business software has to adapt to business processes, which may be quite complex.

2.1 User Interface and Common Tasks

Before we start to go through business processes and case studies, we want to take a look at the general functionality in this chapter.

2.1.1 Logon and Authentication

Microsoft Dynamics AX logon is Active Directory based, applying Windows authentication. You do not need to log on to Dynamics AX with separate credentials as a result. After selecting the Dynamics AX icon on the Windows desktop or in the Start menu, you are automatically connecting to the Dynamics application using your Windows account.

The Dynamics AX user-ID, company (legal entity) and language derive from your user options, which you can change within the client. In Dynamics AX 2012 R2/R3, data partitions (see section 10.1.1) apply additionally – the appropriate default partition is specified in the user management or in the client configuration.



Figure 2-1: Icon for Microsoft Dynamics AX on the Windows desktop

Sometimes you want to use different user accounts within Dynamics AX – e.g. if you have to check user permissions. In this case, you have to make sure that the user you want to apply is set up in Active Directory administration. In order to start Dynamics AX with a user which is different from your current Windows account, choose the option “Run as different user” in the pop-up menu (available if pressing the *Shift* key while doing a right-hand click) of the Dynamics AX- icon.

If you want to close your session and to logoff from Dynamics AX, proceed the same way as you do in any other Windows program: Push the shortcut key *Alt+F4*, choose the command *File/Exit* or click the button  on the top right-hand corner of the Dynamics AX workspace. If you have opened several workspace windows, you are logging off when closing the last workspace.

2.1.2 User Interface

The Dynamics AX workspace is the first page visible when accessing Microsoft Dynamics AX. The content of the workspace is depending both on the system configuration and on your permissions and individual settings.

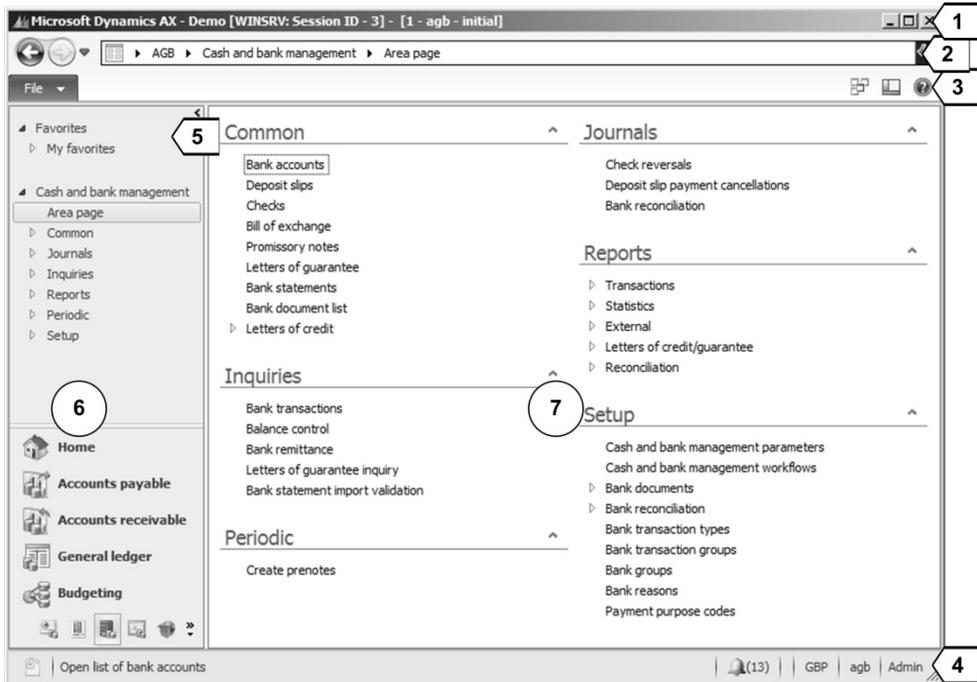


Figure 2-2: Dynamics AX workspace, showing an area page in the content pane

The workspace of Microsoft Dynamics AX 2012 consists of following areas as shown in Figure 2-2:

- Title bar [1]
- Address bar [2]
- Command bar and jewel menu [3]
- Status bar [4]
- Favorites [5]
- Navigation pane [6]
- Content pane [7]

2.1.2.1 Title Bar

The title bar shows the name of the application (“Microsoft Dynamics AX”), the name of the organization holding the Dynamics AX license, the server name, the session ID, and the current company.

