

Official Guide



Add-in Express™ VCL

Getting Started



Add-in Express™ 2010 for VCL

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Introduction

Add-in Express VCL is a development tool designed to simplify and speed up the development of Office COM Add-ins, Run-Time Data servers (RTD servers), Smart Tags, and Excel Automation Add-ins in Delphi 5, 6, 7, 2005, 2006, 2007, 2009 and 2010 through the consistent use of the RAD paradigm. It provides a number of specialized components that allow the developer to walk through the interface-programming phase to the functional programming phase with a minimal loss of time.



Why Add-in Express?

Microsoft supplied us with another term – Office Extensions. This term covers all the customization technologies provided for Office applications. The technologies are:

- COM Add-ins
- Smart Tags
- Excel RTD Servers
- Excel Automation Add-ins

Add-in Express allows you to overcome the basic problem when customizing Office applications – building your solutions into the Office application. Based on the True RAD paradigm, Add-in Express saves the time that you would have to spend on research, prototyping, and debugging numerous issues of any of the above-mentioned technologies in all versions and updates of all Office applications. The issues include safe loading / unloading, host application startup / shutdown, as well as user-interaction-related and deployment-related issues.

Add-in Express Products

Add-in Express offers a number of products for developers on its web site.

- Add-in Express 2010 for Microsoft Office and .NET

It allows creating version-neutral native-code COM add-ins, smart tags, Excel Automation add-ins, XLL add-ins and RTD servers in Visual Studio 2005, 2008 and 2010 without VSTO. See <http://www.add-in-express.com/add-in-net/>.

- Add-in Express 2010 for Internet Explorer and .NET

It allows developing add-ons for IE 6, 7 and 8 in .NET. Custom toolbars, sidebars and BHOs are already on board. See <http://www.add-in-express.com/programming-internet-explorer/>.

- Security Manager 2010 for Microsoft Outlook

This is a product designed for Outlook solution developers. It allows controlling the Outlook e-mail security guard by turning it off and on in order to suppress unwanted Outlook security warnings. See <http://www.add-in-express.com/outlook-security/>



System Requirements

Supported Delphi Versions

- Delphi 5 Architect with Update Pack 1
- Delphi 5 Enterprise with Update Pack 1
- Delphi 5 Professional with Update Pack 1
- Delphi 6 Architect with Update Pack 2
- Delphi 6 Enterprise with Update Pack 2
- Delphi 6 Professional with Update Pack 2
- Delphi 7 Architect with Update Pack 1
- Delphi 7 Enterprise with Update Pack 1
- Delphi 7 Professional with Update Pack 1
- Delphi 2005 for VCL Architect with Update Pack 3
- Delphi 2005 for VCL Enterprise with Update Pack 3
- Delphi 2005 for VCL Professional with Update Pack 3
- Delphi 2006 for VCL Architect with Update Pack 2
- Delphi 2006 for VCL Enterprise with Update Pack 2
- Delphi 2006 for VCL Professional with Update Pack 2
- Delphi 2007 for Win32 Enterprise with Update Pack 3
- Delphi 2007 for Win32 Professional with Update Pack 3
- Delphi 2009 for Win32 Architect with Update Pack 4
- Delphi 2009 for Win32 Enterprise with Update Pack 4
- Delphi 2009 for Win32 Professional with Update Pack 4
- Delphi 2010 for Win32 Architect with Update Pack 1
- Delphi 2010 for Win32 Enterprise with Update Pack 1
- Delphi 2010 for Win32 Professional with Update Pack 1
- Turbo Delphi Professional

You must have Microsoft Office 2000 Sample Automation Server Wrapper Components installed for Add-in Express to work.



Host Applications

COM Add-ins

- Microsoft Excel 2000 and higher
- Microsoft Outlook 2000 and higher
- Microsoft Word 2000 and higher
- Microsoft FrontPage 2000 and higher
- Microsoft PowerPoint 2000 and higher
- Microsoft Access 2000 and higher
- Microsoft Project 2000 and higher
- Microsoft MapPoint 2002 and higher
- Microsoft Visio 2002 and higher
- Microsoft Publisher 2003 and higher
- Microsoft InfoPath 2007 and higher

Real-Time Data Servers

- Microsoft Excel 2002 and higher

Smart Tags

- Microsoft Excel 2002 and higher
- Microsoft Word 2002 and higher
- Microsoft PowerPoint 2003 and higher

Smart tags are deprecated in Excel 2010 and Word 2010. Though, you can still use the related APIs in projects for Excel 2010 and Word 2010, see [Changes in Word 2010](#) and [Changes in Excel 2010](#).

Excel Automation Add-ins

- Microsoft Excel 2002 and higher



Technical Support

Add-in Express is developed and supported by the Add-in Express Team, a branch of Add-in Express Ltd. You can get technical support using any of the following methods.

The Add-in Express web site at www.add-in-express.com provides a mine of information and software downloads for Add-in Express developers, including:

- The [HOWTOs](#) section that contains sample projects answering most common "how to" questions.
- [Add-in Express technical blog](#) contains most recent information as well as Video HOWTOs.
- [Add-in Express Toys](#) contains "open sourced" add-ins for popular Office applications.
- [Built-in Controls Scanner](#) utility, which is free.

For technical support through the Internet, e-mail us at support@add-in-express.com or use our [forums](#). We are actively participating in these forums. Really.

If you are a subscriber of our Premium Support Service and need help immediately, you can request technical support via an instant messenger, e.g. Windows/MSN Messenger or Skype.



Installing and Activating

What follows below is a brief guide on installing and activating your copy of Add-in Express.

Activation Basics

During the registration process, the registration wizard prompts you to enter your license key. The key is a 30 character alphanumeric code shown in six groups of five characters each (for example, AXN4M-GBFTK-3UN78-MKF8G-T8GTY-NQS8R). Keep the license key in a safe location and do not share it with others. This product key forms the basis for your ability to use the software.

For the purposes of product activation only, a non-unique hardware identifier is created from general information that is included in the system components. Product activation is anonymous. At no time, files on the hard drive are scanned, or any personally identifiable information is used to create the hardware identifier. To ensure your privacy, the hardware identifier is created by what is known as a "one-way hash". To produce a one-way hash, information is processed through an algorithm to create a new alphanumeric string. It is impossible to get the original information from the resulting string.

Your product key and a hardware identifier are the only pieces of information required to activate the product. No other information is collected from your PC or sent to the activation server.

If you choose the Automatic Activation Process option of the activation wizard, the wizard attempts to establish an online connection to the activation server, www.activatenow.com. If the connection is established, the wizard sends both the license key and the hardware identifier over the Internet. The activation service generates an activation key using this information and sends it back to the activation wizard. The wizard saves the activation key to the registry.

If an online connection cannot be established (or you choose the Manual Activation Process option), you can activate the software using your web-browser. In this case, you will be prompted to enter the product key and a hardware identifier on a web page, and will get an activation key in return. This process ends with saving the activation key to the registry.

Activation is completely anonymous; no personally identifiable information is required. The activation key can be used to activate the product on the same computer an unlimited number of times. However, if you need to install the product on several computers, you will need to perform the activation process again on every PC. Please refer to your end-user license agreement for information about the number of computers you can install the software on.

Setup Package Contents

The Add-in Express setup program installs the following folders on your PC:

- **Packages** – Add-in Express design-time packages for Delphi 5, 6, 7, 2005, 2006, 2007, 2009, 2010



- [Docs](#) – Add-in Express documentation
- [Redistributables](#) – Add-in Express redistributable files
- [Sources](#) – Add-in Express source code
- [Sources \ DesignTime](#) – design-time source code.

Where is the Add-in Express source code?

Please note that the source code of Add-in Express is delivered or not depending on the product package you purchased. See the [Feature Matrix & Pricing page](#) for details.

Add-in Express setup program installs the following text files on your PC:

- [licence.txt](#) – the EULA
- [readme.txt](#) – short description of the product, support addresses and such
- [whatsnew.txt](#) – this file describes the latest information on the product features added and bugs fixed.

Solving Installation Problems

Make sure you are an administrator on the PC. On Vista, Windows 7 and Windows 2008 Server, set UAC to its default level. In Control Panel | System | Advanced | Performance | Settings | Data Execution Prevention, set the "... for essential Windows programs and services only" flag. Remove the following registry key, if it exists:

```
HKEY_CURRENT_USER\Software\Add-in Express\{product identifier} {version}  
{package}
```

Finally, use the Automatic activation option in the installer windows.



Getting Started

In this chapter, we guide you through the following steps of developing Add-in Express projects:

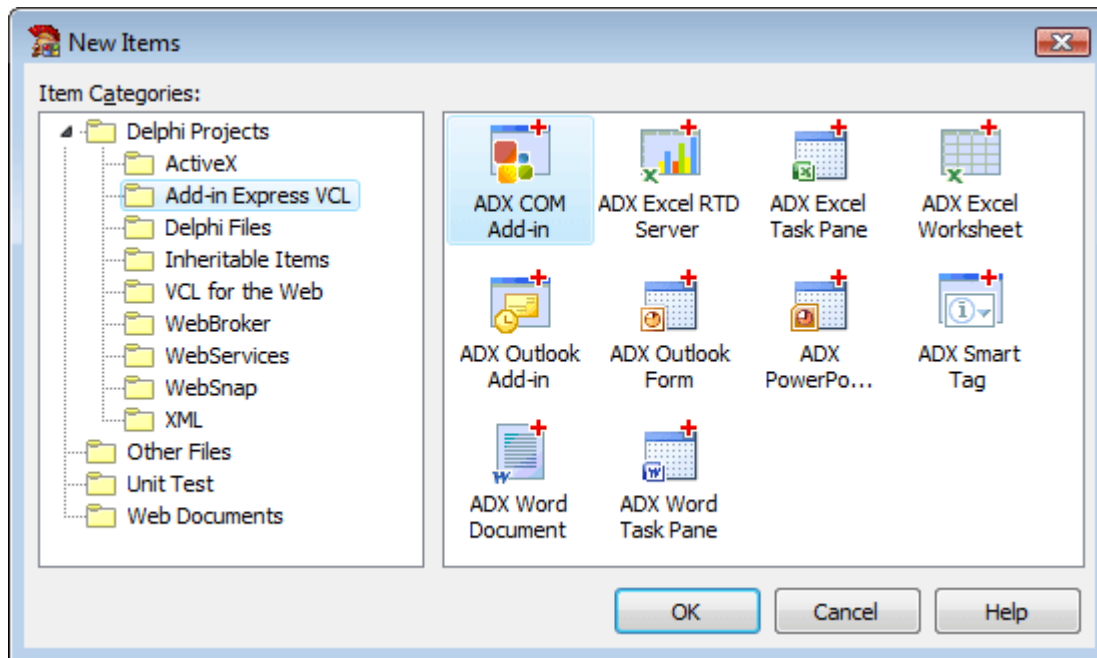
- Create an Add-in Express project
- Add Add-in Express components to the Add-in Express module
- Add some business logics
- Build, register, and debug the Add-in Express project
- Deploy your project to a target PC



Creating Add-in Express Projects

New Items Dialog

Add-in Express for Office and VCL adds several project templates to the Add-in Express VCL tab of the New Items dialog. To see the dialog, choose “File | New | Other...” in the menu.



Whichever Add-in Express project template you choose, it starts the project wizard that allows specifying parameters of your project. The project wizard creates a new project and opens it in the Delphi IDE. The project contains an appropriate module. There are several designer types responsible for common tasks in customizing Office. Project-specific modules are the core components of Add-in Express. You can add any components onto the modules.

Below we list the Office automation tasks and Add-in Express module types available for the task:

- [COM Add-ins](#) - `TadxCOMAddinModule`
- [RTD Servers](#) – `TadxXLRTDServerModule`
- [Smart Tags](#) - `TadxSmartTagModule`
- [Excel Automation Add-ins](#) - `TadxCOMAddinModule`
- [Excel Workbooks](#) - `TadxExcelSheetModule`
- [Word Documents](#) – `TadxWordDocumentModule`



Also, Add-in Express provides a number of components that simplify and speed up the development of Office extensions (see [Add-in Express Components](#)).

COM Add-ins

COM Add-ins have been around since Office 2000 when Microsoft allowed Office applications to extend their features with COM DLLs supporting the IDTextensibility2 interface (it is a COM interface, of course). Since then thousands of developers have racked their brains over this interface and the Office Object Model that provides COM objects representing command bars, command bar controls, etc. These were the sources of Add-in Express.

TadxCOMAddinModule represents a COM Add-in in any Office application. You specify the name, host application(s) and load behavior for the add-in. The typical value for the **LoadBehavior** property is 3 (Connected & LoadAtStartup). For Outlook add-ins, you specify the Options page and Folder Property page (see [Outlook Property Page](#)). Look at the following chapters for the Add-in Express components you add onto the **TadxCOMAddinModule**: [Office Ribbon Components](#), [Command Bars: Toolbars, Menus, and Context Menus](#), [Command Bar Controls](#), [Built-in Control Connector](#), [Keyboard Shortcut](#), [Outlook Bar Shortcut Manager](#), [Advanced Custom Task Panes](#), and [Host Application Events](#).

Use the **AddinStartupComplete** and **AddinBeginShutdown** events to handle add-in startup and shutdown.

This guide describes two sample add-in projects: see [Your First Microsoft Office COM Add-in](#) and [Your First Microsoft Outlook COM Add-in](#).

RTD Servers

RTD Server is a technology introduced in Excel XP. It is a great way to display constantly changing data such as stock quotes, currency exchange rates, inventory levels, price quotes, weather information, sports scores, and so on.

A short terminology list follows below:

- An RTD server is a Component Object Model (COM) Automation server that implements the **IRtdServer** interface. Excel uses the RTD server to communicate with a real-time data source on one or more topics.
- A real-time data source is any source of data that you can access programmatically.
- A topic is a string (or a set of strings) that uniquely identifies a piece of data that resides in a real-time data source. The RTD server passes the topic to the real-time data source and receives the value of the topic from the real-time data source; the RTD server then passes the value of the topic to Excel for display. For example, the RTD server passes the topic "New Topic" to the real-time data source, and the RTD server receives the topic value of "72.12" from the real-time data source. The RTD server then passes the topic value to Excel for display.



TadxXLRTDServerModule represents an RTD server. The only Add-in Express component allowed for this designer is the [RTD Topic](#). The module provides the **Interval** property that indicates the time interval between updates (in milliseconds).

You refer to an existing RTD server using the **RTD** worksheet function in Excel:

```
=RTD(ProgID, Server, String1, String2, ... String28)
```

The **ProgID** parameter is a required string value representing the programmatic ID (ProgID) of the RTD server. The current version of Add-in Express requires the **Server** parameter to be an empty string. Use two quotation marks ('). The **String1** through **String28** parameters represent the topics of the RTD server. Only the **String1** parameter is required; the **String2** through **String28** parameters are optional. The actual values for the **String1** through **String28** parameters depend on the requirements of the real-time data server.

Smart Tags

Office XP bestowed Smart Tags upon us in Word and Excel. Office 2003 added PowerPoint to the list of smart tag host applications. This technology provides Office users with more interactivity for the contents of their Office documents. A smart tag is an element of text in an Office document having custom actions associated with it. Smart tags allow recognizing such text using either a dictionary-based or a custom-processing approach. An example of such text might be an e-mail address you type into a Word document or an Excel workbook. When smart tag recognizes the e-mail address, it allows the user to choose one of the actions associated with the text. For e-mail addresses, possible actions are to look up additional contact information or send a new e-mail message to that contact.

TadxSmartTagModule lies at the base of the Add-in Express Smart Tags. It represents a set or a library of smart tag recognizers in Excel, Word, and PowerPoint. The only Add-in Express component you add to the designer is [Smart Tag](#).

Smart tags are deprecated in Excel 2010 and Word 2010. Although you can still use the related APIs in projects for Excel 2010 and Word 2010, these applications do not automatically recognize terms, and recognized terms are no longer underlined. Users must trigger recognition and view custom actions associated with text by right-clicking the text and clicking the Additional Actions on the context menu. Please see [Changes in Word 2010](#) and [Changes in Excel 2010](#).

Excel Automation Add-ins

Excel 2002 brought in Automation Add-ins – a technology that allows writing user-defined functions for use in Excel formulas. Add-in Express provides you with a specialized module, COM Excel Add-in Module, that cuts down this task to just writing one or more user-defined functions. A typical function accepts one or more



Excel ranges and/or other parameters. Excel shows the resulting value of the function in the cell where the user calls it.

Add-in Express allows developing Excel Automation add-ins using the add-in module that has the **XLAutomationAddin** Boolean property. Set the property to **true**, add a method to the add-in module's type library, and write the method's code.

Excel Workbooks

Sometimes you need to automate a given Excel workbook (template). You can do it with **TadxExcelSheetModule** that represents one worksheet of the workbook. For the module to recognize the workbook, you need to fill the following properties: **Document**, **Worksheet**, **PropertyID**, and **PropertyValue**. When you fill the **PropertyID** and **PropertyValue** properties, the design-time code of the module creates the property in the workbook and specifies its value.

A typical scenario of the module usage includes creating the workbook and designing it with MS Forms controls. Accordingly, in the IDE, you set up the **PropertyID** and **PropertyValue** properties, add Add-in Express MSForms control components to the module and bind them to the MS Forms controls on the worksheet. The module provides a full set of events available for the Excel Workbook class.

For the Add-in Express components available for the module see the following chapters: [Command Bars: Toolbars, Menus, and Context Menus](#), [Command Bar Controls](#), [Built-in Control Connector](#), [MSForms Controls](#), and [Host Application Events](#).

Word Documents

To automate a given Word document, you use the **TadxWordDocumentModule**. For the module to recognize the document, you need to fill the following properties: **Document**, **PropertyID**, and **PropertyValue**. When you fill the **PropertyID** and **PropertyValue** properties, the design-time code of the module creates the property in the document and specifies its value.

A typical scenario of the module usage includes creating a document and designing it with MS Forms controls. Accordingly, in the IDE, you set up **PropertyID** and **PropertyValue** properties, add Add-in Express MSForms control components to the module and bind them to the MS Forms controls on the document. The module provides a full set of events available for the Word Document class.

For the Add-in Express components available for the module see the following chapters: [Command Bars: Toolbars, Menus, and Context Menus](#), [Command Bar Controls](#), [Built-in Control Connector](#), [MSForms Controls](#), and [Host Application Events](#). The module provides a full set of events available for a Word document.



Add-in Express Components

How to Add an Add-in Express Component to an Add-in Express Designer

You can find all the Add-in Express components below in the Add-in Express category on the Tool Palette:

- **TadxCommandBar** – a command bar (see [Command Bars: Toolbars, Menus, and Context Menus](#))
- **TadxOIEplorerCommandBar** – an Outlook Explorer command bar (see [Command Bars: Toolbars, Menus, and Context Menus](#))
- **TadxOIInspectorCommandBar** – an Outlook Inspector command bar (see [Command Bars: Toolbars, Menus, and Context Menus](#))
- **TadxMainMenu** – a main menu in any Office application (see [Command Bars: Toolbars, Menus, and Context Menus](#))
- **TadxOIEplorerMainMenu** – a main menu in Outlook Explorer (see [Command Bars: Toolbars, Menus, and Context Menus](#))
- **TadxOIInspectorMainMenu** – a main menu in Outlook Inspector (see [Command Bars: Toolbars, Menus, and Context Menus](#))
- **TadxContextMenu** – a context menu in any Office application (see [Command Bars: Toolbars, Menus, and Context Menus](#))
- **TadxBuiltInControl** – allows intercepting the action of a built-in control of the host application(s) (see [Built-in Control Connector](#))
- **TadxOIBarShortcutManager** – allows adding Outlook Bar shortcuts and shortcut groups (see [Outlook Bar Shortcut Manager](#))
- **TadxKeyboardShortcut** – allows intercepting application-level keyboard shortcuts (see [Keyboard Shortcut](#))
- **TadxRTDTopic** – represents a topic supported by your RTD server (see [RTD Topic](#))
- **TadxSmartTag** – represents a [Smart Tag](#)
- **Tadx<application name>AppEvents** – allows connecting to application-level events in the corresponding Office applications (see [Host Application Events](#))
- **TadxRibbonTab** – a Ribbon tab (see [Office Ribbon Components](#))
- **TadxRibbonQAT** – the Ribbon Quick Access Toolbar (see [Office Ribbon Components](#))
- **TadxRibbonOfficeMenu** – the Ribbon Office Menu (see [Office Ribbon Components](#))
- **TadxRibbonCommand** – allows intercepting built-in Ribbon commands (see [Office Ribbon Components](#))
- **TadxOLSolutionModule** – allows adding a solution module to the Outlook 2010 UI (see [Programming the Outlook 2010 Solutions Module](#))



- **TadxRibbonContextMenu** – allows customizing context menus available in the Office 2010 Ribbon UI (see [Context Menu](#))
- **TadxBackstageView** – allows customizing the File Tab in the Office 2010 Ribbon UI.
- **TadxOIFormsManager** – allows embedding custom VCL forms into Outlook windows (see [Advanced Custom Task Panes](#))
- **TadxExcelTaskPanesManager** – allows embedding custom VCL forms into the main Excel window (see [Advanced Custom Task Panes](#))
- **TadxWordTaskPanesManager** – allows embedding custom VCL forms into the Word windows (see [Advanced Custom Task Panes](#))
- **TadxPowerPointTaskPanesManager** – allows embedding custom VCL forms into the main PowerPoint window (see [Advanced Custom Task Panes](#))

Office Ribbon Components

Office 2007 presented a new Ribbon user interface. Microsoft states that the interface makes it easier and quicker for users to achieve the desired results. The developers extend this interface by using the XML markup that the COM add-in should return to the host through the appropriate interface.

Add-in Express provides some 50 Ribbon-related components to give you the full power of the Ribbon UI customization features. You start with **TadxRibbonTab**, **TadxBackstageView** in Office 2010 or **TadxRibbonOfficeMenu** in Office 2007 and **TadxRibbonQAT** (Quick Access Toolbar) that undertake the task of creating the markup. You add controls to a tab or menu using a convenient tree-view-like editor that allows you to see all the items of a tab or menu at a glance. To access the controls in your code you use the **FindRibbonControl** function of the add-in module. Please note, Microsoft requires developers to use the **StartFromScratch** parameter (see the **StartFromScratch** property of the add-in module) when customizing the Quick Access Toolbar.

In Office 2010, Microsoft abandoned the Office Button (introduced in Office 2007) in favor of the File Tab (Backstage View). To provide some sort of compatibility for you, **TadxRibbonOfficeMenu** will map your controls to the File tab **unless** you **use** **TadxBackStageView** components in your project; otherwise all the controls you add to **TadxRibbonOfficeMenu** are ignored when Office 2010 loads your add-in.

To use pre-Office2007 command bars in the Office 2007-2010 add-ins, you must explicitly set the **UseForRibbon** property of the appropriate command bar components to **True**. In this case, your toolbars are added to the built-in ribbon tab called Add-ins.

You use the Ribbon Command (**TadxRibbonCommand**) component to override the default action of a built-in Ribbon control. Note that Microsoft allows intercepting only buttons, toggle buttons and check boxes; see the **ActionTarget** property of the component. You specify the built-in Ribbon control to be intercepted in the **IdMso** property of the component. In fact, you are expected to specify the ID of the control to be intercepted. All such IDs are available for download at the Microsoft web site, for Office 2007, see [here](#); for Office 2010,



see [this](#) page. The download installs Excel files; the Control Name column of each contains the IDs of **almost** all built-in Ribbon controls for the corresponding Ribbon.

New features of the Ribbon UI in Office 2010 are covered by the [TadxBackStageView](#) and [TadxRibbonContextMenu](#) components discussed in [Main Menu](#) and [Context Menu](#).

Task Panes

Advanced Custom Task Panes in Office 2000-2010

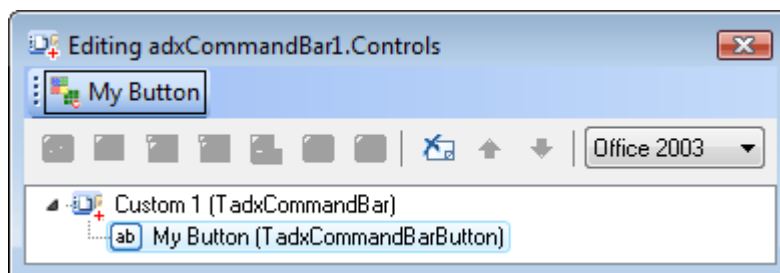
Add-in Express provides a technology to show custom task panes in Outlook, Excel, Word and PowerPoint, versions 2000-2010. See [Advanced Custom Task Panes](#) for details.

Custom Task Panes in Office 2007-2010

To allow further customization of its applications, Office 2007 provides custom task panes. Add-in Express supports Office 2007 custom task panes by providing the appropriate window in the project wizard and equipping the add-in module with the [TaskPanes](#) property. Use the Add-in Express COM Add-in project wizard to add a task pane(s) to your project. Add your reaction to the [OnTaskPaneXXX](#) event series of the add-in module and the [OnDockPositionStateChange](#) and [OnVisibleStateChange](#) events of the task pane.

Command Bars: Toolbars, Menus, and Context Menus

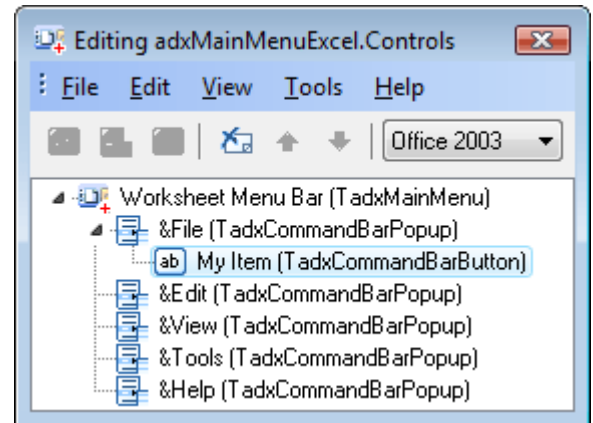
Microsoft Office 2000-2003 supplied us with a common term for Office toolbars, menus, and context menus. This term is "command bar". Add-in Express provides toolbar, menu, and context menu components that allow tuning up targeted command bars at design-time. Every such component provides a visual designer available in the [Controls](#) property of the component.