In Dynamics AX 2012 R2/R3, the title bar additionally shows the current data partition if the Dynamics AX database contains multiple partitions.

2.1.2.2 Address Bar

The address bar (breadcrumb bar) provides navigation options known from the Windows Explorer and present-day Internet browsers. It shows a “breadcrumb” trail of the pages which you have opened in the content pane, enabling you to go back and forward by clicking the travel buttons *Forward* and *Back*.

The address field shows the path of the current page and allows navigation to other companies, modules and pages.

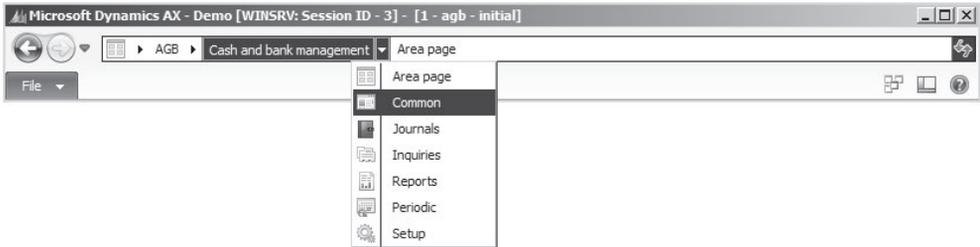


Figure 2-3: Navigating Dynamics AX in the address bar

If the Enterprise search (see section 2.1.6) is enabled in Dynamics AX, a search box shows on the right-hand side of the address bar. This search box provides access not only to Dynamics AX data but also to the Dynamics AX help content.

2.1.2.3 Command Bar and Jewel Menu

The jewel menu contains commands, which are available globally within Dynamics AX. This includes common Windows commands like *Copy* and *Paste* as well as specific Dynamics AX commands like *Filter* and *Document handling*. Depending on the content page, some commands are not active. If a particular command is also accessible through a shortcut key, it shows on the right-hand side of the applicable option.

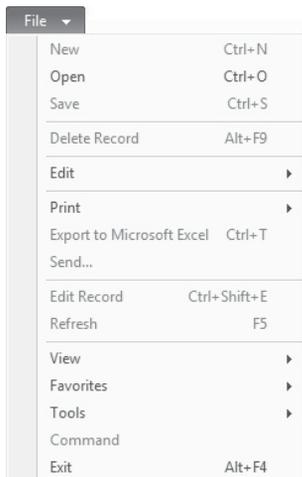


Figure 2-4: The jewel menu in Dynamics AX

In the command bar, there are following buttons on the right:

- **Windows**  – For switching between forms.
- **View**  – For changing workspace settings.
- **Help**  – For showing the online help.

The options for changing workspace settings are not only available in the *View* button, but also in the jewel menu (choosing the command *File/View* there).

2.1.2.4 Status Bar

The status bar at the bottom of the Dynamics AX workspace contains the document handling button, a short help text on the active element (field or menu item) and several other fields. If you want to change the elements included in the status bar, choose appropriate settings in your user options (see section 2.3.1). If all elements are displayed in the status bar of the workspace window, it shows following fields:

- **Document handling** [1] – See section 10.5.1
- **Help text** [2]
- **Notifications** [3] – Alerts and workflow status
- **Currency** [4] – Controls currency of displayed amounts
- **Application object model** [5]
- **Application object layer** [6]
- **Current company** [7]
- **Current partition** [8] – Data partition in Dynamics AX 2012 R2/R3
- **Caps Lock status** [9]
- **Num Lock status** [10]
- **Current user** [11]
- **Session date** [12]
- **Session time** [13]
- **AOS name** [14] – Server name
- **Operation progress indicator** [15] – Shows database activity



Figure 2-5: The status bar in the Dynamics AX workspace (all elements displayed)

The status bar does not only display information, it also offers additional functionality started by clicking following status bar fields:

- **Notifications** – Opens the notifications form.
- **Currency** – Opens the currency converter, which gives you the possibility to show currency amounts in different currencies.
- **Current company** – Switch between companies (legal entities).
- **Session date** – Default for the posting date in the current session.

In detail forms, the status bar looks a little different from the way it looks in the Dynamics AX workspace by additionally providing the option to scroll between records and to switch between the view mode and the edit mode. More details are available in the section on master detail forms below.

2.1.2.5 Navigation Pane

The navigation pane on the left hand side of the workspace provides access to all list pages and forms. List pages and detail forms are the place for working in the modules of Dynamics AX as described in section 2.1.3 and 2.1.5 of this book.

If you want to hide the navigation pane, click the button *View/Navigation Pane* in the command bar. If you just want to prevent the navigation pane to show completely all the time, activate automatic collapsing to a left-hand sidebar by pushing the shortcut key *Alt+Shift+F1* (or by clicking the button *View / Auto-Hide Navigation* or the arrow [<] in the top right corner of the navigation pane). If the Auto-Hide feature is enabled, the navigation pane shows completely whenever moving the mouse pointer to the navigation sidebar.

2.1.2.6 Favorites

Whereas the module buttons with the related menu items in the navigation pane show a uniform structure, the favorites pane (see section 2.1.3) allows arranging menu items the way preferred for personal use. Therefore, the favorites pane is used for easily accessing list pages, forms, inquiries and reports needed frequently. The functionality of favorites in Dynamics AX is similar to the favorites in Microsoft Outlook or in the Internet Explorer.

2.1.2.7 Content Pane

The content pane shown in the center of the Dynamics AX workspace contains following types of pages:

- **List pages** – See description below
- **Area pages** – See section 2.1.3
- **Role centers** – See section 2.1.4

2.1.2.8 Workspace

If requiring a second Dynamics AX workspace, open a new workspace within the current session by pushing the shortcut key *Ctrl+W* or clicking the button *Windows/New workspace* in the command bar. Clicking the button *New Workspace* in the dialog box displayed when changing the company account is another way for opening a new workspace.

2.1.2.9 List Page

A list page like the customer page shown in Figure 2-6 provides a list of records of a particular table. List pages are available for viewing records, in addition

providing the option to complete daily tasks on these records by clicking the appropriate button in the action pane.

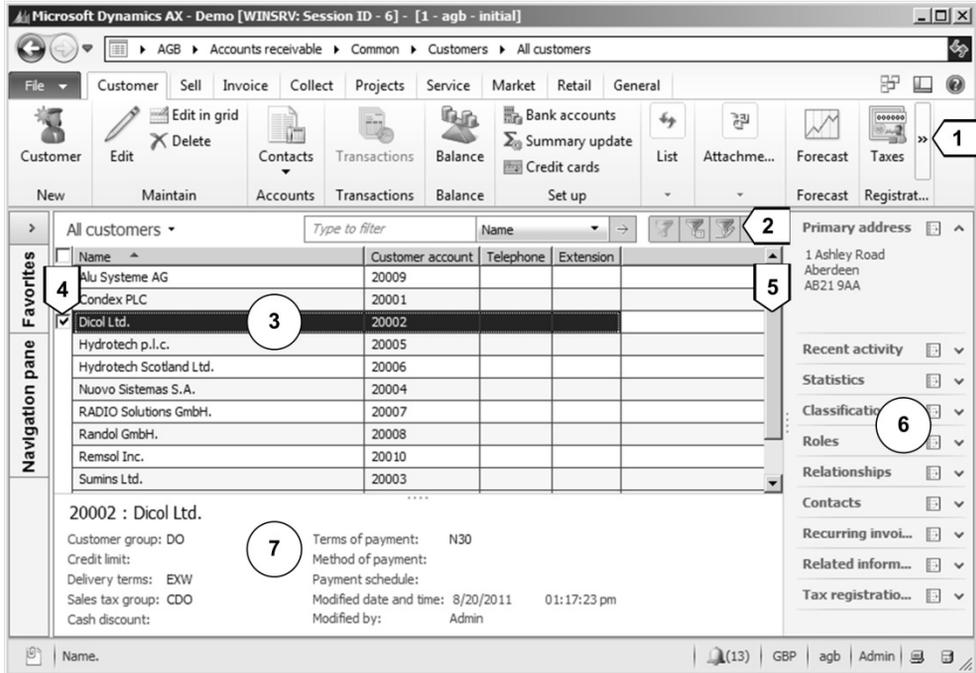


Figure 2-6: List page *Customers* (*Auto-Hide Navigation* enabled)

List pages show a common structure, but some elements and functions depend on the table displayed. This structure includes following basic elements:

- **Action pane** [1] – Contains the action buttons (similar to the Microsoft Office ribbon). You may distinguish buttons for executing activities related to the selected record (like placing an order) on the one hand and buttons for opening related detail forms (displaying more information) on the other hand. The number and functionality of buttons is depending on the particular page. Depending on available actions, buttons show on several tabs (e.g. the action pane tabs *Customer* or *Sell* in Figure 2-6).
- **Filter pane** [2] – Allows entering filter criteria (see section 2.1.6).
- **Grid** [3] – Displays the list of records.
- **Grid check boxes** [4] – Enable selecting multiple or – if selecting the checkbox in the header line – all records.
- **Scroll bar** [5] – Available to scroll through the records. A pop-up menu accessed by right-hand clicking on the scroll bar supports scrolling. Alternatively, push the shortcut keys *PgUp*, *PgDn*, *Ctrl+Home* and *Ctrl+End*.

- **FactBoxes** [6] – Show a summary of additional information referring to the selected record (e.g. the primary address of a selected customer).
- **Preview pane** [7] – Below the grid, showing more detailed information on the selected record (e.g. additional fields of the customer record).

If you do not want to show all elements, hide the FactBoxes and the preview pane through the appropriate option in the button *View*  of the command bar. A general setting for activating or deactivating the FactBox pane and the preview pane is available in the system administration menu (*System administration*> *Setup*> *System*> *Client performance options*).

List pages do not automatically refresh, if data displayed on the screen change in the database (e.g. if somebody is working on the records concerned). After editing a record in a detail form, refresh the related list page by pushing the *F5* key (or by clicking the button *Refresh*  on the right-hand side of the breadcrumb bar).

2.1.2.10 Detail Form for Master Data

Unlike list pages, which are there for viewing a list of records, detail forms are there for inserting and modifying individual records. By double-clicking a record in a list page, Dynamics AX opens the related detail form.