For instance, the screenshot above shows a visual designer for the toolbar component that creates a custom toolbar with a button. Note that this screenshot was taken when creating a sample project described in [Your First Microsoft Office COM Add-in](#).



To create toolbars, menus, and context menus in Outlook, you need to use Outlook-specific versions of command bar components.



Toolbar

To add a toolbar to your add-in, find **TadxCommandBar** (**TadxOIExplorerCommandBar**, **TadxOIInspectorCommandBar**) in the Tool Palette and

drop it onto the add-in module. Its most important property is **CommandBarName**. If its value is not equal to the name of any built-in command bar of the host application, then you are creating a new command bar. If its value is equal to any built-in command bar of the host application, then you are connecting to a built-in command bar. To find out the built-in command bar names, use our free [Built-in Controls Scanner](#) utility.

To position your toolbar, use the **Position** property that allows docking your toolbar to the top, right, bottom, or left edges of the host application window. You can also leave your toolbar floating. For a fine positioning you can use the **CommandBarLeft**, **CommandBarTop**, and **RowIndex** properties. To show a pre-2007 toolbar in the Add-ins tab in Office 2007, set the **UseForRibbon** property of the corresponding command bar component to **true**.

To speed up add-in loading when connecting to an existing command bar, set the **Temporary** property to **False**. To make the host application remove the command bar when the host application quits, set the **Temporary** property to **true**. See also [Temporary or Not?](#)

Main Menu

By using the Add Main Menu command of the add-in module, you add a **TadxMainMenu**, which is intended for customizing main menu in an Office application that you specify in the **SupportedApp** property.

Like the toolbar component, it provides a visual designer for the **Controls** property. To add a custom top-level menu item, just add a popup control to the command bar. Then you can populate it with other controls. Note, however, that for all menu components, the controls can be buttons and pop-ups only. To add a custom button to a built-in top-level menu item, you specify the ID of the top-level menu item in the **OfficeId** property of the button control. For instance, the ID of the File menu item in all Office applications is **30002**. See more details about IDs of command bar controls in [Using Built-in Command Bar Controls](#) and [Step #7 - Customizing Main Menus](#) in [Your First Microsoft Office COM Add-in](#). See also [Command Bar Controls](#), [Built-in Control Connector](#).

In main applications of Office 2007, they replaced the command system with the Ribbon UI. So, instead of adding custom items to the main menu, you need to add them to a custom or built-in Ribbon tab. Also, you

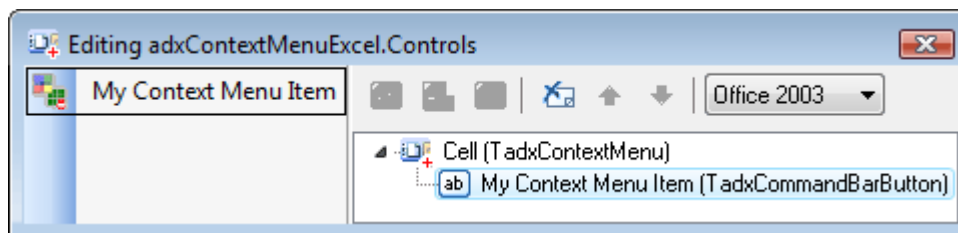


can add custom items to the menu of the Office Button. In Office 2010, they added the Ribbon UI to all Office applications and abandoned the Office button in favor of the File Tab, also known as Backstage View. Add-in Express provides components allowing customizing both the File Tab and the Ribbon Office menu, see [Step #7 - Customizing Main Menu](#) in [Your First Microsoft Office COM Add-in](#). Note, if you customize the Office Button menu only, Add-in Express maps your controls to the Backstage View. If, however, both Office Button menu and File tab are customized at the same time, Add-in Express ignores custom controls you add to the Office Button menu.

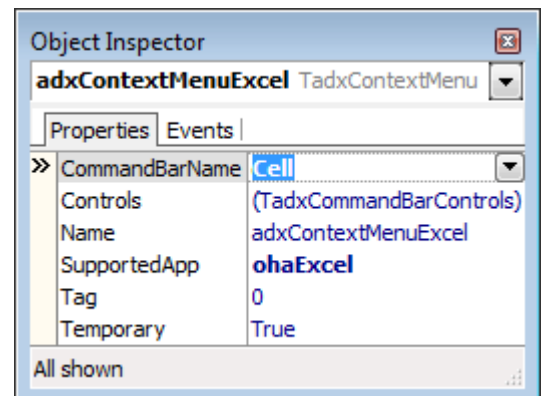
Context Menu

The **TadxContextMenu** component allows you to add a custom command bar control to any context menu available in all Office applications **except for Outlook 2000**. The component allows connecting to a single context menu of a single host application. Like for the Main Menu component, you must specify the **SupportedApp** property. To specify the context menu you want to connect to, just choose the name of the context menu in the **CommandBarName** combo.

Note that context menu names for this combo were taken from Office 2007, the last Office version that introduced new commandbar-based context menus. Therefore, it is possible that the targeted context menu is not available in a pre-2007 Office version.



In Office 2010 and higher, you can customize both commandbar-based and Ribbon-based context menus. See [Step #8 – Customizing Context Menus](#) in [Your First Microsoft Office COM Add-in](#) and [Step #10 – Customizing Context Menus in Outlook](#) in [Your First Microsoft Outlook COM Add-in](#).



Outlook Toolbars and Main Menus

While the look-and-feel of all Office toolbars is the same, Outlook toolbars differ from toolbars of other Office applications because Outlook has toolbars in Outlook Explorer and Outlook Inspector windows that work in quite different ways. Accordingly, Add-in Express includes Outlook-specific command bar components that work correctly in multiple Explorer and Inspector windows scenarios: **TadxOIExplorerCommandBar** and **TadxOIInspectorCommandBar**. In the same way, Add-in Express provides Outlook-specific versions of the Main Menu component: **TadxOIExplorerMainMenu** and **TadxOIInspectorMainMenu**.



All of the components above provide the **FolderName**, **FolderNames**, and **ItemTypes** properties that add context-sensitive features to the command bar. For instance, you can choose your toolbar to show up for e-mails only. To achieve this just specify a correct value in the **ItemTypes** property editor.

Connecting to Existing Command Bars

In Office, all command bars are identified by their names. Keeping it in mind, you can add a custom or built-in control to any existing command bar. The only thing you need to know is the command bar name. Use our free [Built-in Controls Scanner](#) to get the names of all command bars and controls existing in any Office application. Then you can specify any of the command bar names in the **CommandBarName** property of the appropriate command bar component.

Command Bar Controls

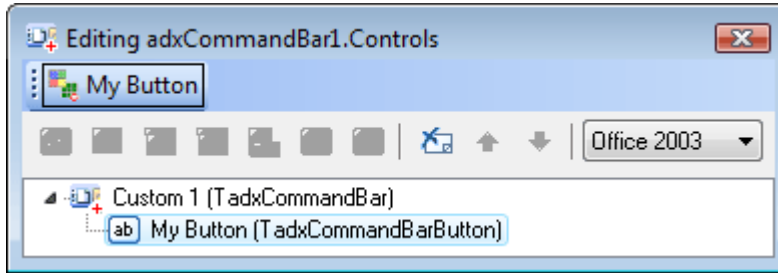
The Office Object Model (OOM) includes the following command bar controls: **CommandBarButton**, **CommandBarComboBox**, and **CommandBarPopup**. Using the correct property settings of the **CommandBarComboBox** component, you can extend the list with edits and dropdowns.

What follows below is a list of controls available for Add-in Express command bars:

- **TadxCommandBarButton**
- **TadxCommandBarComboBox**
- **TadxCommandBarEdit**
- **TadxCommandBarPopup**
- **TadxCommandBarDropDownList**
- **TadxCommandBarControl** (you use this item to add built-in controls to your command bars)
- **TadxCommandBarAdvancedControl** (reserved for future use).

Please note that due to the nature of command bars (remember, a 'command bar' stands for toolbar, menu, and context menu), [context] menu items can be buttons, combo boxes, and pop-ups only.

Command bar components provide the **Controls** property. Clicking it in the Object Inspector window in Delphi invokes the appropriate visual designer. On the picture below, you can see the visual designer to populate a toolbar with custom controls.



Using the designer, you can populate your command bars with controls and set up their properties at design-time. At run-time, you use the **Controls** collection of your command bar. Every control (built-in and custom) added to this collection will be added to the corresponding toolbar at your add-in startup.

Command Bar Control Properties and Events

The main property of any command bar control (they descend from **TadxCommandBarControl**) is the **OfficeId** property. To add a built-in control to your toolbar, specify its ID in the **OfficeId** property of a corresponding command bar control component. To find out the ID of every built-in control in any Office application, use our free [Built-in Controls Scanner](#) utility. To add a custom control onto the toolbar, leave **OfficeId** unchanged.

To add a separator before any given control, set its **BeginGroup** property to **true**.

Set up the control's appearance using a large number of its properties, such as **Enabled** and **Visible**, **Style** and **State**, **Caption** and **ToolTipText**, **DropDownLines** and **DropDownWidth**, etc. You also control the size (**Height**, **Width**) and location (**Before**, **AfterId**, and **BeforeId**) properties. To provide your command bar buttons with a default list of icons, drop an **ImageList** component onto the add-in module and specify the **ImageList** in the **Images** property of the module. Do not forget to set the button's **Style** property to either **adxMsoButtonIconAndCaption** or **adxMsoButtonIcon**.

Use the **OIExplorerItemTypes**, **OIInspectorItemTypes**, and **OIItemTypesAction** properties to add context-sensitivity to controls on Outlook-specific command bars. The **OIItemTypesAction** property defines an action that Add-in Express will perform with the control when the current item's type coincides with that specified by you.

To handle user actions, use the **Click** event for buttons and the **Change** event for edit, combo box, and drop down list controls. Also use the **DisableStandardAction** property available for built-in buttons added to your command bar. To intercept events of any built-in control, see [Built-in Control Connector](#).



Command Bar Control Types

The Office Object Model contains the following control types available for **toolbars**: button, combo box, and pop-up. Using the correct property settings of the combo box component, you can extend the list with edits and dropdowns.

Please note that due to the nature of command bars, **menu and context menu items** can only be buttons and pop-ups (item File in any main menu is a sample of a popup).

Using Built-in Command Bar Controls

Add-in Express connects to a built-in control using the ID that you supply in the **OfficeID** property. That is, if you specify the ID of a control not equal to **1**, Add-in Express adds it to your toolbar. Using this approach, you can override the standard behavior of a built-in button on a given toolbar:

- Add a new toolbar component to the module
- Specify the toolbar name in the **CommandBarName** property
- Add a **TadxCommandBarButton** to the command bar
- Specify the ID of the built-in button in the **TadxCommandBarButton.OfficeId** property
- Set **DisableStandardAction** to **true**
- Now you can handle the **Click** event of the button

You can find the IDs using the free Built-in Controls Scanner utility. Download it at <http://www.add-in-express.com/downloads/controls-scanner.php>.

Built-in Control Connector

Built-in controls of an Office application have predefined IDs. You can find the IDs using the free [Built-in Controls Scanner utility](#).

The Built-in Control Connector component allows overriding the standard action of any built-in control without adding it onto any command bar.

Add **TadxBuiltInControl** onto **TadxCOMAddinModule**. Set its **Id** property to the command bar control ID. To connect the component to the command bar control, leave its **CommandBar** property empty. To connect the component to the control on a given toolbar, specify the toolbar in the **CommandBar** property. To override the default action of the control, use the **Action** event. The component traces the context and when any change happens, it reconnects to the currently active instance of the command bar control with the given Id, taking this task away from you.

Connecting to built-in Ribbon controls is described in [Office Ribbon Components](#)



Keyboard Shortcut

Every Office application provides built-in keyboard combinations that allow shortening the access path for commands, features, and options of the application. Add-in Express allows adding custom keyboard combinations and processing both custom and built-in ones.

Add the component onto `TadxCOMAddinModule`, choose the keyboard shortcut you need in the `ShortcutText` property, set the `HandleShortCuts` property of the Add-in Express module to true and process the `Action` event of the `KeyboardShortcut` component.

Outlook Bar Shortcut Manager

Outlook provides us with the Outlook Bar (Navigation Pane in Outlook 2003). The Outlook Bar displays Shortcut groups consisting of Shortcuts that you can target at a Microsoft Outlook folder, a file-system folder, or a file-system path or URL. You use the Outlook Bar Shortcut Manager to customize the Outlook Bar with your shortcuts and groups.

This component is available for `TadxCOMAddinModule`. Use the `Groups` collection of the component to create a new shortcut group. Use the `Shortcuts` collection of a short group to create a new shortcut. To connect to an existing shortcut or shortcut group, set the `Caption` properties of the corresponding `TadxOIBarShortcut` and/or `TadxOIBarGroup` components equal to the caption of the existing shortcut or shortcut group. Please note that there is no other way to identify the group or shortcut.

That is why your shortcuts and shortcut groups must be named uniquely for Add-in Express to remove only the specified ones (and not those having the same names) when the add-in is uninstalled. That is why you have to do this yourself. Depending on the type of its value, the `Target` property of the `TadxOIBarShortcut` component allows you to specify different shortcut types. If the type is `MAPIFolder`, the shortcut represents a Microsoft Outlook folder. If the type is a `String`, the shortcut represents a file-system path or a URL.

Outlook Property Page

Outlook allows extending its Options dialog with custom pages. You see this dialog when you choose Tools | Options menu. In addition, Outlook allows adding such page to the Folder Properties dialog. You see this dialog when you choose the Properties item in the folder context menu. You can create such pages in the Add-in Express Outlook Add-in project wizard.

The `FolderName`, `FolderNames`, and `ItemTypes` properties of the Add-in Express Outlook folder pages work in the same way as those of Outlook-specific command bars.

Specify reactions required by your business logics in the `Apply` event handler. In the page controls' event handlers, use the `UpdatePropertyPageSite` method to mark the page as `Dirty`.



Outlook Forms Manager, Excel Task Panes Manager, Word Task Panes Manager, PowerPoint Task Panes Manager

See [Advanced Custom Task Panes](#).

Smart Tag

The **Kind** property of the **TadxSmartTag** component allows you to choose from two text recognition strategies: using a list of words in the **RecognizedWords** string collection, or implementing a custom recognition process based on the **Recognize** event of the component. Use the **ActionNeeded** event to change the **Actions** collection according to the current context. The component raises the **PropertyPage** event when the user clicks the **Property** button in the Smart Tags tab (Tools | AutoCorrect Options menu) for your smart tag.

RTD Topic

Use the **String##** properties to identify the topic of your RTD server. To handle RTD server startup situations nicely, specify the default value for the topic and using the **UseStoredValue** property, specify if the RTD function in Excel returns the default value (**UseStoredValue** := **false**) or doesn't change the displayed value (**UseStoredValue** := **true**). The RTD Topic component provides you with the **Connect**, **Disconnect**, and **RefreshData** events. The last one occurs (for enabled topics only) whenever Excel calls the RTD function.

Host Application Events

Add-in Express provides event components for all Office applications on the Tool Palette: Just add appropriate Add-in Express event components to the module, and use their event handlers to respond to the host application events. However, we recommend you to make use of the events provided by the add-in module before you start using event components.

MSForms Controls

Add-in Express provides MS Forms control components on the Tool Palette. These components are to be used on the **TadxExcelSheetModule** and **TadxWordDocumentModule**. Add an the appropriate MS Forms Control Connector to the module. Use the **ControlName** property of the connector to specify the underlying control on the Excel worksheet or Word document. Respond to the events provided by the control connector.



Advanced Custom Task Panes

Add-in Express allows COM add-ins to show custom panes in Outlook, Excel, Word, and PowerPoint, versions 2000-2007.

An Absolute Must-Know

Here are the three main points you should know:

- there are application-specific `<Manager>` components; every `<Manager>` component provides a collection; each `<Item>` from the collection binds a `<Form>` (an application-specific descendant of `TForm`) to the visualization and context (Outlook-only) settings;
- you **never** create an instance of a `<Form>` in the way you create an instance of `TForm`; instead, the `<Manager>` creates instances of the `<Form>` for you either automatically or at your request;
- the `Visible` property of a `<Form>` instance is `true` when the instance is embedded into a window region (as specified by the visualization settings) regardless of the actual visibility of the instance; the `Active` property of the `<Form>` instance is true when the instance is shown on top of all other instances in the same region.

A necessary comment

Anywhere in this section, a term in angle brackets, such as `<Manager>` or `<Form>` above, specifies a component, class, or class member, the actual name of which is application-dependent. Every such term is covered in the corresponding chapter of this manual.

Hello, World!

The process of adding custom panes to a particular application is described in the respective parts of the following samples:

- Outlook – in [Your First Microsoft Outlook COM Add-in](#) see [Step #15 – Adding Custom Task Panes in Outlook 2000-](#)
- Excel – in [Your First Microsoft Office COM Add-in](#), see [Step #11 – Adding Custom Task Panes in Excel 2000-](#)
- PowerPoint – in [Your First Microsoft Office COM Add-in](#), see [Step #12 – Adding Custom Task Panes for PowerPoint 2000-](#)
- Word – in [Your First Microsoft Office COM Add-in](#), see [Step #13 – Adding Custom Task Panes for Word 2000-](#)

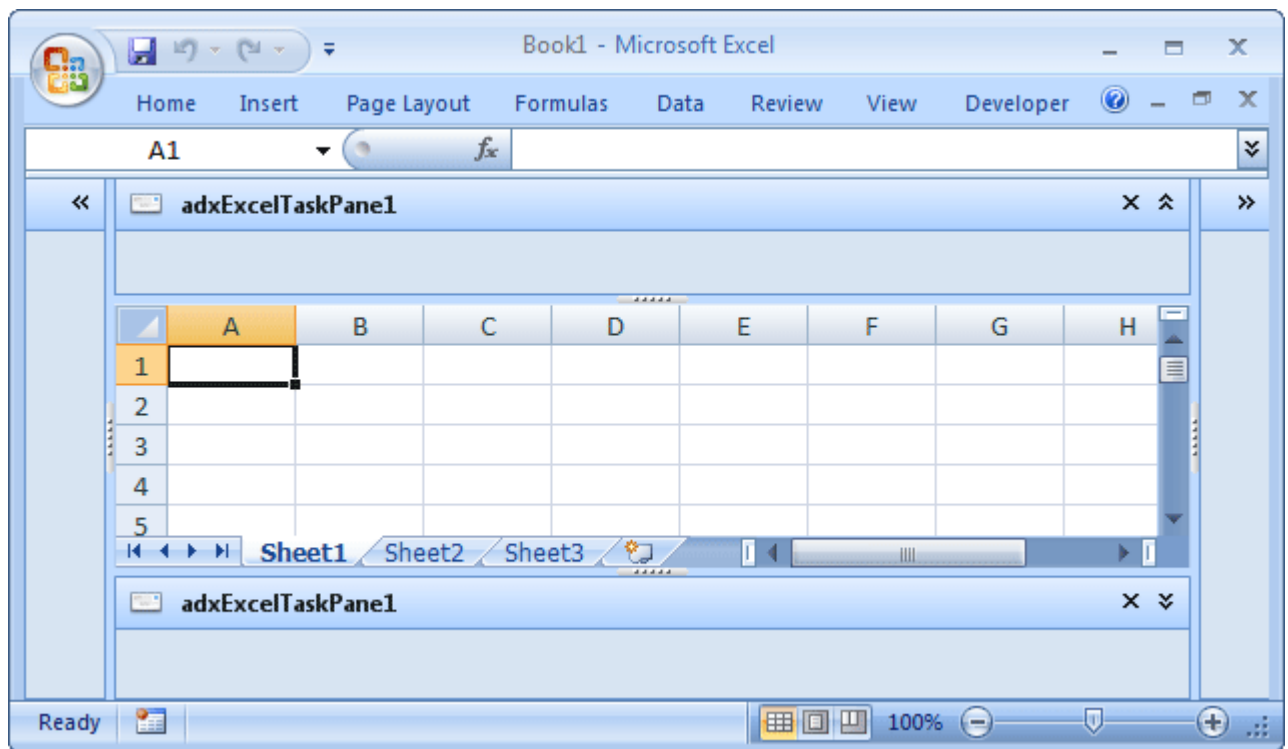


The Regions

Obviously, all Office applications have different window structures. Therefore, Add-in Express provides a number of application-specific options for embedding your forms.

Word, Excel and PowerPoint Regions

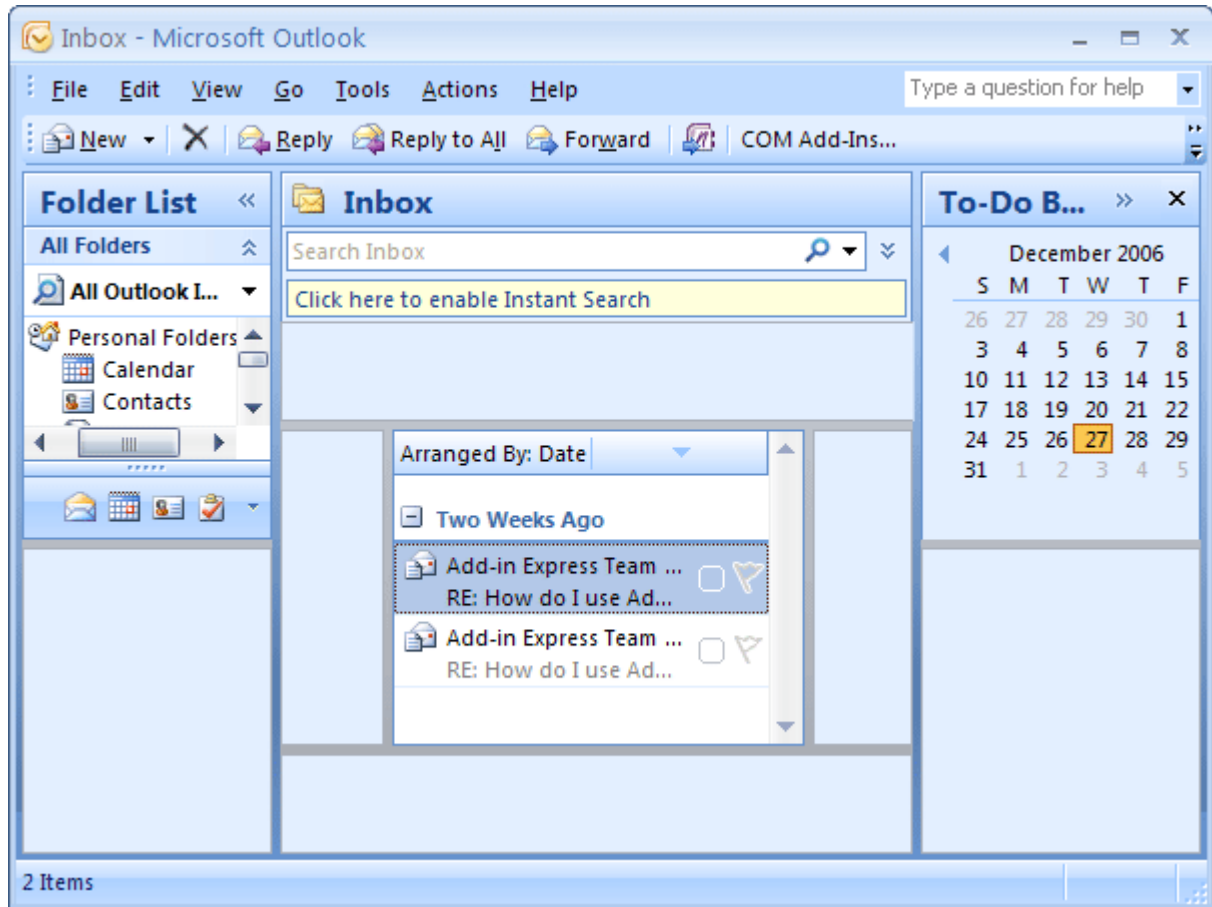
These Office applications allow showing your forms in four regions; the regions are docked to the four edges of the application's main window. The names of the regions are **Left**, **Top**, **Right**, and **Bottom** (see the **Position** property of the `<Item>`).



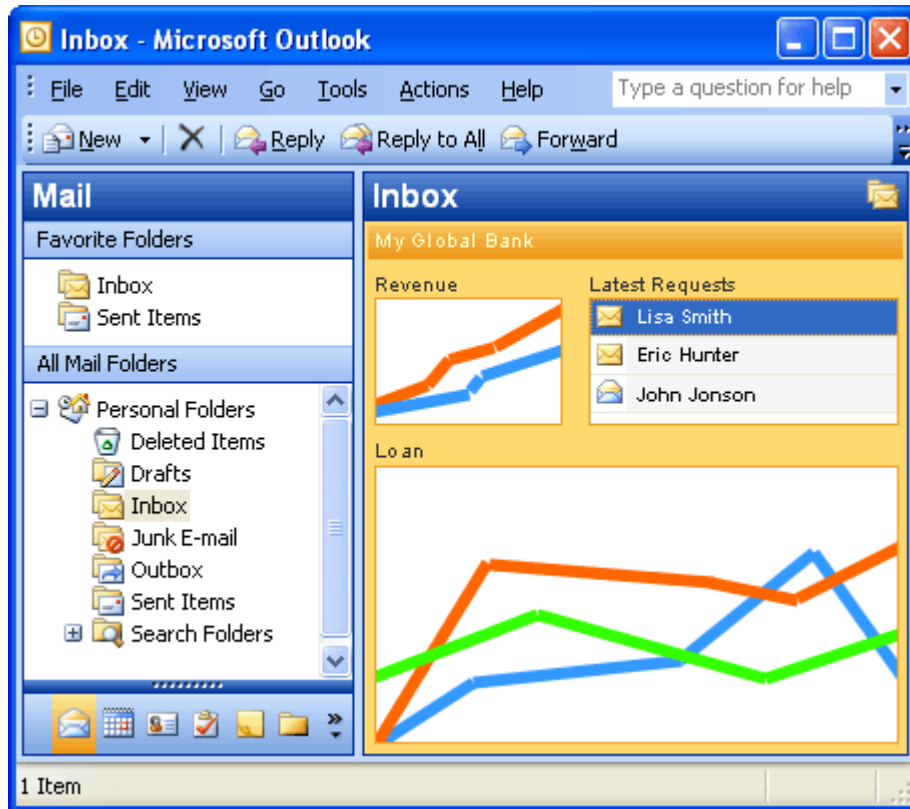
Outlook Regions

Outlook regions are specified in the **ExplorerLayout** and **InspectorLayout** properties of the item (= **TadxOIFormsCollectionItem**). Note that you must also specify the item's **ExplorerItemTypes** and/or **InspectorItemTypes** properties; otherwise, the form (an instance of **ADXOIForm**) will never be shown. Here is the list of Outlook regions:

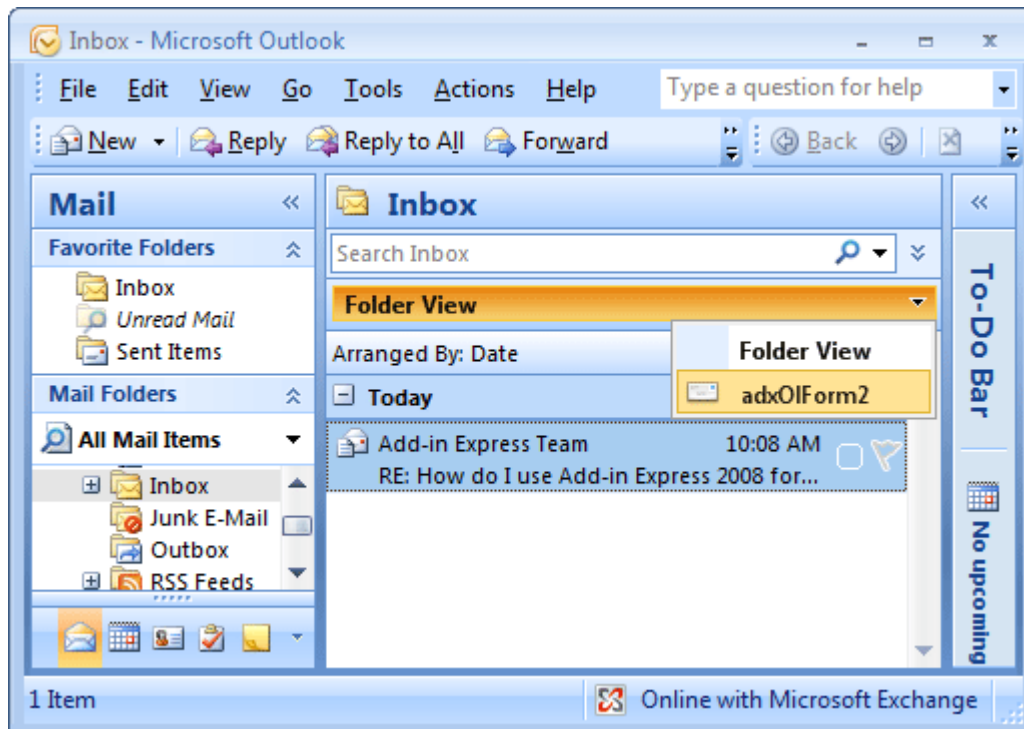
- Four regions around the list of mails, tasks, contacts etc. The region names are **LeftSubpane**, **TopSubpane**, **RightSubpane**, **BottomSubpane** (see the screenshot below)
- One region below the Navigation Pane – **BottomNavigationPane** (see the screenshot below)
- One region below the To-Do Bar – **BottomToDoBar** (see the screenshot below)



- One region below the Outlook Bar (Outlook 2000 and 2002) – **BottomOutlookBar**
- The **WebViewPane** region (see the screenshot below). Note that it uses Outlook properties in order to replace the items grid with your form (see also [WebViewPane](#)).

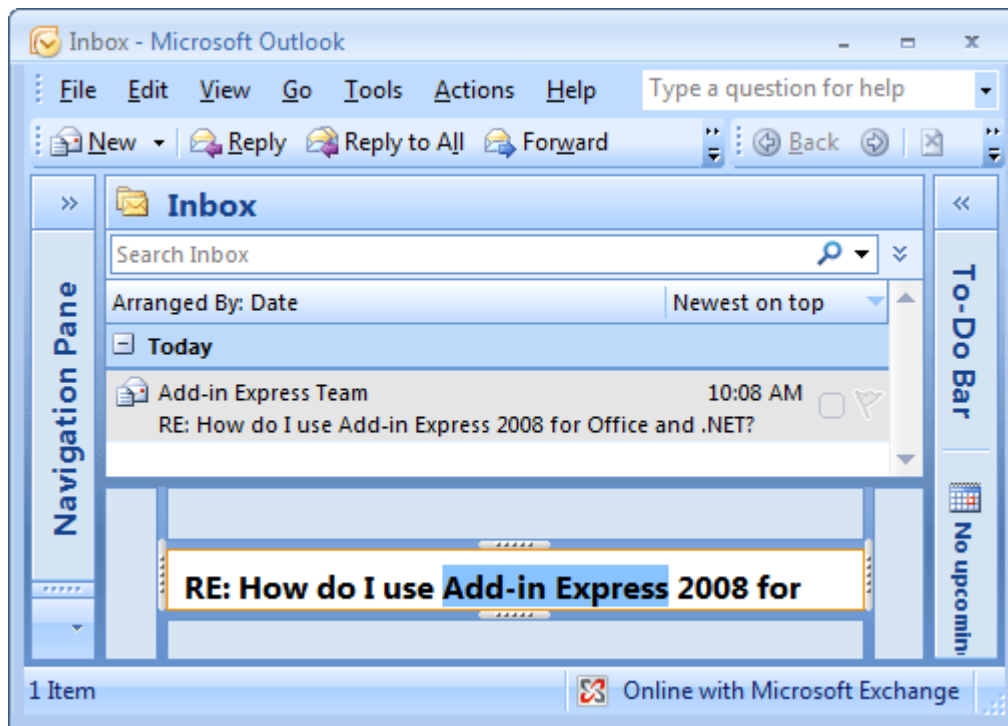


- The **FolderView** region. Unlike [WebViewPane](#), it allows the user to switch between the original Outlook view and your form.

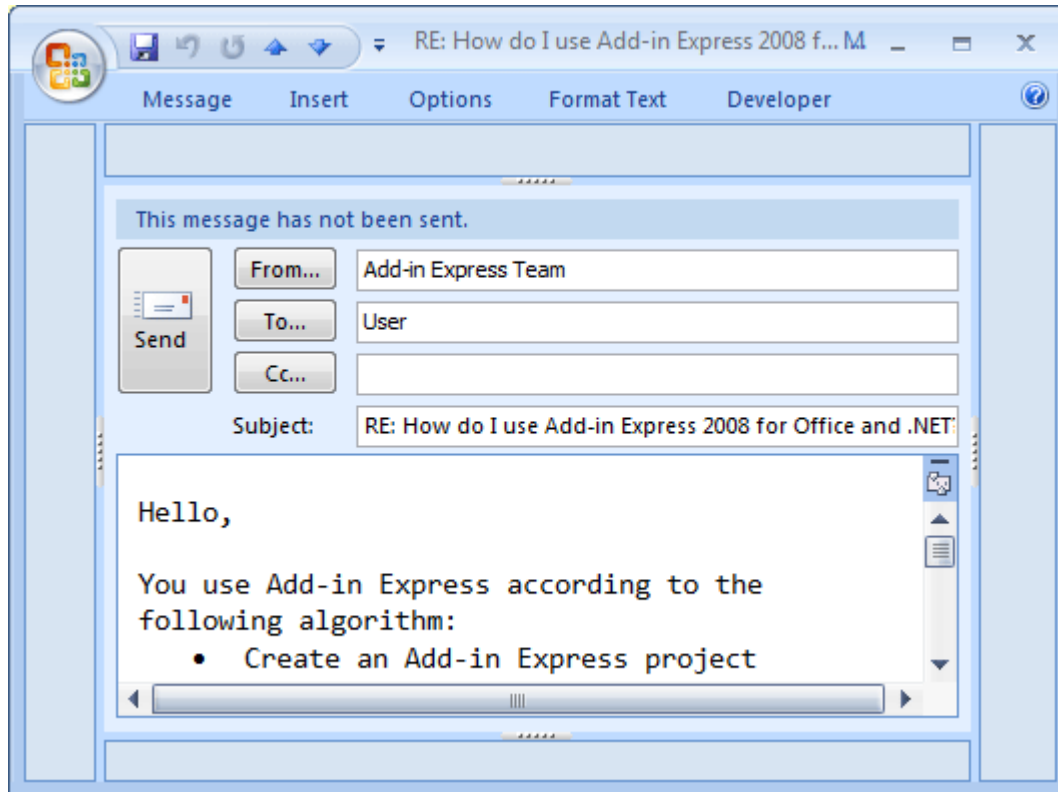




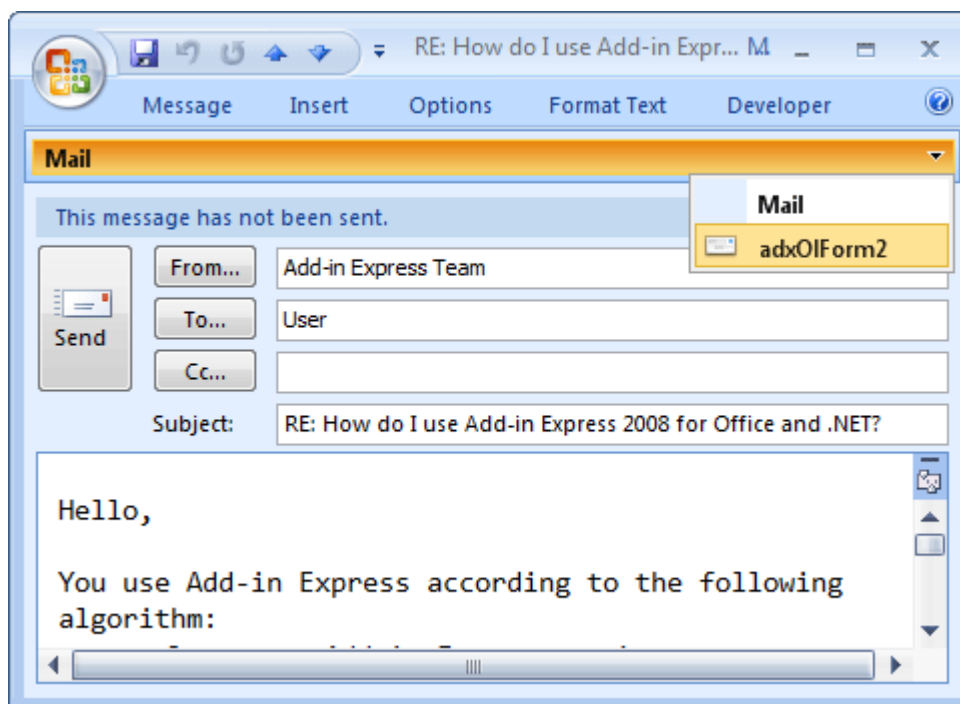
- Four regions around the Reading Pane – **LeftReadingPane**, **TopReadingPane**, **RightReadingPane**, **BottomReadingPane** (see the screenshot below)



- Four regions around the body of an e-mail, task, contact, etc. The region names are **LeftSubpane**, **TopSubpane**, **RightSubpane**, **BottomSubpane** (see the screenshot below)



- The **InspectorRegion** region (see the screenshot below)



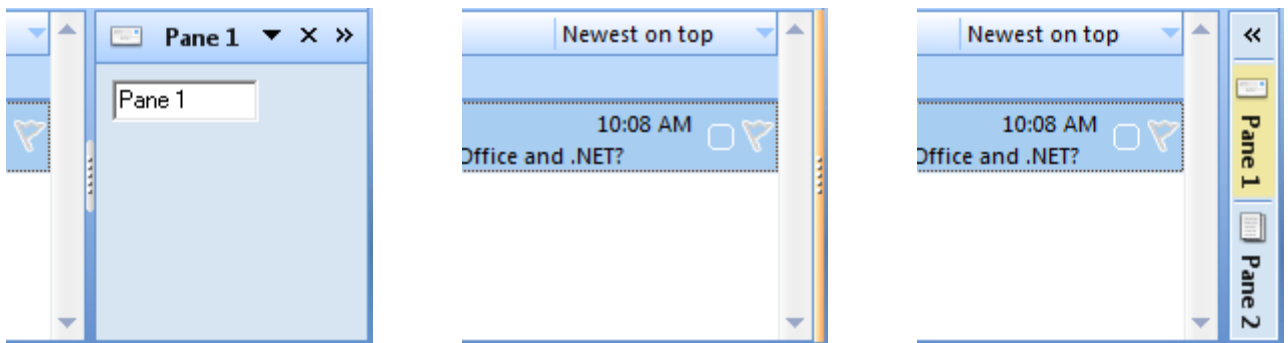


The UI Mechanics

The UI, Related Properties and Events

As mentioned in [An Absolute Must-Know](#), the `<Manager>` creates instances of the `<Form>`. An instance of the `<Form>` (further on it is referenced as form) is considered visible if it is embedded into a region. The form may be actually invisible either due to the region state (see below) or because other forms in the same region hide it. Anyway, in this case `<Form>.Visible` returns `true`. To prevent embedding the form into a region, you can set `<Form>.Visible` to false in the event named `OnADXBeforeFormShow` in Outlook, `OnADXBeforeTaskPaneShow` in Excel, Word, and PowerPoint. When the form is shown in a region, the `OnActivate` event occurs and `<Form>.Active` becomes `true`. When the user moves the focus onto the form, the `<Form>` generates the `OnADXEnter` event. When the form loses focus, the `OnADXLeave` event occurs. When the form becomes actually invisible, it generates the `OnDeactivate` event. When the corresponding `<Manager>` removes the form from its region, `<Form>.Visible` becomes `false` and the form generates the `OnADXAFTERFormHide` event in Outlook, `OnADXAFTERTaskPaneHide` event in Excel, Word, and PowerPoint.

The form may be initially shown in any of the following region states: normal, hidden (collapsed to a 5px wide strip), minimized (reduced to the size of the form caption).



You can change the state of your form at run-time using the `<Form>.RegionState` property. When showing your Outlook form in some layouts, you need to show the standard form that your form overlays; use the `TadxOIForm.ActivateStandardPane()` method. Also, you can use the `DefaultRegionState` property of the `<Item>`. Note that this property will work for you when you show the form in that region for the very first time and no other forms have been shown in that region before.

When the region is in the hidden state, the user can click on the splitter and the region will get back to the normal state.

When the region is in the normal state, the user can choose any of the options below:

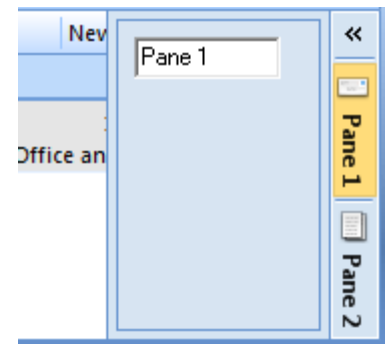
- change the region size by moving the splitter; this raises size-related events of the form



- hide the form by clicking on the "dotted" mini-button or by double-clicking anywhere on the splitter; this fires the **OnDeactivate** event of the **<Form>**
- close the form by clicking on the Close button in the form header; this fires the **OnADXCloseButtonClick** event of the **<Form>**. The event can be cancelled; if it isn't cancelled, the **OnDeactivate** event occurs, then the pane is being deleted from the region (**<Form>.Visible = false**) and finally the **<OnADXAAfterFormHide>** event of the **<Form>** occurs
- show another form by clicking the header and choosing an appropriate item in the popup menu; this fires the **OnDeactivate** event on the first form and the **OnActivate** event on the second form
- transfer the region to the minimized state by clicking the arrow in the right corner of the form header; this fires the **OnDeactivate** event of the form.

When the region is in the minimized state, the user can choose either of the two options below:

- return the region to the normal state by clicking the arrow at the top of the slim profile of the form region; this raises the **OnActivate** event of the form and changes the **Active** property of the form to **true**
- expand the form itself by clicking on the form's button; this opens the form so that it overlaps a part of the Outlook window near the form region; this also raises the **OnActivate** event of the form and sets the **Active** property of the form to **true**.
- drag an Outlook item, Excel chart, file, selected text, etc onto the form button; this fires the **OnADXDragOverMinimized** event of the form; the event allows you to check the object being dragged and to decide if the form should be restored.



The Close Button and the Header

The Close button is shown if the **CloseButton** property of the **<Item>** is **true**. The header is always displayed when there are two or more forms in the same region. When there is just one form in a region, the header is shown only if the **AlwaysShowHeader** property of the **<Item>** is **true**.

Clicking on the Close button in the form header fires the **OnADXCloseButtonClick** event of the **<Form>**, the event is cancellable:

```
procedure TadxOlForm1.adxOlFormADXCloseButtonClick(Sender: TObject;
  Args: TadxOlCloseButtonClickEventArgs);
begin
  //Args.CloseForm := false;
end;
```



You can create a Ribbon or command bar button that allows the user to show the form that was previously hidden.

Showing/Hiding Form Instances Programmatically

In Excel and PowerPoint, a single instance of the **<Form>** is always created for a given **<Item>** because these applications show documents in a single main window. On the contrary, Word is an application that **normally** shows multiple windows, and in this situation, the Word Task Panes Manager creates one instance of the pane for every document opened in Word.

Outlook is a specific host application. It shows several instances of two window types simultaneously. In addition, the user can navigate through the folder tree and select, create and read several Outlook item types. Accordingly, a **TadxOIFormsCollectionItem** can generate and show several instances of **TadxOIForm** at the same time. Find more details on managing custom panes in Outlook in [Advanced Outlook Regions](#)

To access the form, which is currently active in Excel or PowerPoint, you use the **TaskPaneInstance** property of the **<Item>**. In Word, the property name is **CurrentTaskPaneInstance**; in Outlook, it is the **GetCurrentForm** method. To access all instances of the **<Form>** in Word, you use the **TaskPaneInstances** property of **TadxWordTaskPanesCollectionItem**; in Outlook, you use the **FormInstances** method of **TadxOIFormsCollectionItem**.

By setting the **Enabled** property of an **<Item>** to **false**, you delete all form instances created for that **<Item>**. To hide any given form (i.e. to remove it from the region), call its **Hide** method.

You can check that a form is not available in the UI (say, you cancelled the **<OnBeforeInstanceCreate>** or **<OnBeforeFormShow>** events or the user closed it) by checking the **Visible** property of the form:

```
function TAddInModule.DoesPaneExistInTheUI(): Boolean;
var
  Pane: TadxWordTaskPanel;
begin
  Pane :=
    adxWordTaskPanesManager1.Items[0].CurrentTaskPaneInstance
  as TadxWordTaskPanel;
  if Pane <> nil then
    Result := Pane.Visible
  else
    Result := false;
end;
```

If the form is not available in the UI, you can show such a form in one step:



- for Outlook, you call the **ApplyTo** method of the **<Item>**; the method accepts the parameter, which is either **Outlook2000._Explorer** or **Outlook2000._Inspector**;
- for Excel, Word, and PowerPoint, you call the **ShowTaskPane** method of the **<Item>**

The methods above also transfer the region showing the form to the normal state.

If the **Active** property of your form is **false**, that is if your form is hidden by other forms in the region, then you can call the **Activate** method of the **<Form>** to show the **form** on top of all other forms in that region. Note that if the region is in either minimized or hidden state, calling **Activate** will also transfer it to the normal state.

Note that your form does not restore its **Active** state in subsequent sessions of the host application in regions showing several forms. In other words, if several add-ins show several forms in the same region and the current session ends with a given form on top of all other forms in that region, the subsequent start of the host application may show some other form as active. This is because events are given to add-ins in an unpredictable order. When dealing with several forms of a given add-in, they are created in the order determined by their locations in the **<Items>** collection of the **<Manager>**.

In Outlook, due to context-sensitivity features provided by the **<Item>**, an instance of your form will be created whenever the current context matches that specified by the corresponding **<Item>**.

Resizing the Forms

There are two values of the **Splitter** property of the **<Item>**. The default one is **sbStandard**. This value shows the splitter allowing the user to change the form size as required. The form size is stored in the registry so that the size is restored whenever the user starts the host application.

You can only resize your form programmatically, if you set the **Splitter** property to **sbNone**. Of course, no splitter will be shown in this case. Changing the **Splitter** property programmatically does not affect a form currently loaded into its region (that is, having **Visible = true**). Instead, it will be applied to any newly shown form.

If the form is shown in a given region for the first time and no forms were ever shown in this region, the form will be shown using the appropriate dimensions that you set at design-time. On subsequent host application sessions, the form will be shown using the dimensions set by the user.

Tuning the Settings at Run-Time

To add/remove an **<Item>** to/from the collection and to customize the properties of an **<Item>** at add-in start-up, you use the **<Initialize>** event of the **<Manager>**; the event's name is **OnInitialize** for Outlook and **OnADXInitialize** for Excel, Word and PowerPoint.



Changing the **Enable**, **Cached** (Outlook only), **<FormClassName>** properties at run-time deletes all form instances created by the **<Item>**.

Changing the **InspectorItemTypes**, **ExplorerItemTypes**, **ExplorerMessageClasses**, **ExplorerMessageClass**, **InspectorMessageClasses**, **InspectorMessageClass**, **FolderNames**, **FolderName** properties of the **ADXOIFormsCollectionItem** deletes all non-visible form instances.

Changing the **<Position>** property of the **<Item>** changes the position for all visible form instances.

Changing the **Splitter** and **Tag** properties of the **<Item>** does not do anything for the currently visible form instances. You will see the change of the splitter when the **<Manager>** shows a new instance of the **<Form>**.

Excel Task Panes

Please see [The UI Mechanics](#) above for the detailed description of how Add-in Express panes work. Below you see the list containing some generic terms mentioned in [An Absolute Must-Know](#) and their Excel-specific equivalents:

- **<Manager>** - **TadxExcelTaskPanesModule**, the Excel Task Panes Manager
- **<Item>** - **TadxExcelTaskPanesModuleCollectionItem**
- **<Form>** - **TadxExcelTaskPane**

Application-specific features

TadxExcelTaskPane provides useful events that are unavailable in the Excel object model: **OnADXBeforeCellEdit** and **OnADXAftersCellEdit**.

Keyboard and Focus

TadxExcelTaskPane provides the **OnADXKeyFilter** event. It deals with the feature of Excel that captures the focus if a key combination handled by Excel is pressed. By default, Add-in Express panes do not pass key combinations to Excel. Thus, you can be sure that the focus will not leave the pane unexpectedly.

Just to understand this Excel feature, imagine that you need to let the user press **Ctrl+S** and get the workbook saved while your pane is focused. In such a scenario, you have two ways out:

- You process the key combination in the code of the pane and use the Excel object model to save the workbook.
- Or you send this key combination to Excel using the **OnADXKeyFilter** event.



Besides the obvious difference between the two ways above, the former leaves the focus on your pane while the latter effectively moves it to Excel because of the focus-capturing feature just mentioned.

The algorithm of key processing is as follows. Whenever a single key is pressed, it is sent to the pane. When a key combination is pressed, `TadxExcelTaskPane` determines if the combination is a shortcut to the pane. If it is, the keystroke is sent to the pane. If it is not, `OnADXKeyFilter` is fired and the key combination is passed to the event handler. Then the event handler specifies whether to send the key press to Excel or to the pane. The latter is the default behavior. Note that sending the key combination to Excel will result in moving the focus off the pane. The above implies that the `OnADXKeyFilter` event never fires for shortcuts on the pane's controls.

In addition, `OnADXKeyFilter` is never fired for hot keys (Alt + an alphanumeric symbol). If `TadxExcelTaskPane` determines that the pane cannot process the hot key, it sends the hot key to Excel, which activates its main menu. After the user has navigated through the menu by pressing arrow buttons, Esc, and other hot keys, opened and closed Excel dialogs, `TadxExcelTaskPane` will get focus again.

Wait a Little and Focus Again

The pane provides a simple infrastructure that allows implementing the Wait a Little schema - see the `ADXPostMessage` method and the `OnADXPostMessageReceived` event.

Currently we know at least one situation when this trick is required. Imagine that you show a pane and you need to set the focus on a control on the pane. It is not a problem to do this in, say the `OnActivate` event. Nevertheless, it is useless because Excel, continuing its initialization, moves the focus off the pane. With the above-mentioned method and event you can make your pane look like it never loses focus: in the `OnActivate` event handler, you call the `ADXPostMessage` method specifying a unique message ID and, in the `OnADXPostMessageReceived` event, you filter incoming messages. When you get the appropriate message, you set the focus on the control. Beware of a huge lot of inappropriate messages.

Advanced Outlook Regions

Please see [The UI Mechanics](#) above for the detailed description of how Add-in Express panes work. Below you can see the list containing some generic terms mentioned in [An Absolute Must-Know](#) and their Excel-specific equivalents:

- `<Manager>` - `TadxOIFormsManager`, the Outlook Forms Manager
- `<Item>` - `TadxOIFormsCollectionItem`
- `<Form>` - `TadxOIForm`



Context-Sensitivity of Your Outlook Form

Whenever the Outlook Forms Manager detects a context change in Outlook, it searches the **TadxOIFormsCollection** collection for enabled items that match the current context and if any match is found, it shows or creates the corresponding instances.