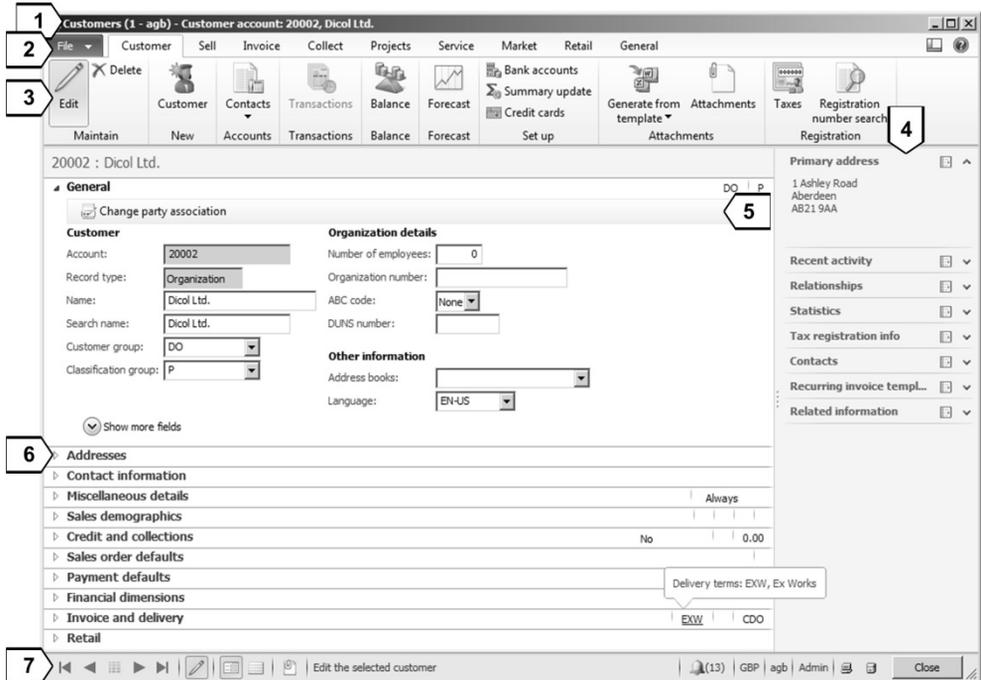


Figure 2-7: Elements of a detail form on the example of the customer detail form

Alternatively, access a detail form by clicking the button *Edit* on the first tab of the action pane in a list page.

Whereas list pages display within the Dynamics AX workspace, detail forms open separate windows which you may move or resize on your Windows desktop.

Detail forms got a common structure similar to list pages, with some elements and functions depending on the particular form. Figure 2-7 shows the customer detail form (accessible through the list page *Accounts receivable* > *Common* > *Customers* > *All customers*) as an example for the structure of detail forms.

The common structure of detail forms includes the following basic elements:

- **Title bar** [1] – Showing the form name, the current company (if selected in the users options) and the identification of the record. For illustration, the example in Figure 2-7 shows the number and name of customer “20002” in the company account “AGB”.
- **Command bar** [2] – Including jewel menu, *View* and *Help* button.
- **Action pane** [3]
- **FactBoxes** [4]
- **Action pane strips** [5] – Providing access to actions in case there are only a few options available. On the one hand, there are action pane strips related to fast tabs as shown in Figure 2-7. On the other hand, there are action pane strips replacing the full action pane on the top of forms, which only contain a few actions – e.g. in the customer groups form (*Accounts receivable* > *Setup* > *Customers* > *Customer groups*).
- **Fast tabs** [6] – Grouping fields according to their functional area. In comparison to regular tabs, fast tabs additionally show summary fields displaying core data directly on the tab. In Figure 2-7, the fast tab *Invoice and delivery* for example shows the delivery terms “EXW”. You may expand fast tabs by clicking the particular tab. A right-hand click on a tab provides the option to expand or collapse all tabs at the same time.
- **Status bar** [7] – Containing options to move between records (in addition to the options in the status bar of the workspace). Apart from the button *Ctrl+Home* , *Ctrl+PgUp* , *Ctrl+PgDn* , *Ctrl+End*  for switching the selected record (e.g. moving to another customer in Figure 2-7), there is the button *Grid View*  for viewing a list of records.

Another option available in the status bar is to switch between the view mode and the edit mode clicking the button *Edit* .

Section 2.1.5 later in this book contains more information on editing records, working with fast tabs and other options available in list pages and detail forms.

2.1.2.11 Grid View

The grid view in detail forms is an option for managing a list of records. Compared to list pages, which are read-only, the grid view additionally enables editing records.