TadxOIFormsCollectionItem provides a number of properties that allow specifying the context settings for your form. Say, you can specify **item types** for which your form will be shown. Note that in case of explorer, the item types that you specify are compared with the default item type of the current folder. In addition, you can specify **the names of the folders** for which your form will be shown in the **FolderName** and **FolderNames** properties. These properties also work for Inspector windows – in this case, the parent folder of the Outlook item is checked. A special value in **FolderName** is an empty string (""), which means "all folders". You can also specify **message class (es)** for which your form will be shown. Note that all context-sensitivity properties of **TadxOIFormsCollectionItem** are processed using the **OR** Boolean operation.

In advanced scenarios, you can also use the **OnADXBeforeFormInstanceCreate** event of **TadxOIFormsCollectionItem** and the **ADXBeforeFormShow** event of **TadxOIForm** in order to prevent your form from being shown (see also [Showing/Hiding Form Instances Programmatically](#)). In addition, you can use events provided by **TadxOIForm** in order to check the current context. Say, you can use the **OnADXBeforeFolderSwitch** or **OnADXSelectionChange** events of **TadxOIForm**.

Caching Forms

By default, whenever Add-in Express needs to show a form, it creates a new instance of that form. You can change this behavior by choosing an appropriate value of the **TadxOIFormsCollectionItem.Cached** property. The values of this property are:

- **csNewInstanceForEachFolder** – it shows the same form instance whenever the user navigates to the same Outlook folder.
- **csOneInstanceForAllFolders** – it shows the same form instance for all Outlook folders.
- **csNone** – no form caching is used.

Caching works within the same Explorer window: when the user opens another Explorer window, Add-in Express creates another set of cached forms. Forms shown in Inspector windows cannot be cached.

Is It Inspector or Explorer?

Check the **InspectorObj** and **ExplorerObj** properties of **TadxOIForm**. These properties return COM objects that will be released when your form is removed from its region. This may occur several times in the lifetime of a given form instance because Add-in Express may remove your form from a given region and then embed the form to the same region in order to comply with Outlook windowing.



WebViewPane

When this value (see [Outlook Regions](#)) is chosen in the **ExplorerLayout** property of **TadxOIFormsCollectionItem**, Add-in Express uses the **WebViewUrl** and **WebViewOn** properties of **Outlook.MAPIFolder** (also **Outlook.Folder** in Outlook 2007) in order to show your form as a home page for a given folder(s).

Unfortunately, due to [a bug in Outlook 2002](#), Add-in Express has to scan all folders in Outlook in order to set and restore the **WebViewUrl** and **WebViewOn** properties. The first consequence is a delay at startup if the current profile contains thousands of folders. A simple way to prevent the delay is to disable the corresponding item(s) of the Items collection of the Forms Manager at design-time and enable it in the **AddinStartupComplete** event of the add-in module. Because **PublicFolders** usually contains many folders, Add-in Express does not allow using **WebViewPane** for **PublicFolders** and all folders below it. **Outbox** and **Sync Issues** and all folders below them are not supported as well when using **WebViewPane**.

Because of the need to scan Outlook folders, **WebViewPane** produces another delay when the user works in the **Cached Exchange Mode** (see the properties of the Exchange account in Outlook) and the Internet connection is slow or broken. To bypass this problem, Add-in Express allows reading **EntryIDs** of those folders from the registry. Naturally, you are supposed to write appropriate values to the registry at add-in start-up. Here is the code:

```
procedure TAddInModule.SaveDefaultFoldersEntryIDToRegistry(
  PublicFoldersEntryID, PublicFoldersAllPublicFoldersEntryID,
  FolderSyncIssuesEntryID: string);
var
  Reg: TRegistry;
begin
  Reg := TRegistry.Create;
  try
    if Reg.OpenKey(self.RegistryKey
      + '\ ' + ADXXOL + '\ '
      + 'FoldersForExcludingFromUseWebViewPaneLayout', true) then begin
      if (PublicFoldersEntryID <> EmptyStr) then begin
        Reg.WriteString('PublicFolders', PublicFoldersEntryID);
      end;
      if (PublicFoldersAllPublicFoldersEntryID <> EmptyStr) then begin
        Reg.WriteString('PublicFoldersAllPublicFolders',
          PublicFoldersAllPublicFoldersEntryID);
      end;
      if (FolderSyncIssuesEntryID <> EmptyStr) then begin
        Reg.WriteString('FolderSyncIssues', FolderSyncIssuesEntryID);
      end;
    end;
  finally
    Reg.CloseKey;
    Reg.Free;
  end;
end;
```



```
end;  
end;
```



Sample Projects

Your First Microsoft Office COM Add-in

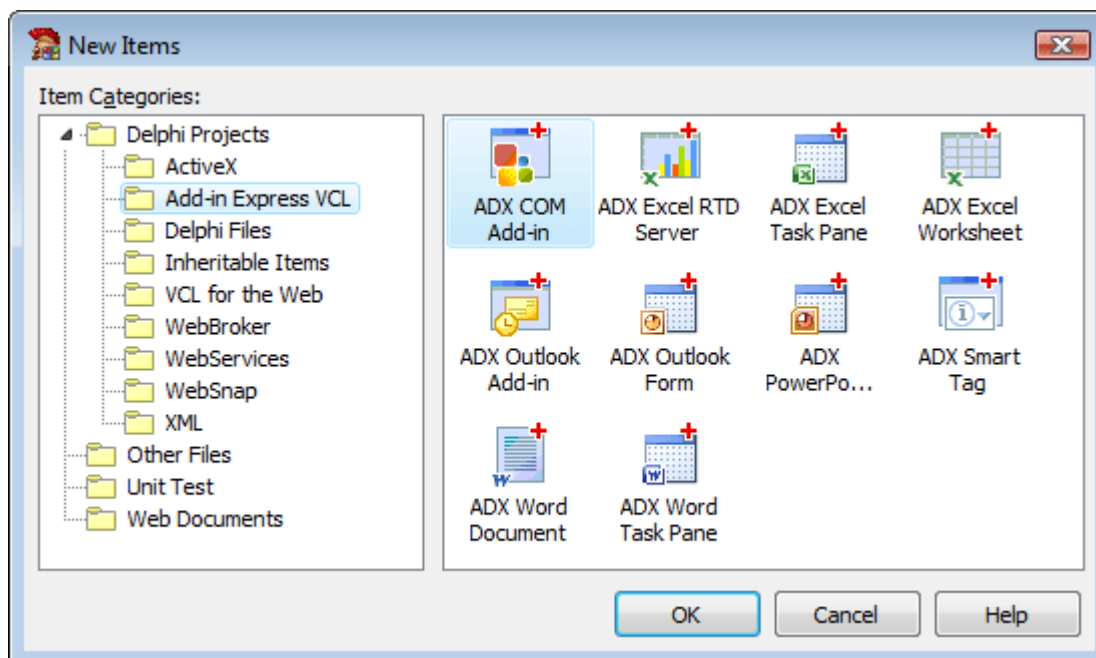
This chapter highlights almost every aspect of creating COM Add-ins for Microsoft Office applications. You download the sample described below at <http://www.add-in-express.com/support/addin-delphi.php#office-addin>. This sample shows an Add-in Express COM Add-in project that implements a COM add-in for Excel, Word and PowerPoint.

Outlook and Add-in Express

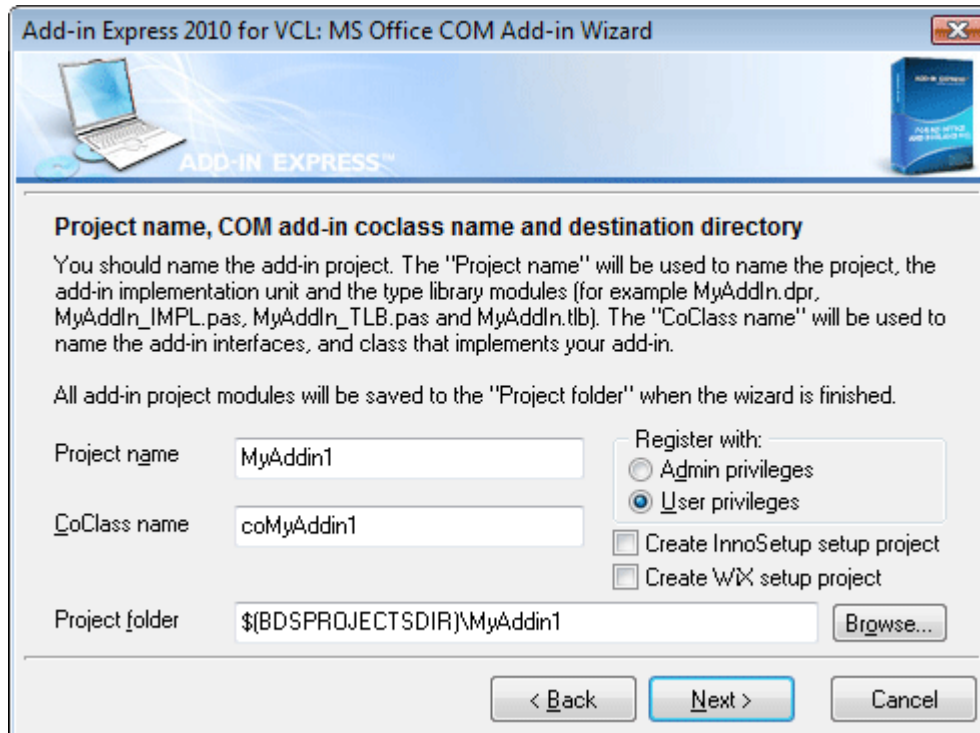
Please note, Add-in Express provides additional components for COM Add-ins in Outlook. See [Your First Microsoft Outlook COM Add-in](#).

Step #1 - Creating an Add-in Express COM Add-in Project

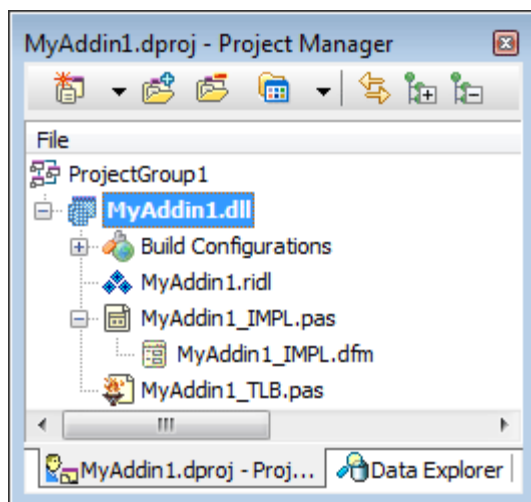
Add-in Express adds the Add-in Express COM Add-in project template to the [New Items Dialog](#).



When you select the template and click OK, the MS Office COM Add-in Wizard starts. In the wizard windows, you choose the project options.



The project wizard creates and opens the COM Add-in project in the IDE.



The add-in project includes the following items:

- The project source files (**ProjectName.***);
- The type library file (**ProjectName_TLB.pas**);
- The add-in module (**ProjectName_IMPL.pas** and **ProjectName_IMPL.dfm**) discussed in the following step.



Step #2 - Add-in Express COM Add-in Module

The add-in module (`MyAddin1_IMPL.pas` and `MyAddin1_IMPL.dfm`) is the core component of the COM add-in project (see [COM Add-ins](#)). It is the container of the Add-in Express components, which allow you to concentrate on the functionality of your add-in. You specify the add-in properties in the module's properties, add the Add-in Express components to the module's designer, and write the functional code of your add-in in this module.

The code for `MyAddin1_IMPL.pas` is as follows:

```
unit MyAddin1_IMPL;

interface

uses
  SysUtils, ComObj, ComServ, ActiveX, Variants, Office2000, adxAddIn,
  MyAddin1_TLB;

type
  TcoMyAddin1 = class(TadxAddin, IcoMyAddin1)
  end;

  TAddInModule = class(TadxCOMAddInModule)
  procedure adxCOMAddInModuleAddInInitialize(Sender: TObject);
  procedure adxCOMAddInModuleAddInFinalize(Sender: TObject);
  private
  protected
  public
  end;
var
  adxcoMyAddin1: TAddInModule;

implementation

{$R *.dfm}

procedure TAddInModule.adxCOMAddInModuleAddInInitialize(Sender: TObject);
begin
  adxcoMyAddin1 := Self;
end;

procedure TAddInModule.adxCOMAddInModuleAddInFinalize(Sender: TObject);
begin
  adxcoMyAddin1 := nil;
end;
```

**initialization**

```
TadxFactory.Create(ComServer, TcoMyAddin1, CLASS_coMyAddin1,
TAddInModule);
```

end.

The add-in module contains two classes: the “interfaced” class (**TcoMyAddin1** in this case) and the add-in module class (**TAddInModule**). The “interfaced” class is a descendant of the **TadxAddIn** class that implements the **IDTExtensibility2** interface required by the COM Add-in architecture. Usually you do not need to change anything in the **TadxAddIn** class.

The add-in module class implements the add-in functionality. It is an analogue of the Data Module, but unlike the Data Module, the add-in module allows you to set all properties of your add-in, handle its events, and create toolbars and controls.

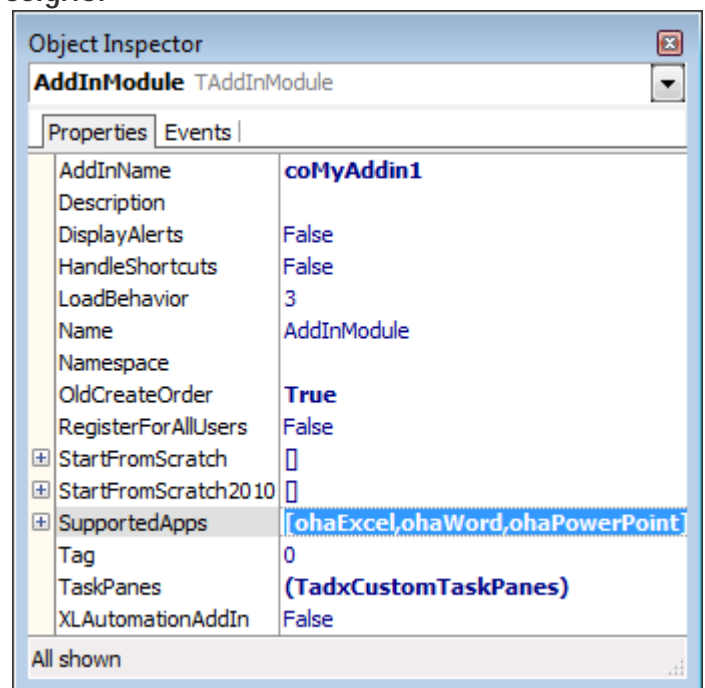
Step #3 - Add-in Express COM Add-in Designer

The designer of the add-in module allows setting add-in properties and adding components to the module.

In the Object Inspector for the module, choose the **SupportedApps** property and select Excel, Word, and PowerPoint.

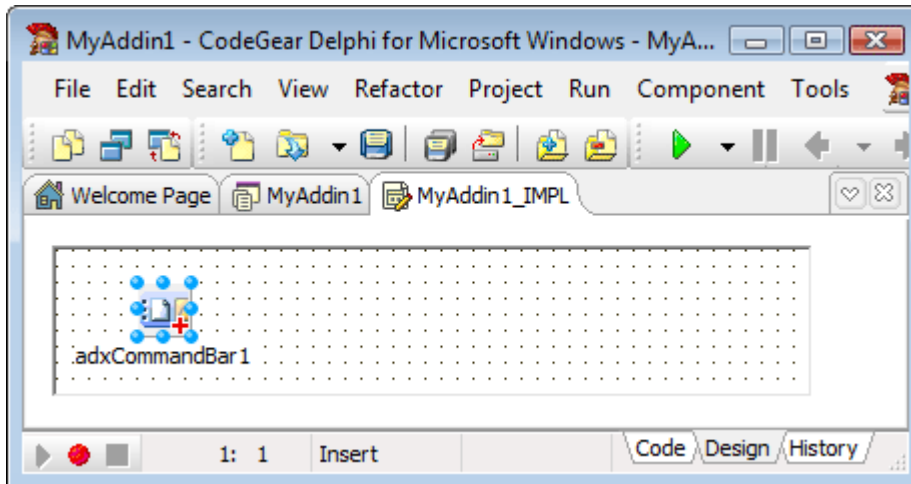
To add an Add-in Express component to the add-in module designer, you select it in the Tool Palette and drag-n-drop onto the designer.

See also [How to Add an Add-in Express Component to an Add-in Express Designer](#)



Step #4 - Adding a New Command Bar

To add a command bar to your add-in, find the **TadxCommandBar** component in the Tool Palette and drag-n-drop it onto the **TadxCOMAddinModule** designer (see also [Command Bars: Toolbars, Menus, and Context Menus](#)).



Select the command bar component, and, in the Object Inspector window, specify the command bar name using the **CommandBarName** property. In addition, you select its position in the **Position** property.

*To display a command bar in Office 2007-2010 you must explicitly set the **UseForRibbon** property of the command bar component to **True**. The controls added to such a command bar will be shown on the built-in Ribbon tab called Add-ins*

Step #5 - Adding a New Command Bar Button

To add a new button to the command bar, in the Object Inspector window you run the property editor of the Controls property for the appropriate command bar component. The property editor is a simple and easy designer of command bars and their controls.



Specify the button's **Caption** property and set the **Style** property to **adxMsoButtonIconAndCaption** (default value = **adxMsoButtonAutomatic**). In the Object Inspector window, you switch to the Events tab to add the **OnClick** event handler for the command bar button component.



Step #6 - Accessing Host Application Objects

The add-in module provides the **HostApplication** property that returns the **Application** object (of the **OleVariant** type) of the host application in which the add-in is running now. For your convenience Add-in Express provides the **<HostName>App** properties, say **ExcelApp** of the **TExcelApplication** type and **WordApp** of the **TWordApplication** type. Together with the **HostType** property, it allows writing the following code to the **OnClick** event of the newly added button.

```

procedure TAddInModule.DefaultAction(Sender: TObject);
begin
    ShowMessage(GetInfoString());
end;

function TAddInModule.GetInfoString(): string;
var
    er: ExcelRange;
    IWindow: IDispatch;
begin
    Result := 'No document window found!';
    try
        // Word raises an exception if there's no document open
        IWindow := HostApp.ActiveWindow;
    except
    end;
    try
        if IWindow <> nil then
            case HostType of
                ohaExcel:
                    try
                        er := (IWindow as Excel2000.Window).ActiveCell;
                        //relative address
                        Result := 'The current cell is: '
                            + er.AddressLocal[False, False, xlA1, EmptyParam, EmptyParam];
                    finally
                        er := nil;
                    end;
                ohaWord:
                    Result := 'The current selection contains '
                        + IntToStr(
                            (IWindow as Word2000.Window).Selection.Range.Words.Count)
                        + ' words';
                ohaPowerPoint:
                    Result := 'The current selection contains '
                        + IntToStr(
                            (IWindow as MSPpt2000.DocumentWindow).Selection.SlideRange.Count)
                        + ' slides';
            end;
        else
            Result := 'No document window found!';
        end;
    end;

```



```

else
    Result := 'The ' + AddinName
            + ' COM Add-in doesn't support the current host application!' ;
end;
except
end;
IWindow := nil;
end;

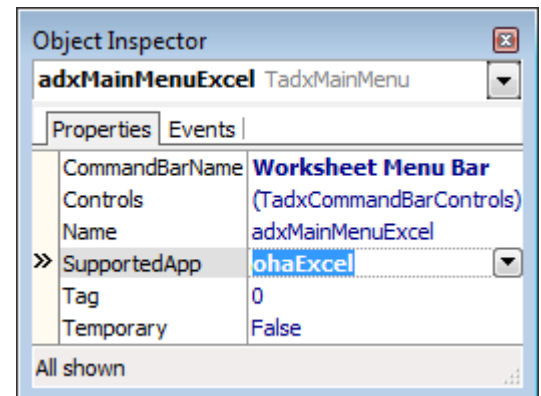
```

Step #7 - Customizing Main Menus

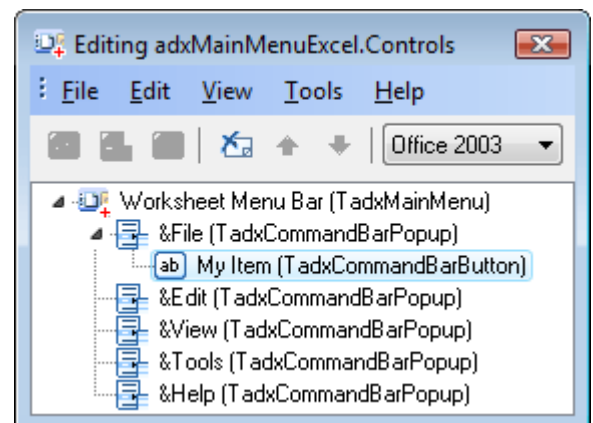
Add-in Express provides a component to customize main menus in Office applications (but see [Your First Microsoft Outlook COM Add-in](#) for customizing Outlook main menus). Some applications from Office 2000-2003 have several main menus. Say, in these Excel versions, you find Worksheet Menu Bar and Chart Menu Bar. Naturally, in Excel 2007 and 2010 these menus are replaced with the Ribbon UI. Nevertheless, they are still accessible programmatically and you may want to use this fact in your code.

In this sample, we are going to customize the File menu in Excel and Word version 2000-2003. You start with adding two main menu components (**TadxMainMenu**) and specifying correct host applications in their **SupportedApp** properties. Then, in the **CommandBarName** property, you specify the main menu.

The screenshot on the right shows how you set up the main menu component in order to customize the Worksheet Menu Bar main menu in Excel 2000-2003.



The **TadxMainMenu.Controls** property provides a designer that allows adding custom controls to a set of predefined popup controls that corresponds to built-in main menu items such as File, Edit, etc. Those popups demonstrate the main principle of referencing built-in command bar controls: if the **OfficeID** property of a commandbar control component is other than 1, you are referencing the corresponding built-in control. You can find the IDs of built-in command bar controls using the free **Built-in Controls Scanner** utility. Download it at <http://www.add-in-express.com/downloads/controls-scanner.php>.



In the source code of the sample add-in described here, you can find how you can customize the Office Button menu in Office 2007 (see the component named **adxRibbonOfficeMenu1**). As to the Backstage View, also known as a **File tab** in Office 2010, the sample projects provide the **adxBackstageView1** component

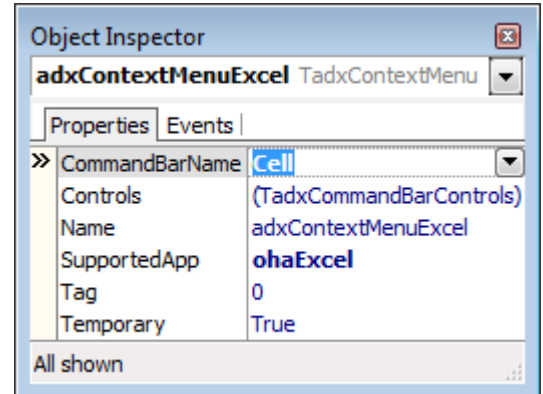


that implements the customization shown in Figure 3 at [Introduction to the Office 2010 Backstage View for Developers](#). Note, if you customize the Office Button menu only, Add-in Express maps your controls to the Backstage View. If, however, both Office Button menu and File tab are customized at the same time, Add-in Express ignores custom controls you add to the Office Button menu.

Step #8 - Customizing Context Menus

Add-in Express allows customizing commandbar-based context menus in Office 2000-2010 with the **TadxContextMenu** component. Its use is similar to that of the **TadxMainMenu** component. See how to set up such a component to add a custom button to the Cell context menu in Excel:

- Add a context menu component to the add-in module
- Specify the host application, the context menu of which you need to customize
- Specify the context menu to be customized
- Use the editor of the **Controls** collection to populate the context menu with custom controls

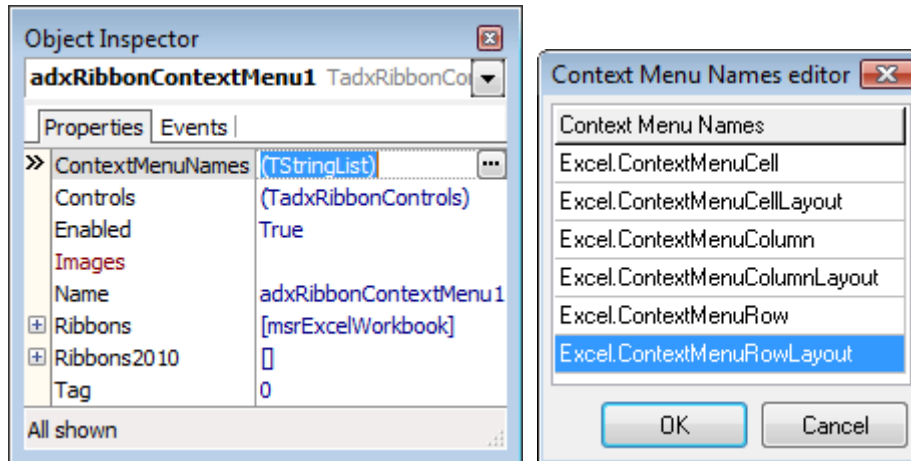


You may want to use the **OnBeforeAddControls** event provided by the component to modify the context menu depending on the current context. Say, custom controls in the context menu may reflect the content of an Excel cell, the current chapter of the Word document, etc.

There are several issues related to using command bar based context menus:

- Excel contains two different context menus named Cell. This fact breaks down the command bar development model because the only way to recognize two command bars is to compare their names. This isn't the only exception: see the Built-in Control Scanner to find a number of examples. In this case, the context menu component cannot distinguish context menus. Accordingly, it connects to the first context menu with the specified name.
- Command bar based context menu items cannot be positioned in the Ribbon-based context menus: a custom context menu item created with the **ADXContextMenu** component will always be shown below the built-in and custom context menu items in a Ribbon-based context menu of Office 2010.

To add a custom item to a context menu in Office 2010, you use the **TadxRibbonContextMenu** component. Unlike its commandbar-based counterpart (**TadxContextMenu**), this component allows adding the same custom controls to several context menus in the specified Ribbon. Say, the screenshots below demonstrate component settings required for adding a control to the ExcelWorkbook Ribbon. To specify the context menus to which the control will be added, you use the editor of the **ContextMenuNames** property of the component.



See also [Context Menu](#).

Step #9 - Handling Host Application Events

Add-n Express supplies several components that provide the application-level events for the add-in module (see [Host Application Events](#)). To add Excel events to the add-in, find the **TadxExcelAppEvents** component in the Tool Palette and drag-n-drop it onto the module. The **TadxWordAppEvents** component supplies the module with Word events. Finally, you add **TadxPowerPointAppEvents**.

With the above components, you can handle any application-level events of the host application. Say, you may want to disable a button when a window deactivates and enable it when a window activates. The code processing the PowerPoint version of the **WindowActivate** and **WindowDeactivate** events is as follows:

```
procedure TAddInModule.adxPowerPointAppEvents1WindowActivate(
  ASender: TObject; const Pres: _Presentation; const Wn: DocumentWindow);
begin
  adxCommandBar1.Controls[0].Enabled := true;
end;

procedure TAddInModule.adxPowerPointAppEvents1WindowDeactivate(
  ASender: TObject; const Pres: _Presentation; const Wn: DocumentWindow);
begin
  adxCommandBar1.Controls[0].Enabled := false;
end;
```

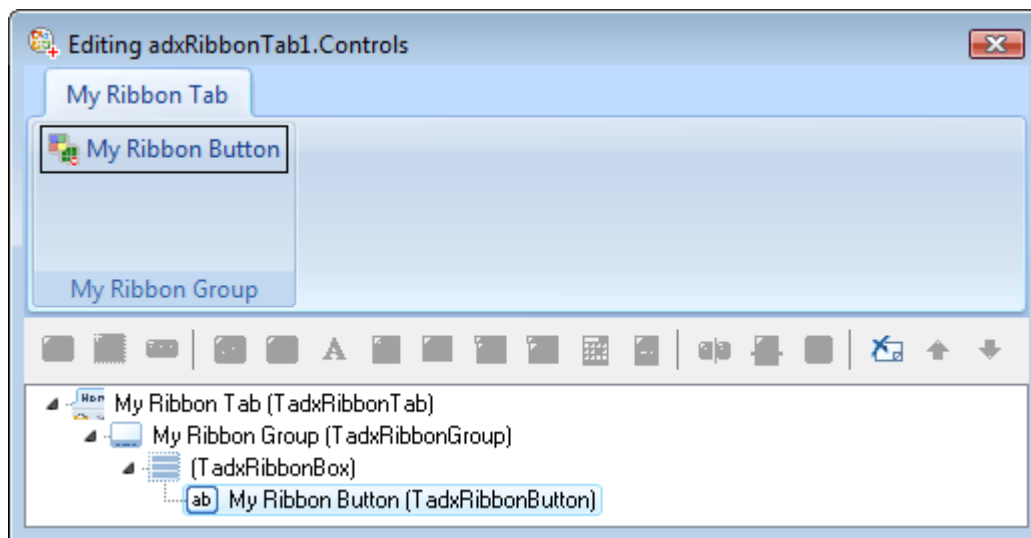
*It is possible to create a set of event handlers and connect it to any given Excel worksheet. You can do this by adding a **TExcelWorksheet** (Tool Palette, the Servers tab) onto the add-in module.*



Step #10 - Customizing the Office 2007-2010 Ribbon User Interface

To add a new tab to the Ribbon UI of the host application(s) of your add-in, you add the **TadxRibbonTab** component to the module (see [How to Add an Add-in Express Component to an Add-in Express Designer](#)).

In the Object Inspector window, run the editor for the **Controls** collection of the Ribbon tab component. In the editor, use the toolbar buttons or context menu to add or delete Add-in Express components that form the Ribbon interface of your add-in. First, you add a Ribbon tab and change its caption to My Ribbon Tab. Then, you select the tab component, add a Ribbon group, and change its caption to My Ribbon Group. Next, you select the group, and add a button group. Finally, you select the button group and add a button. Set the button caption to My Ribbon Button. Use the **Glyph** property to set the icon for the button.



Now write the following code in the **OnClick** event handler of the newly added Ribbon button (the code below refers to the code added in [Step #6 – Accessing Host Application Objects](#)):

```
procedure TAddInModule.adxRibbonTab1Controls0Controls0Controls0Click(  
    Sender: TObject; const RibbonControl: IRibbonControl);  
begin  
    DefaultAction(nil);  
end;
```

Remember, the **TadxRibbonTab.Controls** editor performs the XML-schema validation automatically, so from time to time you will run into the situation when you cannot add a control to some Ribbon level. It is a restriction of the Ribbon XML-schema.

See also [Office Ribbon Components](#).

Step #11 - Adding Custom Task Panes in Excel 2000-2010

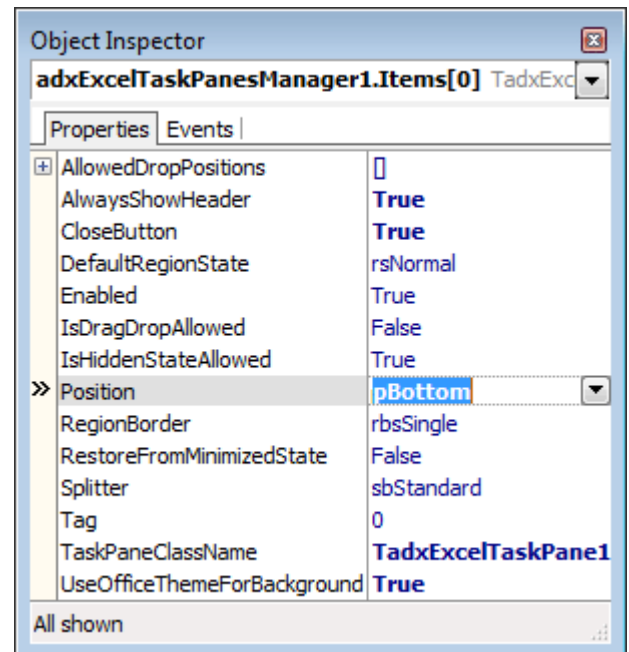
Creating a new Excel task pane includes the following steps:



- add an Excel Task Panes Manager (**TadxExcelTaskPanesModule**) to your add-in module (see [How to Add an Add-in Express Component to an Add-in Express Designer](#))
- add an Add-in Express Excel Task Pane (**TadxExcelTaskPane**) to your project (see [New Items Dialog](#))
- in the visual designer available for the **Controls** collection of the manager, add an item to the collection, bind the pane to the item and specify its properties as shown on the screenshot.

Below is the description of the settings:

- **AlwaysShowHeader** - specifies that the pane header will be shown even if the pane is the only one in the current region
- **CloseButton** - specifies if the Close button is shown in the pane header. Obviously, there isn't much sense in setting this property to **true** when the header is not shown.
- **Position** - specifies the region in which an instance of the pane will be shown. Excel panes are allowed in four regions docked to the four sides of the main Excel window: **pRight**, **pBottom**, **pLeft**, and **pTop**. The fifth region is **pUnknown**.
- **TaskPaneClassName** - specifies the class name of the Excel task pane.



Now you add a label onto the pane and add an event handler for the **OnADXBeforeTaskPaneShow** event:

procedure

```
TadxExcelTaskPane1.adxExcelTaskPaneADXBeforeTaskPaneShow(
  ASender: TObject; Args: TadxBeforeTaskPaneShowEventArgs);
begin
  Label1.Caption := (AddinModule as TAddInModule).GetInfoString();
end;
```

See also [Advanced Custom Task Panes](#) and [Excel Task Panes](#).

Step #12 - Adding Custom Task Panes for PowerPoint 2000-2010

To add a PowerPoint task pane:

- add a PowerPoint Task Panes Manager (**TadxPowerPointTaskPanesModule**) to your add-in module (see [How to Add an Add-in Express Component to an Add-in Express Designer](#))



- add an Add-in Express PowerPoint Task Pane (**TadxPowerPointTaskPane**) to your project (see [New Items Dialog](#))
- in the visual designer available for the **Controls** collection of the manager, add an item to the collection, bind the pane to the item and specify the appropriate value in the **Position**.

Now add a label onto the form, and update the label in the **OnADXBeforeTaskPaneShow** event handler of the form:

```
procedure TadxPowerPointTaskPanel1.adxPowerPointTaskPaneADXBeforeTaskPaneShow(  
    ASender: TObject; Args: TadxBeforeTaskPaneShowEventArgs);  
begin  
    Label1.Caption := (AddinModule as TAddInModule).GetInfoString();  
end;
```

See also [Advanced Custom Task Panes](#).

Step #13 - Adding Custom Task Panes for Word 2000-2010

You add a Word task pane in the same manner:

- add a Word Task Panes Manager (**TadxWordTaskPanesManager**) to your add-in module (see [How to Add an Add-in Express Component to an Add-in Express Designer](#))
- add an Add-in Express Word Task Pane (**TadxWordTaskPane**) to your project (see [New Items Dialog](#))
- in the visual designer available for the **Controls** collection of the manager, add an item to the collection, bind the pane to the item and specify an appropriate value in the **Position**.

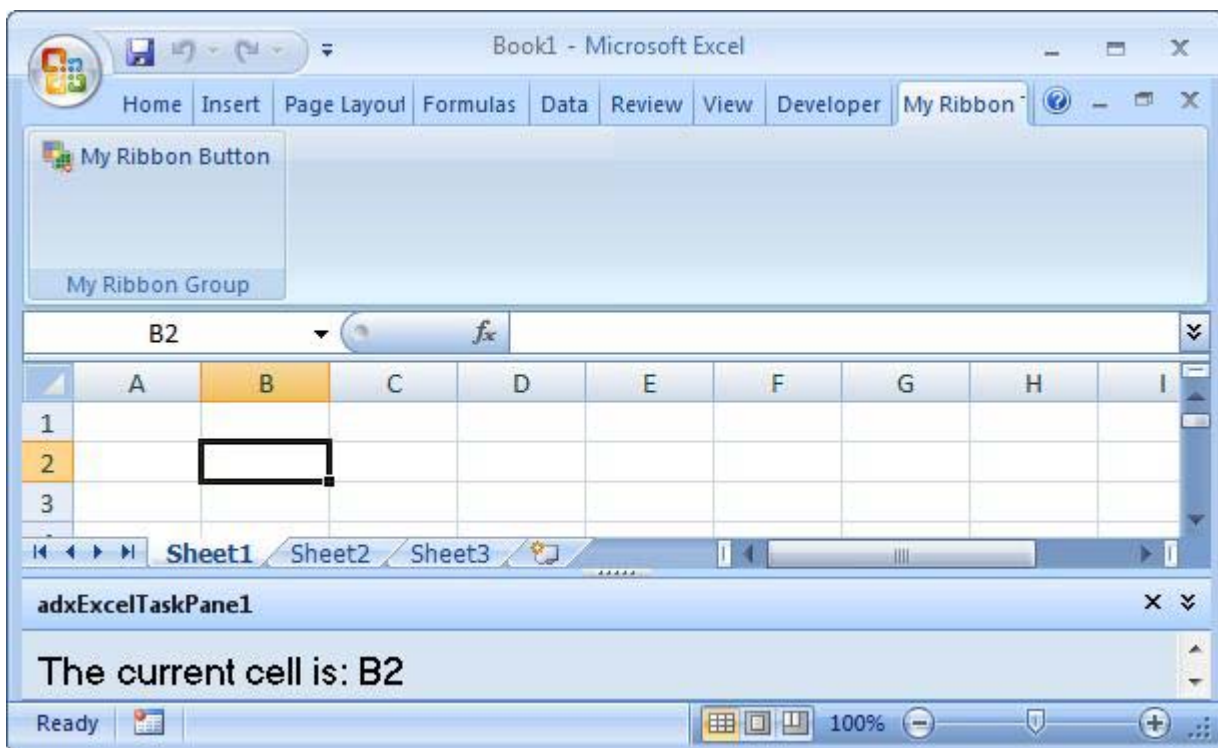
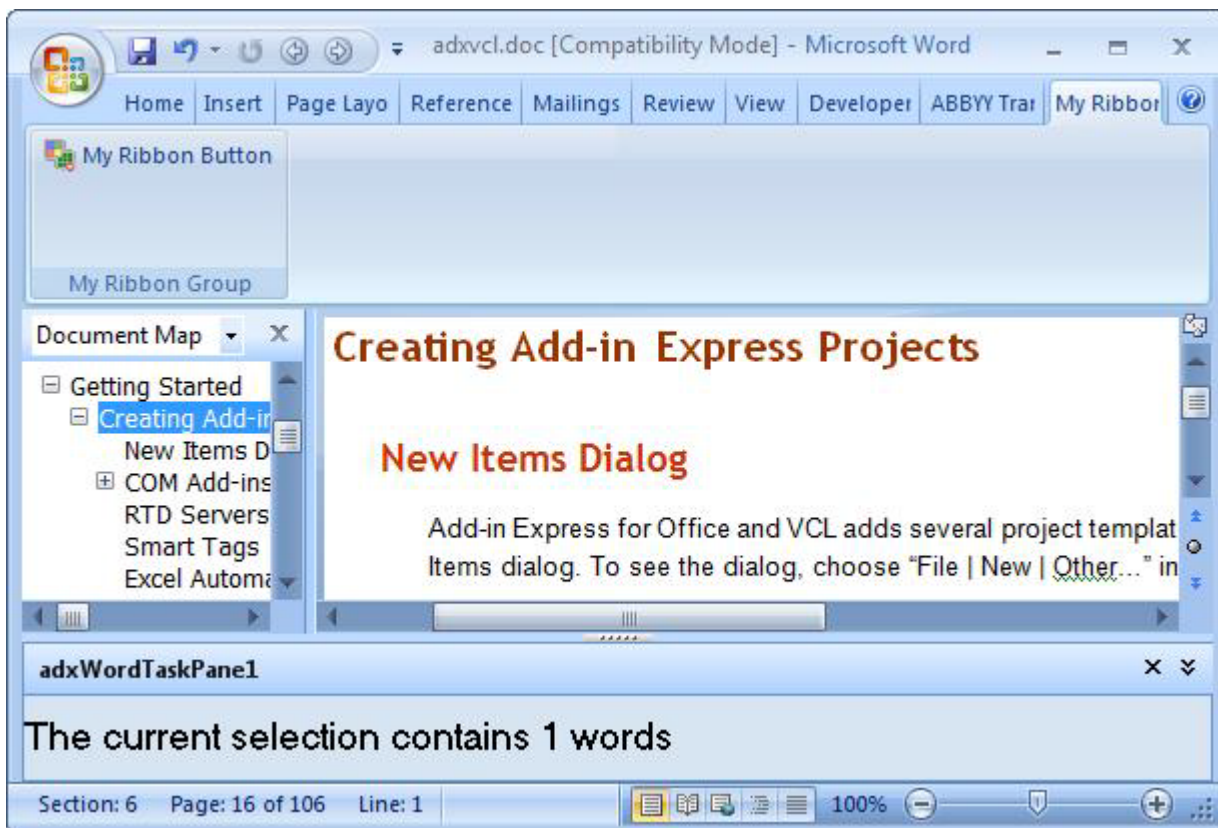
When the item's properties are set, you add a label onto the form, and write the code that updates it in the **OnADXBeforeTaskPaneShow** event handler of your form:

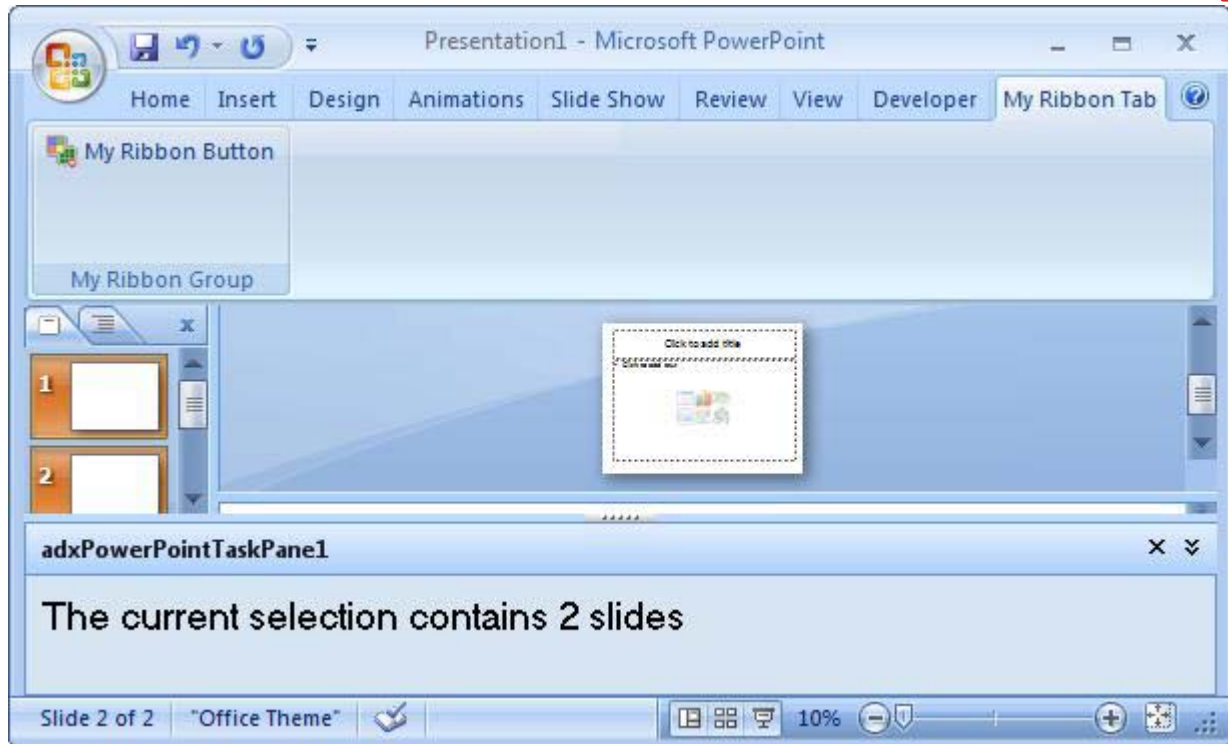
```
procedure TadxWordTaskPanel1.adxWordTaskPaneADXBeforeTaskPaneShow(  
    ASender: TObject; Args: TadxBeforeTaskPaneShowEventArgs);  
begin  
    Label1.Caption := (AddinModule as TAddInModule).GetInfoString();  
end;
```

See also [Advanced Custom Task Panes](#).

Step #14 - Running the COM Add-in

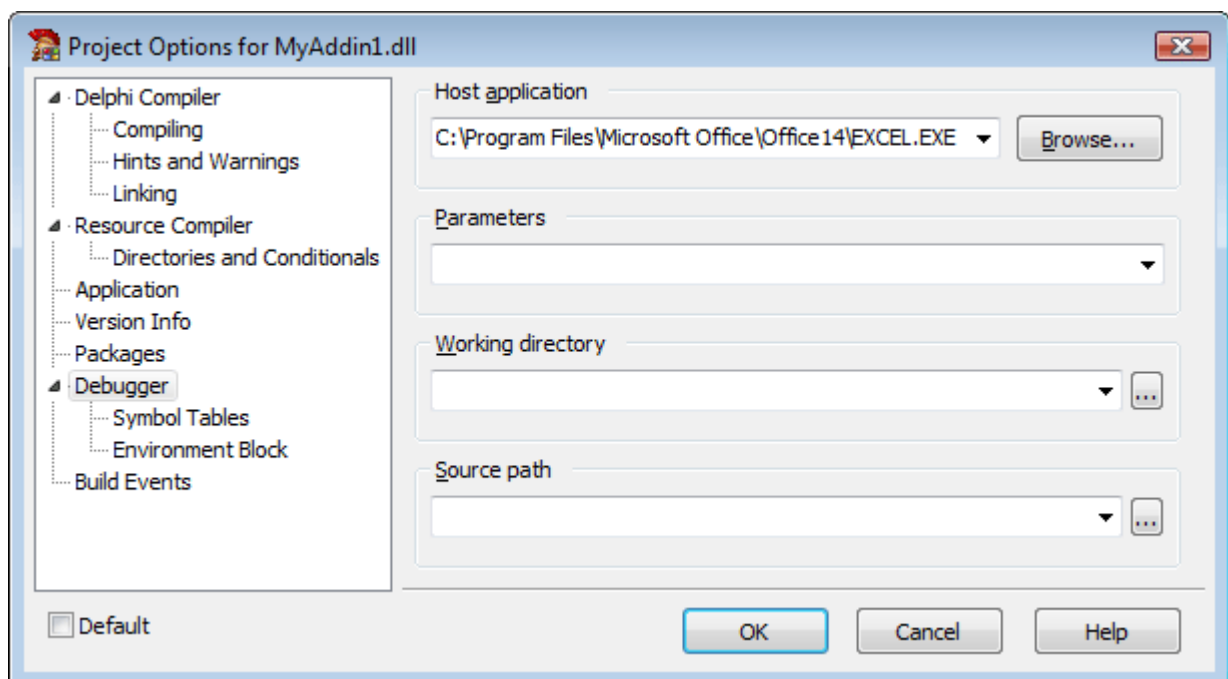
Choose the Register ActiveX Server item in the Run menu, restart the host application(s) you selected, find your toolbar and click the button. You can also find your add-in in the [COM Add-ins Dialog](#).





Step #15 - Debugging the COM Add-in

To debug your add-in, just indicate the add-in host application in the Host Application field in the Project Options window.





Step #16 - Deploying the COM Add-in

Make sure your setup project registers the add-in DLL. Say, in Inno Setup projects you use the 'regserver' command. See also:

- [Registering with User Privileges](#)
- [GDIPLUS.DLL](#)



Your First Microsoft Outlook COM Add-in

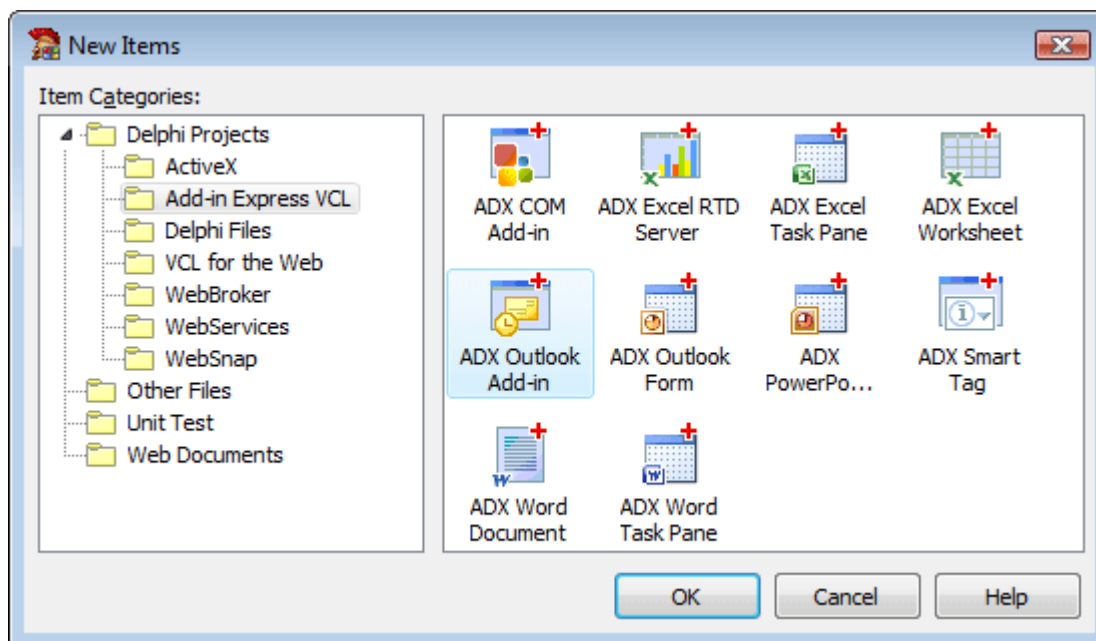
Add-in Express provides the Outlook-specific add-in module and two Outlook-specific command bar components: `TadxOExplorerCommandBar` and `TadxOInspectorCommandBar`. The former adds a command bar to the Outlook Explorer window and solves many problems with custom Outlook command bars. The latter adds a command bar to the Outlook Inspector window. Both command bar components have the `FolderName`, `FolderNames` and `ItemTypes` properties that add context-sensitivity to Outlook command bars. The `olExplorerItemTypes`, `olInspectorItemTypes`, and `olItemTypeAction` properties add context-sensitivity to Outlook command bar controls.

Additionally, Add-in Express Outlook Add-in wizards allows creating property pages to be added to the Options (Tools | Options menu) and folder Properties dialogs.

The sample described below can be downloaded at <http://www.add-in-express.com/support/addin-delphi.php#outlook-addin>.

Step #1 - Creating an Outlook COM Add-in Project

You use the Add-in Express Outlook Add-in project template available in the [New Items Dialog](#) of Delphi.



When you select the template and click OK, the project wizard starts. In the wizard windows, you choose the project options, define task panes and option pages for your add-in.



Add-in Express 2010 for VCL: MS Outlook COM Add-in Wizard

Project name, COM add-in coclass name and destination directory

You should name the add-in project. The "Project name" will be used to name the project, the add-in implementation unit and the type library modules (for example MyAddIn.dpr, MyAddIn_IMPL.pas, MyAddIn_TLB.pas and MyAddIn.tlb). The "CoClass name" will be used to name the add-in interfaces, and class that implements your add-in.

All add-in project modules will be saved to the "Project folder" when the wizard is finished.

Project name:

CoClass name:

Project folder:

Register with:
☒ Admin privileges
☐ User privileges

☐ Create InnoSetup setup project
☐ Create WIX setup project

< Back **Next >** Cancel

Add-in Express 2010 for VCL: MS Outlook COM Add-in Wizard

Option pages

You can add a property page(s) to Outlook folders, and an option page(s) to the main Options window.

Skip the Folder Name field to add an option page. Enter asterisk (*) to the Folder Name field to add a property page to all folders. Enter full folder name (for example, Personal Folders\Inbox) to add a property page to the specified folder.

CoClass Name	Tab Title	Folder Name
PropertyPage1	My Property Page	Personal Folders\Inbox

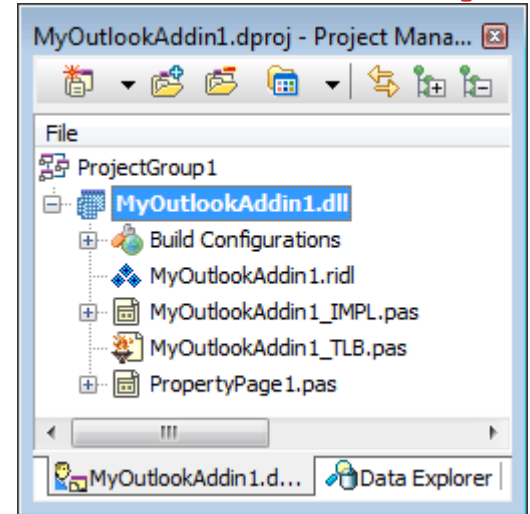
< Back **Next >** Cancel

The wizard creates and opens the COM Add-in project in the IDE.

The add-in project includes the following items:



- The project source files (ProjectName.*);
- The type library files (ProjectName_TLB.pas);
- The Outlook add-in module (ProjectName_IMPL.pas and ProjectName_IMPL.dfm) discussed in the following step;
- The Outlook Property Page (PropertPage1.pas and PropertPage1.dfm) discussed in [Step #12 – Adding Property Pages to the Folder Properties Dialogs](#);



Step #2 - Add-in Express COM Add-in Module

The add-in module (MyOutlookAddin1_IMPL.pas and MyOutlookAddin1_IMPL.dfm) is the core part of the COM add-in project (see [COM Add-ins](#)). It is the container of the Add-in Express components, which allow you to concentrate on the functionality of your add-in. You specify the add-in properties in the module's properties, add Add-in Express components to the module's designer, and write the functional code of your add-in in this module.

The code for MyAddin1_IMPL.pas is as follows:

```
unit MyOutlookAddin1_IMPL;

interface

uses
  SysUtils, ComObj, ComServ, ActiveX, Variants, Office2000, adxAddIn,
  MyOutlookAddin1_TLB, Outlook2000;

type
  TcoMyOutlookAddin1 = class(TadxAddin, IcoMyOutlookAddin1)
  end;

  TAddInModule = class(TadxCOMAddInModule)
  procedure adxCOMAddInModuleAddInInitialize(Sender: TObject);
  procedure adxCOMAddInModuleAddInFinalize(Sender: TObject);
  private
  protected
    procedure NameSpaceOptionsPagesAdd(ASender: TObject;
      const Pages: PropertyPages; const Folder: MAPIFolder); override;
  public
  end;

var
  adxcoMyOutlookAddin1: TAddInModule;
```



```
implementation

{$R *.dfm}

procedure TAddInModule.adxCOMAddInModuleAddInInitialize(Sender: TObject);
begin
    adxcoMyOutlookAddin1 := Self;
end;

procedure TAddInModule.adxCOMAddInModuleAddInFinalize(Sender: TObject);
begin
    adxcoMyOutlookAddin1 := nil;
end;

procedure TAddInModule.NamespaceOptionsPagesAdd(ASender: TObject;
    const Pages: PropertyPages; const Folder: MAPIFolder);

function GetFullFolderName(const AFolder: MAPIFolder): string;
var
    IDisp: IDispatch;
    Folder: MAPIFolder;
begin
    Result := '';
    Folder := AFolder;
    while Assigned(Folder) do begin
        Result := '\' + Folder.Name + Result;
        try
            IDisp := Folder.Parent;
            if Assigned(IDisp) then
                IDisp.QueryInterface(IID_MAPIFolder, Folder);
        except
            Break;
        end;
    end;
    IDisp := nil;
    Folder := nil;
    if Result <> '' then Delete(Result, 1, 1);
end;

begin
    if GetFullFolderName(Folder) = 'Personal Folders\Inbox' then
        Pages.Add('MyOutlookAddin1.PropertyPage1', 'My Property Page');
end;

initialization
```



```
TadxFactory.Create(ComServer, TcoMyOutlookAddin1, CLASS_coMyOutlookAddin1,
TAddInModule);
```

```
end.
```

The add-in module contains two classes: the “interfaced” class (**TcoMyOutlookAddin1** in this case) and the add-in module class (**TAddInModule**). The “interfaced” class is a descendant of the **TadxAddIn** class that implements the **IDTExtensibility2** interface required by the COM Add-in architecture. Usually you don't need to change anything in the **TadxAddIn** class.

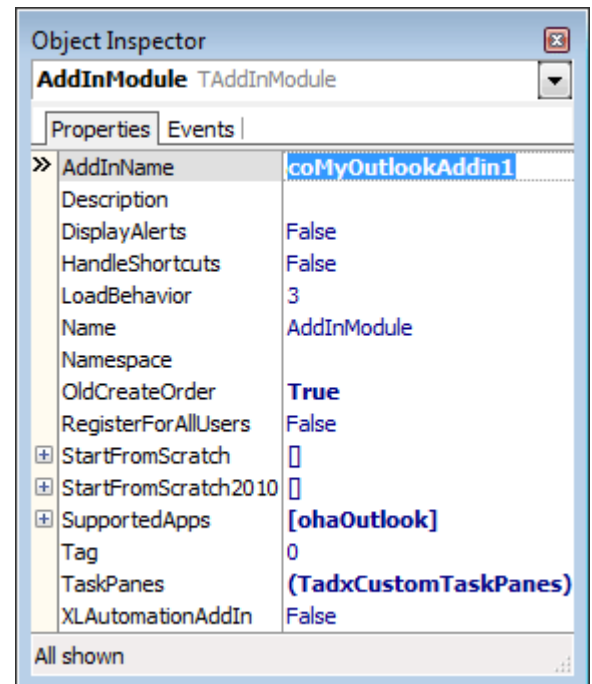
The add-in module class implements the add-in functionality. It is an analogue of the Data Module, but unlike the Data Module, the add-in module allows you to set all properties of your add-in, handle its events, and create toolbars and controls.

Step #3 - Add-in Express COM Add-in Designer

The designer of Outlook add-in module allows setting add-in properties and adding components to the module.

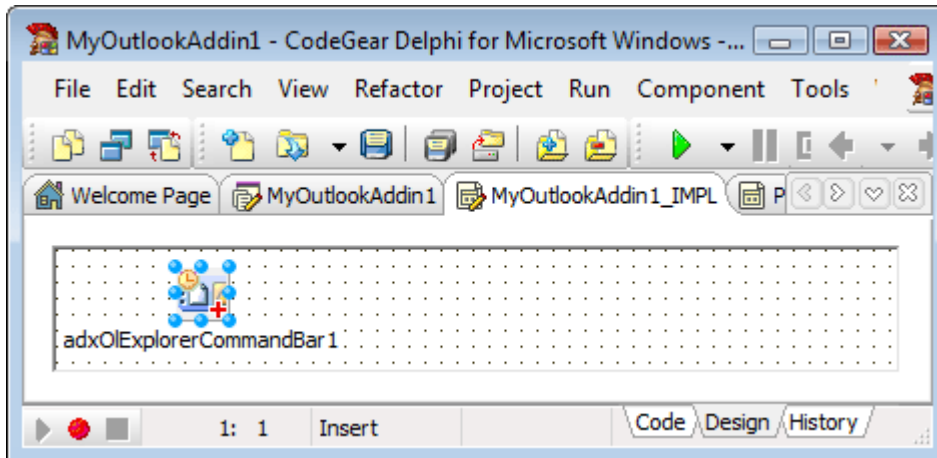
In this way, you can specify the name of your add-in (**AddInName**) and the way it loads to the host application (**LoadBehavior**). The typical value of the **LoadBehavior** property is **3**, which means Loaded & Connected.

To add an Add-in Express component to the add-in module designer, you select it from the Tool Palette on the Add-in Express tab and drag-n-drop onto the designer.

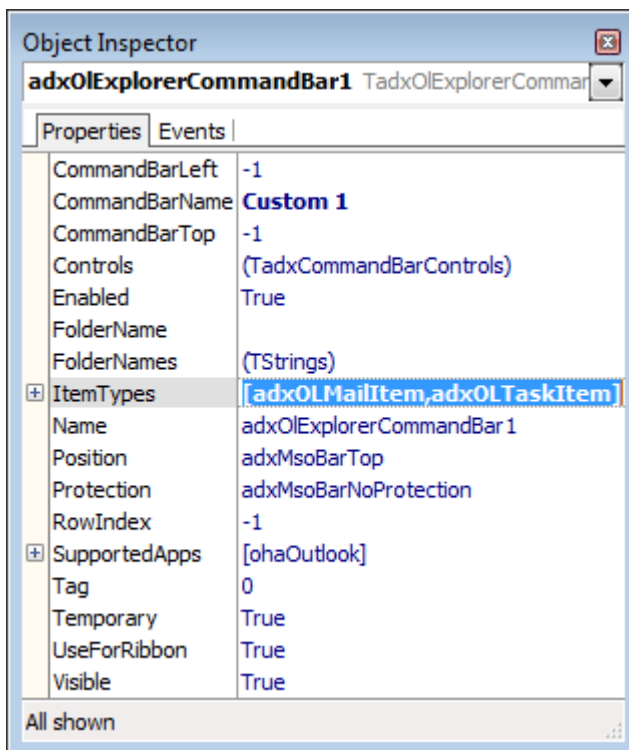


Step #4 - Adding a New Explorer Command Bar

To add a command bar to the Outlook Explorer window, use the **TadxOIExplorerCommandBar** component from the Add-in Express group in the Tool Palette.



Select the Outlook Explorer Command Bar component, and in the Object Inspector window, specify the command bar name using the **CommandBarName** property and choose its position (see the **Position** property). Outlook-specific versions of Add-in Express Command Bar component provide context-sensitive properties, such as **FolderName**, **FolderNames**, and **ItemTypes** (see [Outlook Command Bar Visibility Rules](#)).



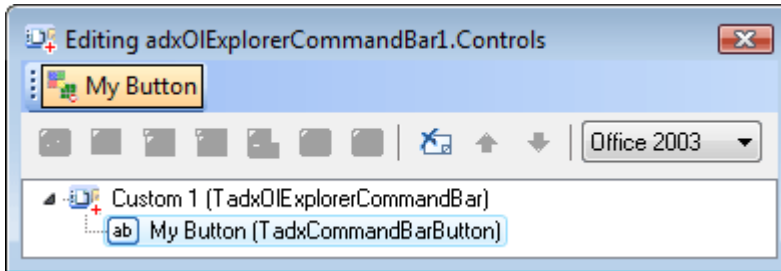
In the screenshot, you can see the Outlook Explorer command bar that is shown for every Outlook folder (**FolderName** = ""), the default item types of which are Mail or Task.

See also [Command Bars: Toolbars, Menus, and Context Menus](#).



Step #5 - Adding a New Command Bar Button

To add a new button to the Explorer command bar, you run the property editor for the **Controls** property in the Object Inspector window. The editor allows adding command bar controls in a simple way.



Add a button to the toolbar, specify the button's **Caption** property and set the **Style** property to **adxMsoButtonIconAndCaption**. To handle the **Click** event of the button, in the Object Inspector window, switch to the Events tab and add the **Click** event handler:

Step #6 - Accessing Outlook Objects

Add-in Express provides the **OutlookApp** property of the **TOutlookApplication** type for Outlook add-ins. This allows you to write the following code to the Click event of the added button.

```
procedure TAddInModule.DefaultActionInExplorer(
  Sender: TObject);
var
  IExplorer: _Explorer;
begin
  IExplorer := OutlookApp.ActiveExplorer;
  if Assigned(IExplorer) then
  begin
    ShowMessage('The subject is:' + CRLF + GetSubject(IExplorer));
    IExplorer := nil;
  end;
end;

function TAddInModule.GetSubject(
  const ExplorerOrInspector: IDispatch): string;
var
  IExplorer: _Explorer;
  ISelection: Selection;
  IInspector: _Inspector;
begin
  Result := '';
  if (ExplorerOrInspector <> nil) then
  begin
```



```

ExplorerOrInspector.QueryInterface(IID__Explorer, IExplorer);
if Assigned(IExplorer) then
  try
    try
      ISelection := IExplorer.Selection;
    except
      ISelection := nil;
      //skip an Outlook exception generated for a top-level folder,
      //say for the Personal Folders folder
    end;
    if Assigned(ISelection) then
      try
        if ISelection.Count > 0 then
          Result := OleVariant(ISelection.Item(1)).Subject;
        finally
          ISelection := nil;
        end;
      finally
        IExplorer := nil;
      end
    else
    begin
      ExplorerOrInspector.QueryInterface(IID__Inspector, IInspector);
      if Assigned(IInspector) then
        try
          Result := OleVariant(IInspector.CurrentItem).Subject;
        finally
          IInspector := nil;
        end;
      end;
    end;
  end;
end;

```

The code of the **GetSubject** method emphasizes the following:

- Outlook 2007 fires an exception when you try to obtain the **Selection** object in some situations.
- There may be no items in the **Selection** object.

Step #7 - Handling Outlook Events

Add-in Express provides several components that make host's events available for the add-in module (see [Host Application Events](#)). To add Outlook events to the add-in, find the **TadxOutlookAppEvents** component in the Tool Palette and drag-n-drop it onto the module. You can use the component to get access to the events of all Outlook versions. If both **TAddInModule** and **TadxOutlookAppEvents** provide the same event, you should use the event provided by **TAddInModule**. For instance, both **TAddInModule** and

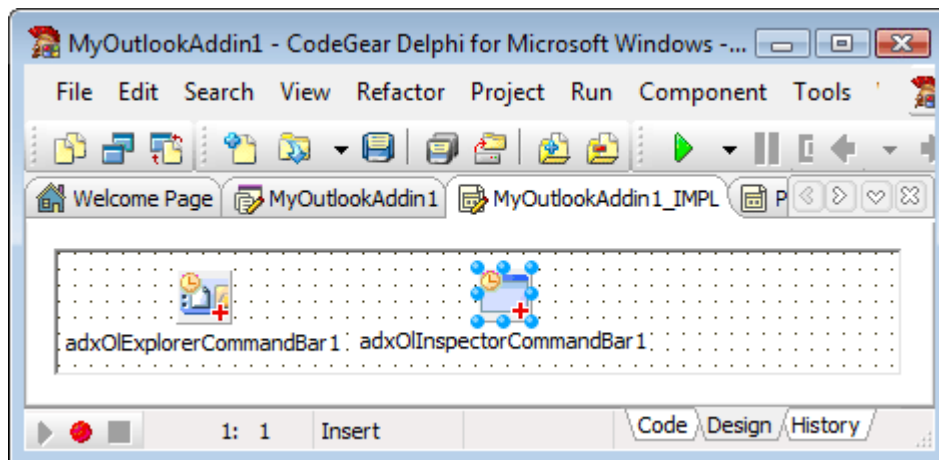


TadxOutlookAppEvents provide the **BeforeFolderSwitch** event. According to the rule, we choose the event provided by the add-in module and write the following code:

```
procedure TAddInModule.adxCOMAddInModuleOLExplorerBeforeFolderSwitch (
  ASender: TObject; const NewFolder: IDispatch; var Cancel: WordBool);
begin
  if (NewFolder <> nil) then
    ShowMessage('You are switching to the '
      + (NewFolder as MAPIFolder).Name + ' folder');
end;
```

Step #8 - Adding a New Inspector Command Bar

To add a command bar to Outlook Inspector windows, use the **TadxOIInspectorCommandBar** component from the Add-in Express group in the Tool Palette.



The Inspector command bar component provides the same properties as the Explorer command bar component. We use the default settings of the component in this sample. You should populate an Inspector command bar with controls the way it's described in [Step #5 – Adding a New Command Bar Button](#). Add a button to the command bar and display the subject of the currently open item using the following code that handles the **Click** event of the button:

```
procedure TAddInModule.DefaultActionInInspector(
  Sender: TObject);
var
  IInspector: _Inspector;
begin
  IInspector := OutlookApp.ActiveInspector;
  if Assigned(IInspector) then
    begin
      ShowMessage('The subject is:' + CRLF + GetSubject(IInspector));
    end;
```



```
IInspector := nil;
end;
end;
```

*To display an Inspector command bar in Office 2007-2010 you must explicitly set the **UseForRibbon** property of the command bar component to **True**.*

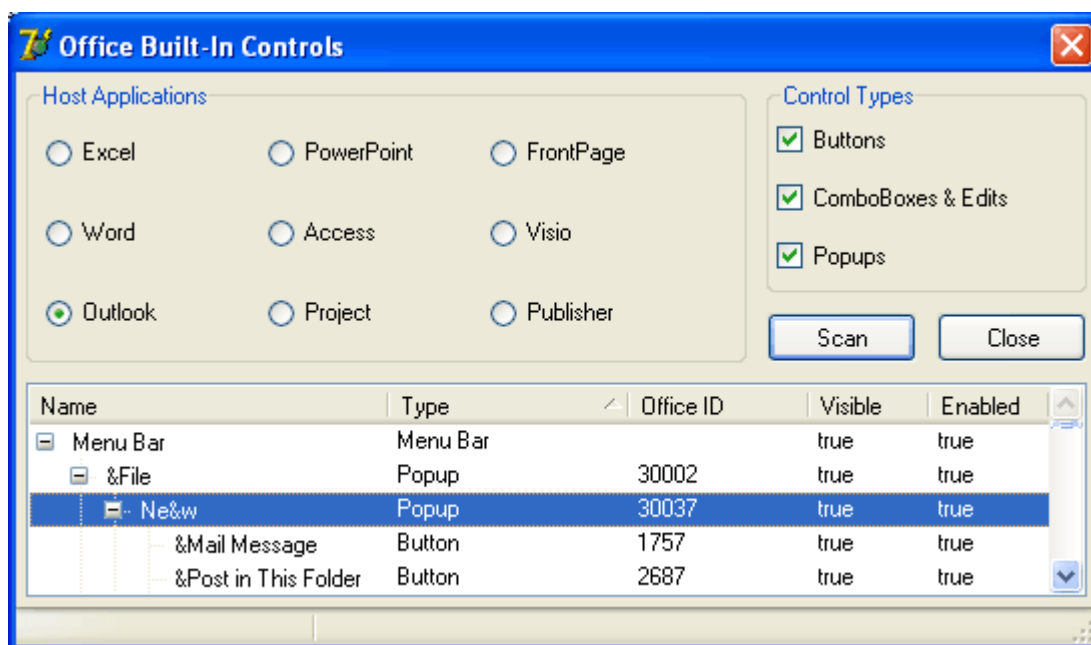
See also [Command Bars: Toolbars, Menus, and Context Menus](#) and [Outlook Command Bar Visibility Rules](#).

Step #9 - Customizing Main Menus in Outlook

Outlook 2000-2003 provides two main menu types. They are available for two main types of Outlook windows: Explorer and Inspector. Accordingly, Add-in Express provides two main menu components: Explorer Main Menu component and Inspector Main Menu component (note the Ribbon UI replaces the main menu of Inspector windows in Outlook 2007 and all main menus in Outlook 2010). You add either of them using the context menu of the add-in module. Then you use the visual designer provided for the **Controls** property of the component. For instance, to add a custom control to the popup shown by the File | New item in all Outlook Explorer windows, you do the following:

- Use our free Built-in Control Scanner to scan the command bars and controls of Outlook

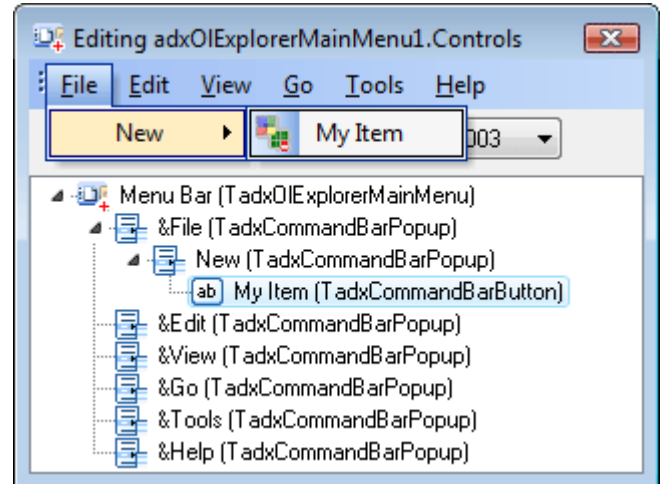
The screenshot below shows the result of scanning. You will need the Office IDs from the screenshot below to bind Add-in Express controls to them:





- Add a popup control to the menu and set its **OfficeId** property to **30002**
- Add a popup control to the popup control above and set its **OfficeId** to **30037**
- Add a button to the popup above and specify its properties.

In the sample add-in described in this chapter, the **BeforeId** property of the My Item button is set to **1757**, which is the ID of the Mail Message item. In this way, we show the custom item before the Mail Message one.



See also [Using Built-in Command Bar Controls](#).

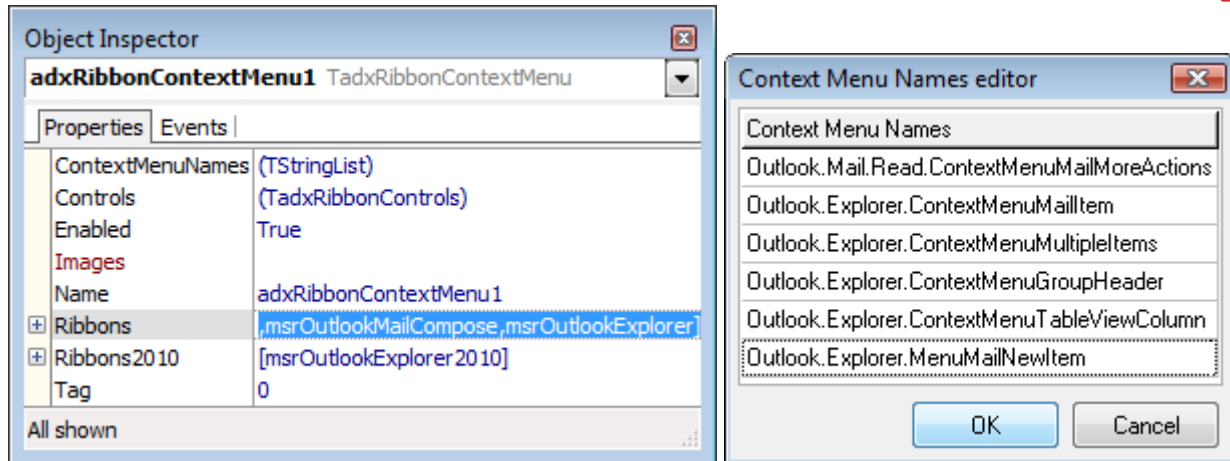
Step #10 - Customizing Context Menus in Outlook

Add-in Express allows customizing Outlook context menus via the Context Menu component. You use the context menu of the add-in module to add such a component onto the module. Then you choose Outlook in the **SupportApp** property of the component. Then, in the **CommanBarName** property, you choose the context menu you want to customize. Finally, you add custom controls in the visual designer supplied for the **Controls** property.

The sample add-in described in this chapter adds a custom item to the Folder Context Menu command bar that implements the context menu which is shown when you right-click a folder in the folder tree.

Outlook 2000 context menus are not customizable.

Also, you can customize many Ribbon-based context menus in Outlook 2010. Find the **TadxRibbonContextMenu** component on the Tool Palette and drop it on the add-in module. The component allows specifying Ribbons that supply context menu names for the **ContextMenuNames** property. You use the **ContextMenuNames** property editor to choose the context menu(s) that will display your custom controls specified in the **Controls** property.



Step #11 - Handling Events of Outlook Items Object

The Outlook2000 unit contains the **TItems** component (of the **TOleServer** type). This component provides the following events: **OnItemAdd**, **OnItemChange**, and **OnItemRemove**. To process these events, you add the following declarations and code to the add-in module:

```
TAddInModule = class(TadxCOMAddInModule)
...
private
    ...
    procedure ItemsAdd(ASender: TObject; const Item: IDispatch);
    function GetIsFolderTracked: boolean;
    procedure SetIsFolderTracked(const Value: boolean);
    ...
public
    ...
    Items: TItems;
    property IsFolderTracked: boolean read GetIsFolderTracked write
SetIsFolderTracked;
    ...
end;
...
procedure TAddInModule.adxCOMAddInModuleAddInStartupComplete(Sender: TObject);
begin
    IsFolderTracked := true;
end;

procedure TAddInModule.adxCOMAddInModuleAddInBeginShutdown(Sender: TObject);
begin
    IsFolderTracked := false;
end;
```



```
procedure TAddInModule.SetIsFolderTracked(const Value: boolean);
begin
  if Assigned(ItemsEvents) then
  begin
    if not Value then
    begin
      ItemsEvents.Disconnect;
      ItemsEvents.Free;
      ItemsEvents := nil;
    end;
  end
  else if Value then
  begin
    ItemsEvents := TItems.Create(Self);
    ItemsEvents.OnItemAdd := ItemsAdd;
    ItemsEvents.ConnectTo(
      Self.OutlookApp.GetNamespace('MAPI').
        GetDefaultFolder(olFolderInbox).Items);
  end;
end;

function TAddInModule.GetIsFolderTracked: boolean;
begin
  if Assigned(ItemsEvents) then
    Result := Assigned(ItemsEvents.DefaultInterface)
  else
    Result := false;
end;

procedure TAddInModule.ItemsAdd(ASender: TObject; const Item: IDispatch);
var
  S: WideString;
begin
  S := '';
  try
    S := OleVariant(Item).Subject;
  except
  end;
  if (S <> '') then
    ShowMessage('The item with subject "' + S
      + '" has been added to the Inbox folder');
end;
```



Step #12 - Adding Property Pages to the Folder Properties Dialogs

Outlook allows you to add custom option pages to the Options dialog box (the Tools | Options menu) and / or to the Properties dialog box of any folder. To automate this task, the Add-in Express wizard provides you with the Option Pages window (see [Step #1 – Creating an Outlook COM Add-in Project](#)).

By default, a property page contains two controls only: a label and an edit box. The edit box gives you an example of handling events of the controls on the property page.

```
procedure TPropertyPage1.Edit1Change(Sender: TObject);
begin
    GetPropertyPageSite;
    // TODO - put your code here
    UpdatePropertyPageSite;
end;
```

You add the **TCheckBox** component to the Property page, handle its **OnClick** event following the code template above, and connect or disconnect the **TItems** component in the **Apply** method. You initialize the check box in the Initialize method of the property page:

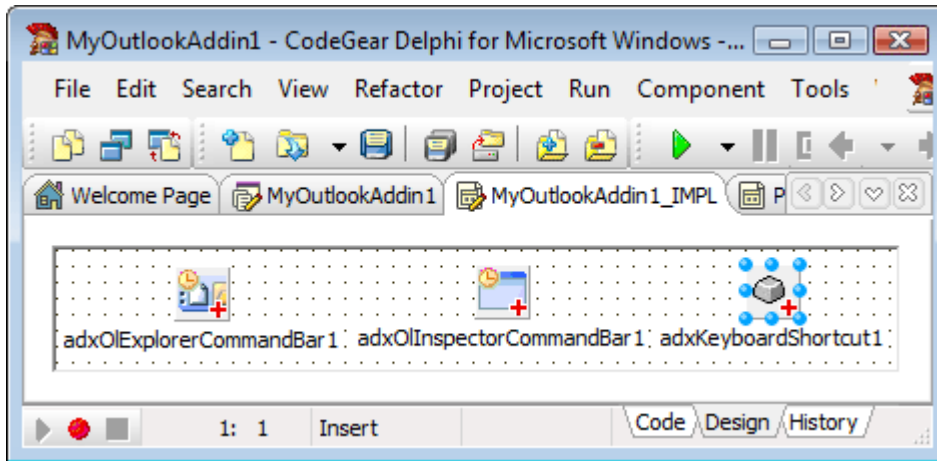
```
function TcoPropertyPage1.Apply: HRESULT;
begin
    adxcoMyOutlookAddin1.IsFolderTracked := CheckBox1.State = cbChecked;
    FDirty := False;
    Result := S_OK;
end;

procedure TPropertyPage1.Initialize;
begin
    ...
    if (adxcoMyOutlookAddin1.IsFolderTracked) then
    begin
        if (CheckBox1.State <> cbChecked) then
            CheckBox1.State := cbChecked;
        end
    else
        if (CheckBox1.State <> cbUnchecked) then
            CheckBox1.State := cbUnchecked;
        end;
end;
```

See also [Outlook Property Page](#).

Step #13 - Intercepting Keyboard Shortcuts

To intercept a keyboard shortcut, you add a **TadxKeyboardShortcut** component to the add-in module:



In the Object Inspector window you select (or enter) the desired shortcut in the **ShortcutText** property. We chose the shortcut for the Send button in the Standard command bar of the mail Inspector. It is **Ctrl+Enter**.

*To use keyboard shortcuts, you need to set the **HandleShortcuts** property of the add-in module to **true**.*

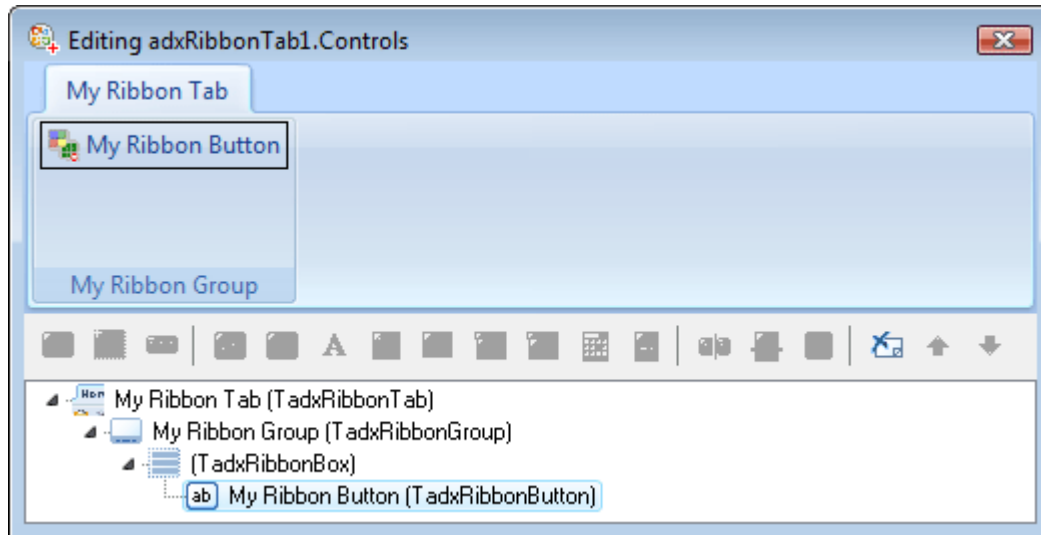
Now you can handle the **Action** event of the component:

```
procedure TAddInModule.adxKeyboardShortcut1Action(Sender: TObject);
begin
    ShowMessage('You`ve pressed ' +
        TadxKeyboardShortcut(Sender).ShortcutText);
end;
```

Step #14 - Customizing the Outlook 2007-2010 Ribbon User Interface

To add a new tab to the Ribbon, you add the **TadxRibbonTab** component to the module.

In the Object Inspector window, run the editor for the **Controls** collection of the Ribbon tab component. In the editor, use the toolbar buttons or context menu to add or delete Add-in Express components that form the Ribbon interface of your add-in. First, you add a Ribbon tab and change its caption to My Ribbon Tab. Then, you select the tab component, add a Ribbon group, and change its caption to My Ribbon Group. Next, you select the group, and add a button group. Finally, you select the button group and add a button. Set the button caption to My Ribbon Button. Use the **Glyph** property to set the icon for the button.



Now add the event handler to the **Click** event of the button and write the following code:

```
procedure TAddInModule.adxRibbonTab1Controls0Controls0Controls0Click(Sender:
TObject; const RibbonControl: IRibbonControl);
begin
    DefaultActionInInspector(nil);
end;
```

Remember, the **TadxRibbonTab.Controls** editor performs the XML-schema validation automatically, so from time to time you will run into the situation when you cannot add a control to some Ribbon level. It is a restriction of the Ribbon XML-schema.

Unlike other Ribbon-based applications, Outlook has numerous ribbons. Please use the **Ribbons** property of your **TadxRibbonTab** components to specify the ribbons you customize with your tabs.

See also [Office Ribbon Components](#).

Step #15 - Adding Custom Task Panes in Outlook 2000-2010

As described in [Advanced Custom Task Panes](#), you add an Outlook Forms Manager component (**TadxOIFormsManager**) to your add-in module and an Add-in Express Outlook Form to your project (see [New Items Dialog](#)).

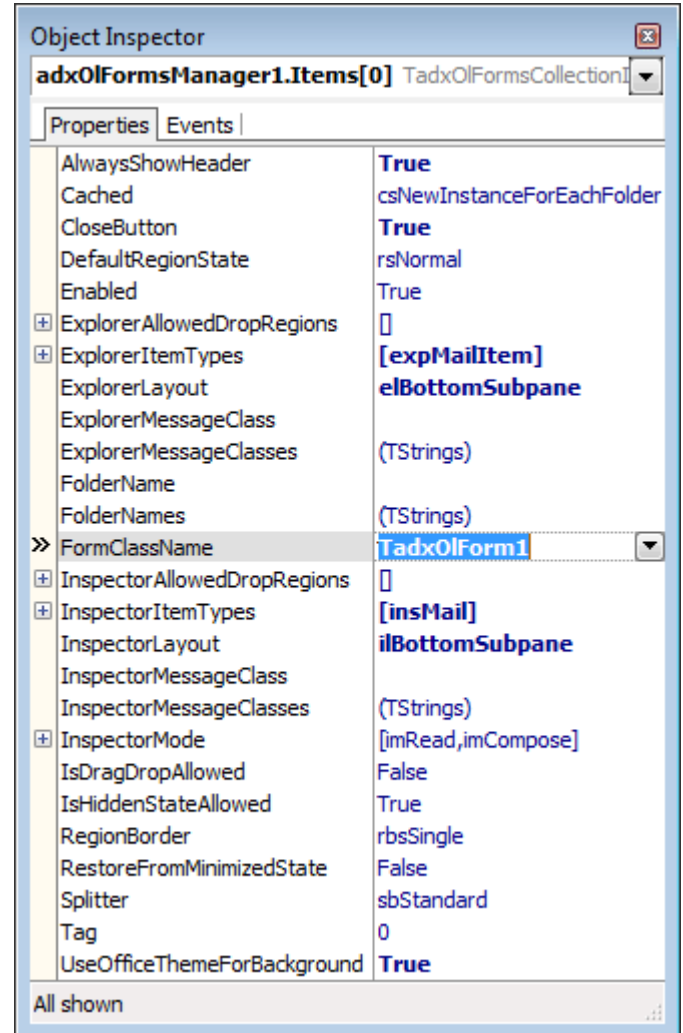
Then you add an item to the **Items** collection of the manager and specify the following properties:

- **ExplorerItemTypes = expMailItem** – your form will be shown for all mail folders;
- **ExplorerLayout = elBottomSubpane** – an instance of the form will be shown below the list of mails in Outlook Explorer windows;
- **InspectorItemTypes = insMail** – your task pane will be shown whenever you open an e-mail;



- **InspectorLayout = ilBottomSubpane** – an instance of the form will be shown to the right of the message body;
- **AlwaysShowHeader = True** – the header containing the icon (a 16x16 .ico) and the caption of your form (see the **Icon** and **Caption** properties of your form) will be shown for your form even if it is a single form in the given region;
- **CloseButton = True** – the header will contain the Close button; a click on it generates the **OnADXBeforeCloseButtonClick** event of the form
- **FormClassName = TadxOlForm1** – the class name of the form whose instances will be shown in the regions specified by the **ExplorerLayout** and/or **InspectorLayout** properties.

On the form, you add a label and handle, say, the **OnADXSelectionChange** event of the form:



procedure

```
TadxOlForm1.adxOlFormADXSelectionChange(Sender: TObject);
```

begin

```
RefreshMe();
```

end;

```
procedure TadxOlForm1.RefreshMe;
```

var

```
module: TAddinModule;
```

begin

```
module := (self.AddinModule as TAddinModule);
```

```
if (self.InspectorObj <> nil) then
```

```
Label1.Caption := module.GetSubject(self.InspectorObj)
```

```
else if (self.ExplorerObj <> nil) then
```

```
Label1.Caption := module.GetSubject(self.ExplorerObj);
```

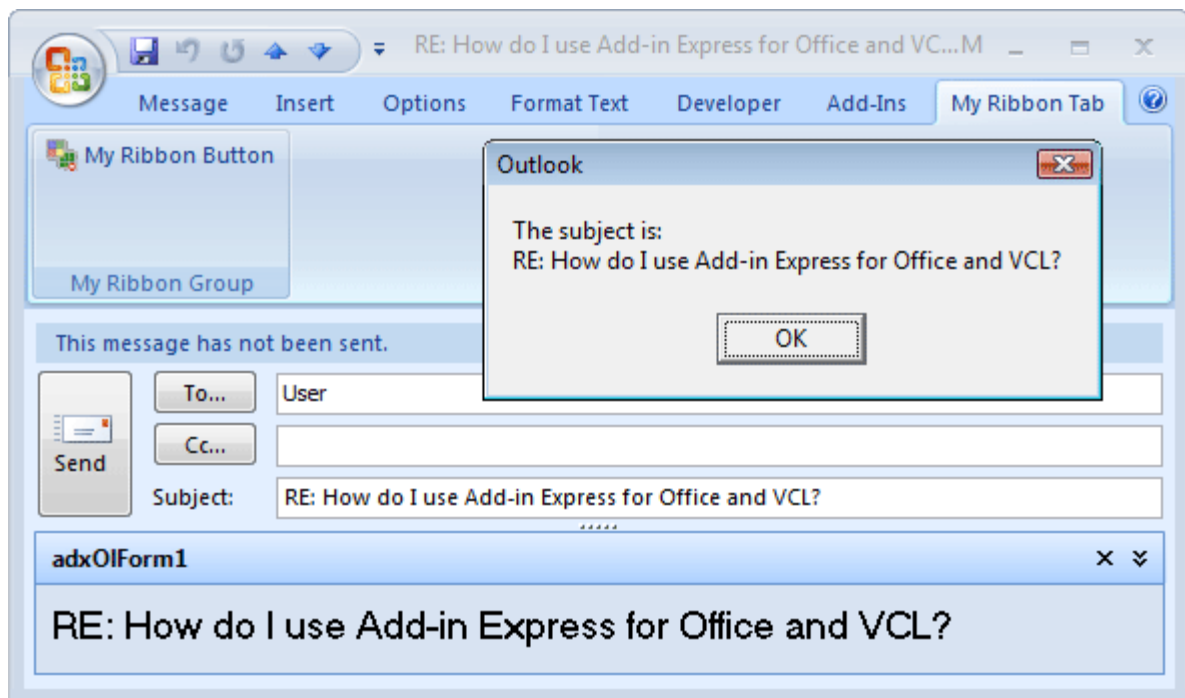
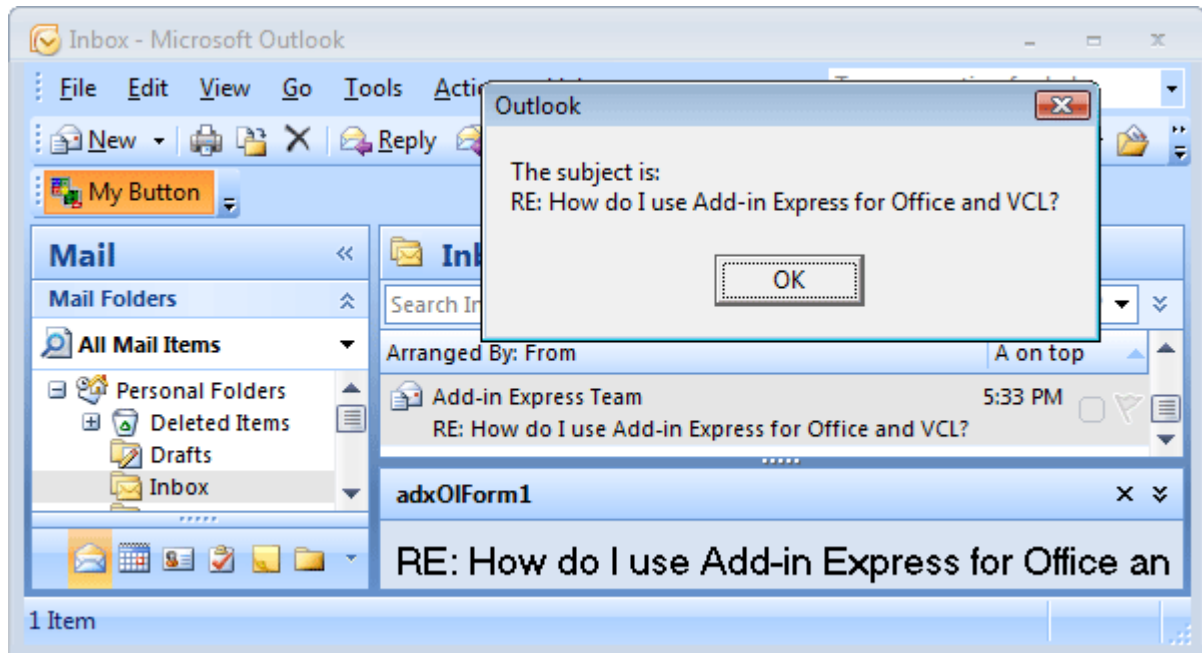
end;

The **GetSubject** method above retrieves the subject of the e-mail currently open in the Outlook Inspector window or the one selected in the current Explorer window.



Step #16 - Running the COM Add-in

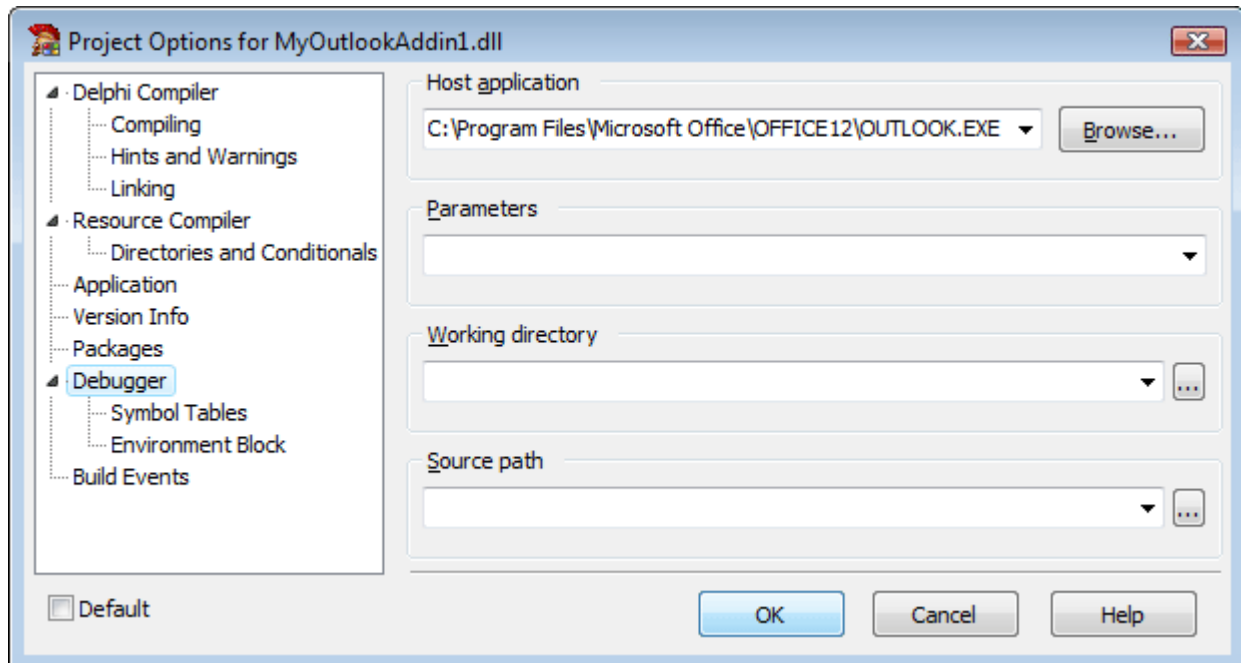
Choose the Register ActiveX Server item in the Run menu, then restart Outlook and find your option page(s), command bars, and controls. Note that your add-in is also listed in the [COM Add-ins Dialog](#).





Step #17 - Debugging the COM Add-in

To debug your add-in, just indicate the add-in host application in the Host Application field in the Project Options window.



Step #18 - Deploying the COM Add-in

Make sure your setup project registers the add-in DLL. For example, in Inno Setup projects you use the 'regserver' command. See also:

- [Registering with User Privileges](#)
- [GDIPLUS.DLL](#)

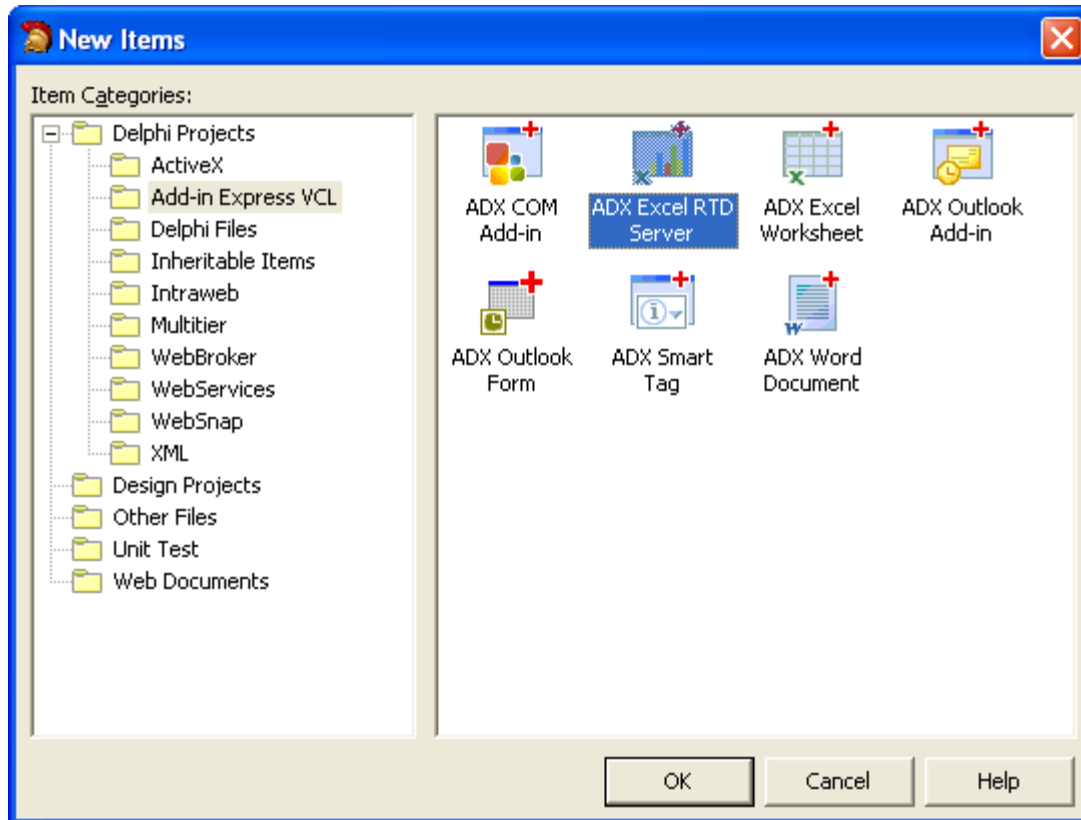


Your First Excel RTD Server

You can download this sample at <http://www.add-in-express.com/support/addin-delphi.php#rtd>.

Step #1 - Creating a New Add-in Express RTD Server Project

Add-in Express adds the Add-in Express RTD Server project template to the [New Items Dialog](#).



When you select the template and click OK, the RTD Server project wizard starts. You choose the project options in the wizard windows.



Add-in Express 2007 for VCL: Real-Time Data Server Wizard

Project name and destination directory

You should name the RTD Server project. The "Project name" will be used to name the project, the RTD Server implementation unit and the type library modules (for example MyRTDServer.dpr, MyRTDServer_IMPL.pas, MyRTDServer_TLB.pas and MyRTDServer.tlb).

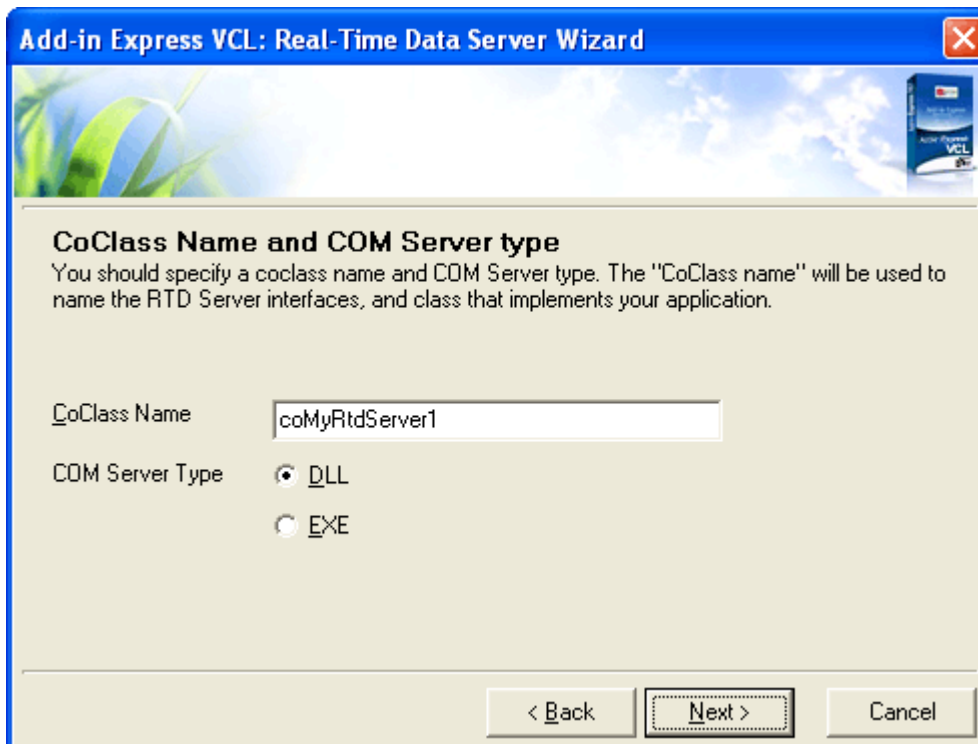
All project modules will be saved to the "Project folder" when the wizard is finished.

Project name:

Register with:
☒ Admin privileges
☐ User privileges

Project folder:

< Back Next > Cancel



Add-in Express VCL: Real-Time Data Server Wizard

CoClass Name and COM Server type

You should specify a coclass name and COM Server type. The "CoClass name" will be used to name the RTD Server interfaces, and class that implements your application.

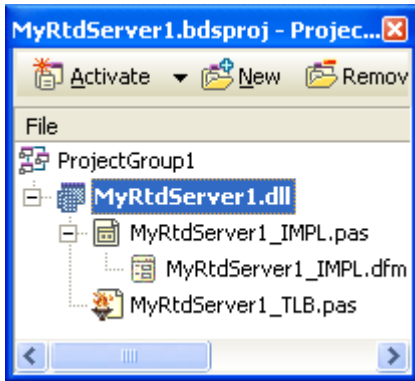
CoClass Name:

COM Server Type:
☒ DLL
☐ EXE

< Back Next > Cancel

The project wizard creates and opens the RTD server project in the IDE.

The RTD server project includes the following items:



- The project source files (`ProjectName.*`);
- The type library files: binary (`ProjectName.tlb`) and Object Pascal unit (`ProjectName_TLB.pas`);
- The RTD server module (`ProjectName_IMPL.pas` and `ProjectName_IMPL.dfm`) discussed in the following step.

Step #2 - Add-in Express RTD Server Module

The RTD server module (`MyRtdServer1_IMPL.pas` and `MyRtdServer1_IMPL.dfm`) is the core part of the RTD server project. The module is the container for `TadxRTDTopic` components.

The code of `MyRtdServer1_IMPL.pas` is as follows:

```
unit MyRtdServer1_IMPL;

interface

uses
  SysUtils, Classes, ComServ, MyRtdServer1_TLB, adxRTDServ;

type
  TcoMyRtdServer1 = class(TadxRTDServer, IcoMyRtdServer1);

  TRTDServerModule = class(TadxXLRTDServerModule)
  private
  protected
  public
  end;

implementation

{$R *.dfm}

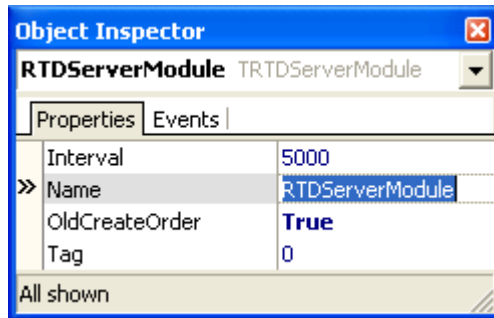
initialization
  TadxRTDFactory.Create(ComServer, TcoMyRtdServer1, CLASS_coMyRtdServer1,
    TRTDServerModule);

end.
```




Step #3 - Add-in Express RTD Server Designer

The module designer allows setting RTD server properties and adding components to the module.

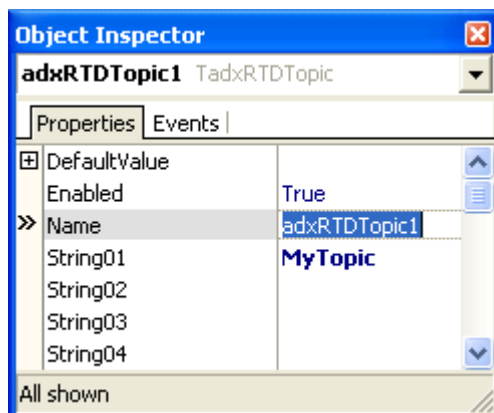
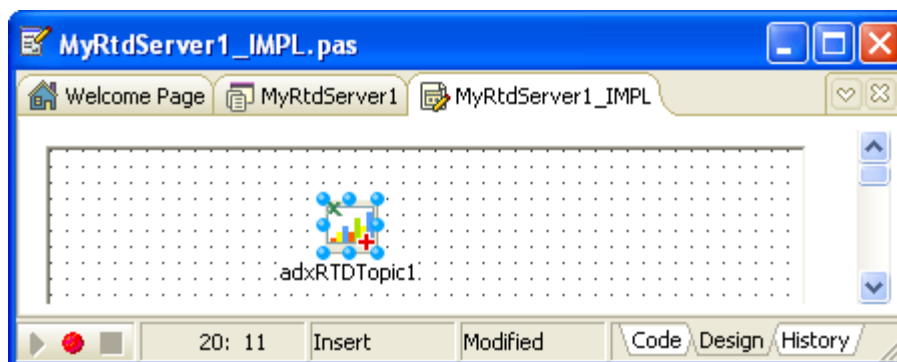


You set the properties of your RTD server module in the Object Inspector window (see [RTD Servers](#)).

The only Add-in Express component available for the module is the **TadxRTDTopic** component (see [RTD Topic](#)).

Step #4 - Adding and Handling a New Topic

To add a new topic to your RTD server, find the **TadxRTDTopic** component in the Tool Palette and drag-n-drop it onto the RTD server module (see [RTD Topic](#)).



Select the newly added component and, in the Object Inspector window, specify the topic using the **String##** properties.

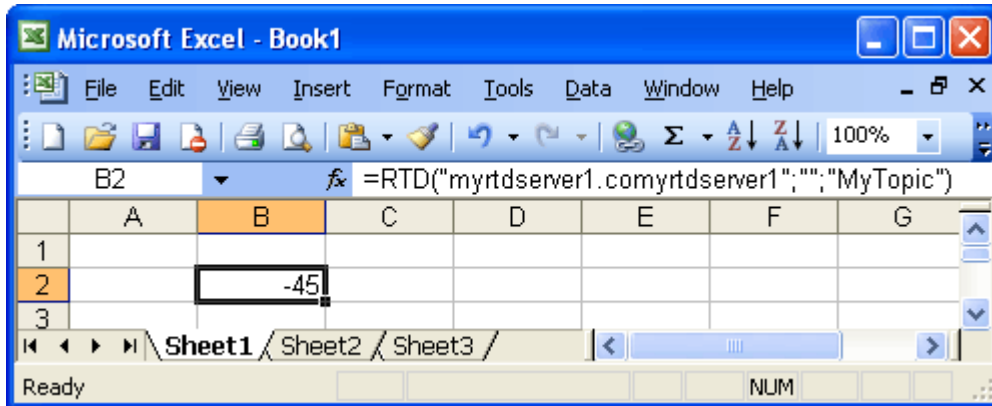
Write your code to handle the **RefreshData** event of the RTD Topic component:

```
function TRTDServerModule.adxRTDTopic1RefreshData(Sender: TObject): OleVariant;
begin
    Result := RandomRange(-100, 100);
end;
```



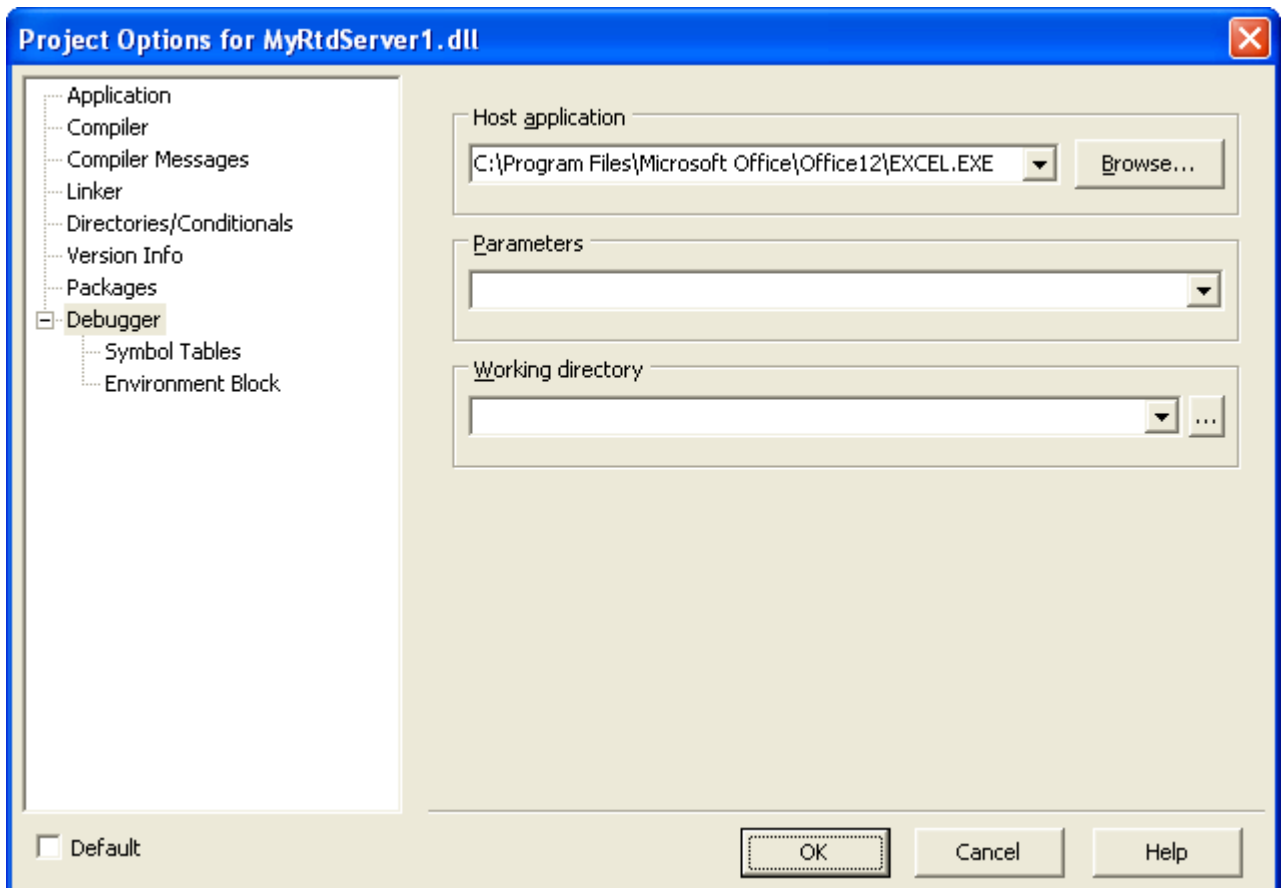
Step #5 - Running the RTD Server

Choose the Register ActiveX Server item in the Run menu, restart Excel, and enter the RTD function to a cell.



Step #6 - Debugging the RTD Server

To debug your RTD server, just indicate Excel as the Start Program in the Project Options window.





Step #7 - Deploying the RTD Server

Make sure your setup project registers the RTD server DLL (or EXE). Say, in Inno Setup projects you use the 'regserver' command. If you use the Register with User Privileges option, please read the following:

- [Registering with User Privileges](#)

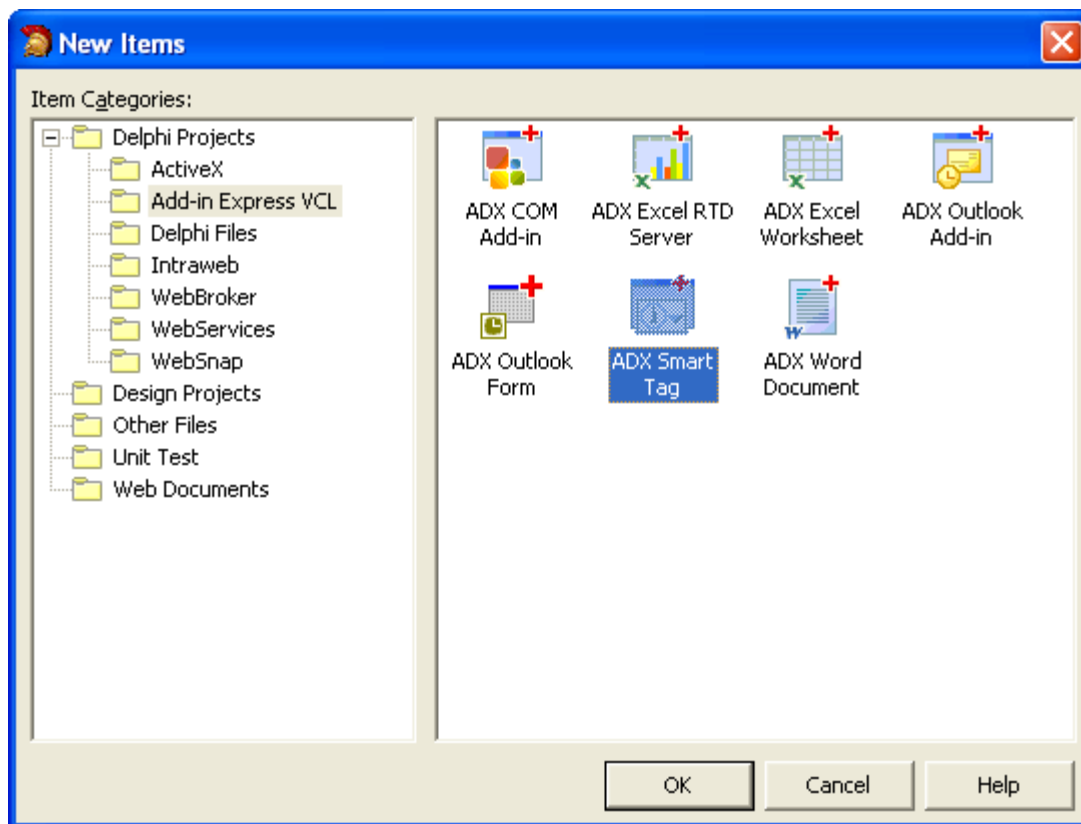


Your First Smart Tag

You can download this sample at <http://www.add-in-express.com/support/addin-delphi.php#smart-tag>.

Step #1 - Creating a New Smart Tag Library Project

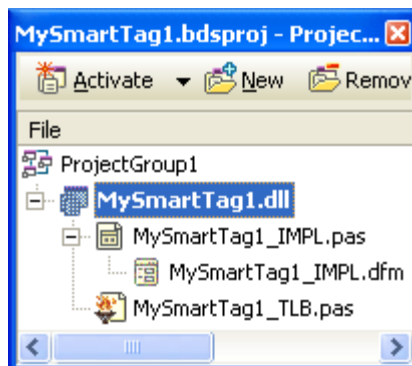
Add-in Express adds the Add-in Express COM Add-in project template to the [New Items Dialog](#).



When you select the template and click OK, the Smart Tag project wizard starts. In the wizard windows, you choose the project options.



The project wizard creates and opens the Smart Tag project in the IDE.



The smart tag project includes the following items:

- The project source files (**ProjectName.***);
- The type library files: binary (**ProjectName.tlb**) and Object Pascal unit (**ProjectName_TLB.pas**);
- The smart tag module (**ProjectName_IMPL.pas** and **ProjectName_IMPL.dfm**) discussed in the following step.

Step #2 - Add-in Express Smart Tag Module

The smart tag module (**MySmartTag1_IMPL.pas** and **MySmartTag1_IMPL.dfm**) is the core part of the smart tag project. The smart tag module is a container for **TadxSmartTag** components.

The code for **MySmartTag1_IMPL.pas** is as follows:

```
unit MySmartTag1_IMPL;  
  
interface  
  
uses
```



```

SysUtils, ComObj, ComServ, ActiveX, Variants, adxSmartTag, adxSmartTagTLB,
MySmartTag1_TLB;

type
  TcoMySmartTag1Recognizer = class(TadxRecognizerObject,
IcoMySmartTag1Recognizer)
    protected
    end;

  TcoMySmartTag1Action = class(TadxActionObject, IcoMySmartTag1Action)
    protected
    end;

  TSmartTagModule = class(TadxSmartTagModule)
    private
    protected
    public
    end;

implementation

{$R *.dfm}

initialization
  TadxRecognizerFactory.Create(ComServer, TcoMySmartTag1Recognizer,
    CLASS_coMySmartTag1Recognizer, TSmartTagModule);

  TadxActionFactory.Create(ComServer, TcoMySmartTag1Action,
    CLASS_coMySmartTag1Action, TSmartTagModule);

end.

```

The smart tag module contains three classes:

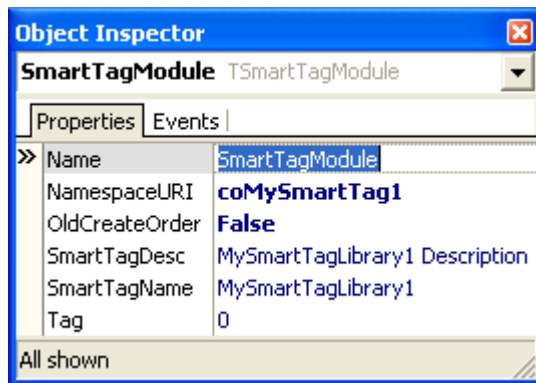
- The “interfaced” classes (**TcoMySmartTag1Recognizer** and **TMySmartTag1Action**);
- The smart tag module class (**TSmartTagModule**).

The “interfaced” classes are descendants of the **TadxRecognizerObject** class and the **TadxActionObject** class that implement the smart tag specific interfaces required by the smart tag architecture: **ISmartTagRecognizer**, **ISmartTagRecognizer2**, **ISmartTagAction** and **ISmartTagAction2**. Usually you don't need to change anything in these classes.

In the smart tag module class, we write the functionality to be implemented by the smart tag. The smart tag module is an analogue of the Data Module, but unlike the Data Module, the smart tag module allows you to set all properties of your smart tags.



Step #3 - Add-in Express Smart Tag Designer



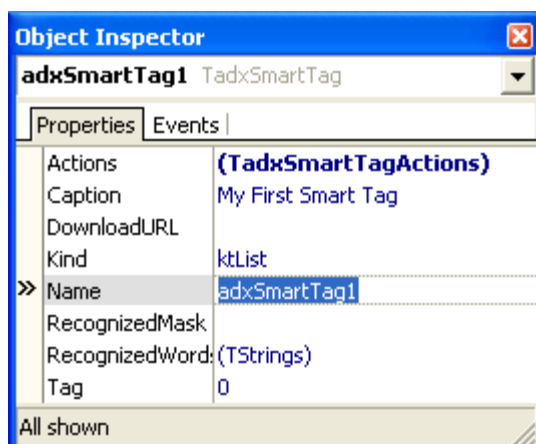
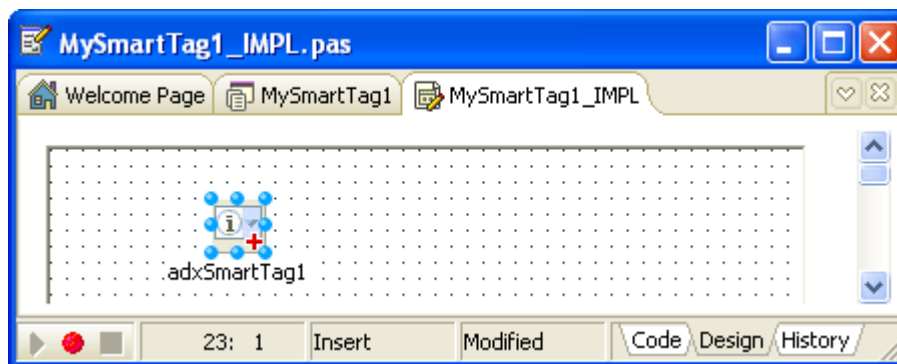
In the Project Manager window, select the smart tag module, activate the Object Inspector window, specify your smart tag name in the **SmartTagName** property (this name appears in the Smart Tags tab on the host application AutoCorrect Options dialog box), and enter the description of the smart tag through the **SmartTagDesc** property. These properties depend on Office localization.

The designer of Smart Tag module allows setting smart tag library properties and adding **TadxSmartTag** components to the module.

See also [Smart Tags](#).

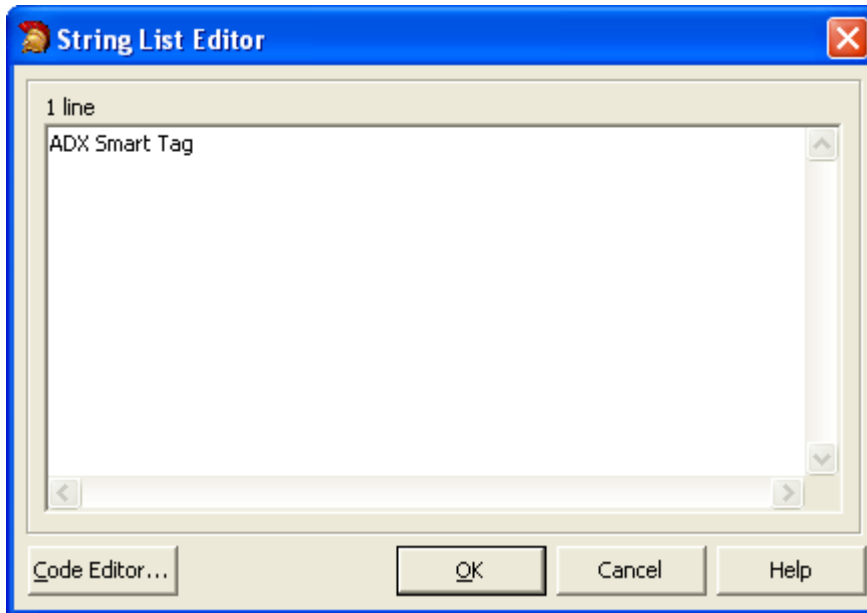
Step #4 - Adding a New Smart Tag

To add a new Smart Tag to your library, find the **TadxSmartTag** component in the Tool Palette and drag-n-drop it onto the Smart Tag Module (see [Smart Tag](#)).

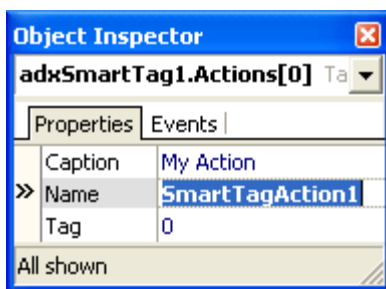


In the Object Inspector window, specify the caption for the added smart tag in the **Caption** property. The value of this property will become a caption of the smart tag context menu. Also, specify the phrase(s) recognizable by the smart tag in the **RecognizedWords** string collection.

Say, in this sample Smart Tag, the words are the following:



Step #5 - Adding and Handling Smart Tag Actions



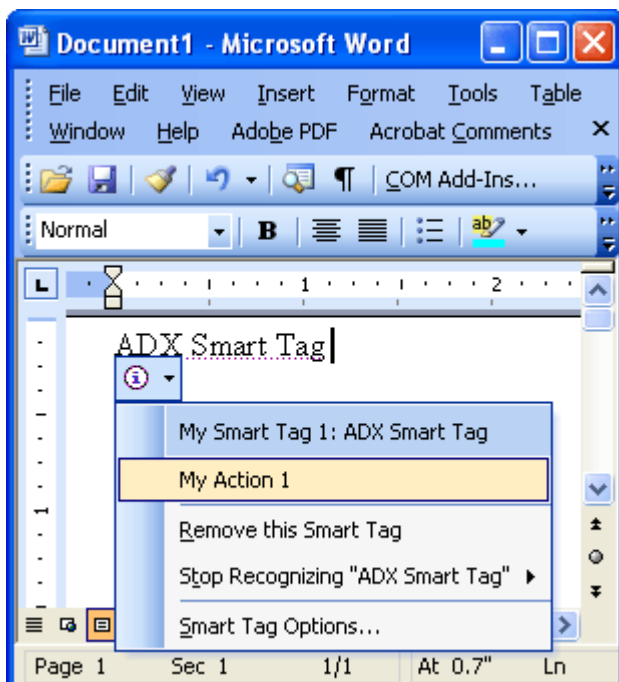
To add a new smart tag action, right-click the smart tag component, select the Smart Tag Actions item on the pop-up menu, and, in the Editing window, click the Add New button. Select the action in the Editing window, activate the Object Inspector window, and fill in the **Caption** property. It depends on Locale. The value of the **Caption** property is shown as an item of the smart tag context menu (pop-up).

To handle the click event of this menu item, select the Events tab of the Object Inspector, double click the **OnClick** event, and enter your code:

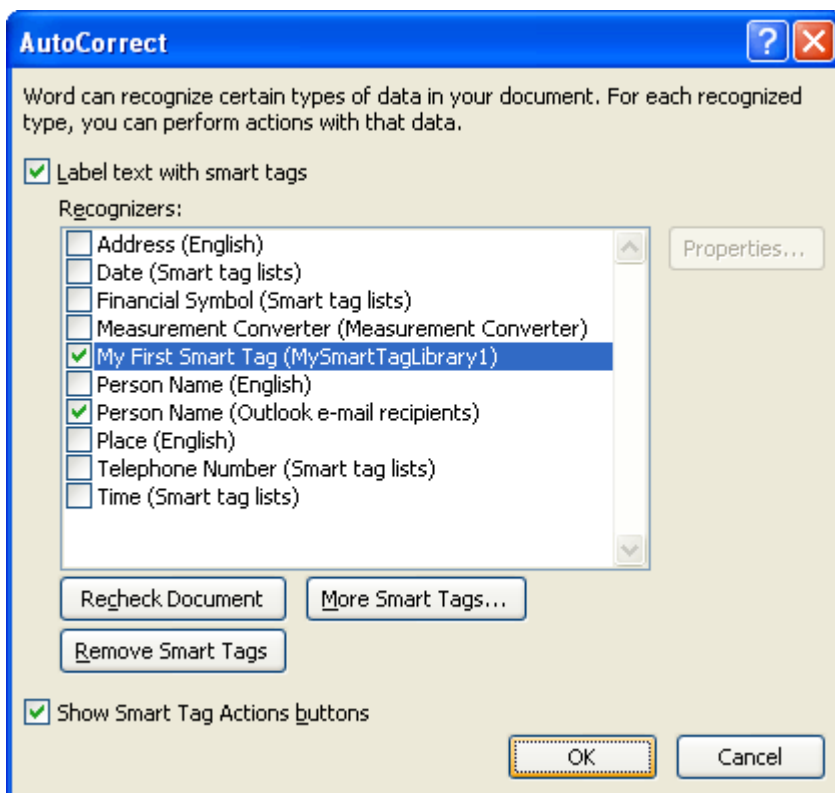
```
procedure TSmartTagModule.adxSmartTag1Actions0Click(Sender: TObject;
  const AppName: WideString; const Target: IDispatch; const Text,
  Xml: WideString; LocaleID: Integer);
begin
  ShowMessage('Recognized text is ' + Text);
end;
```

Step #6 - Running Your Smart Tag

Choose the Register ActiveX Server item in the Run menu, restart Word, enter the words recognizable by your smart tag into a document, and see if the smart tag works.



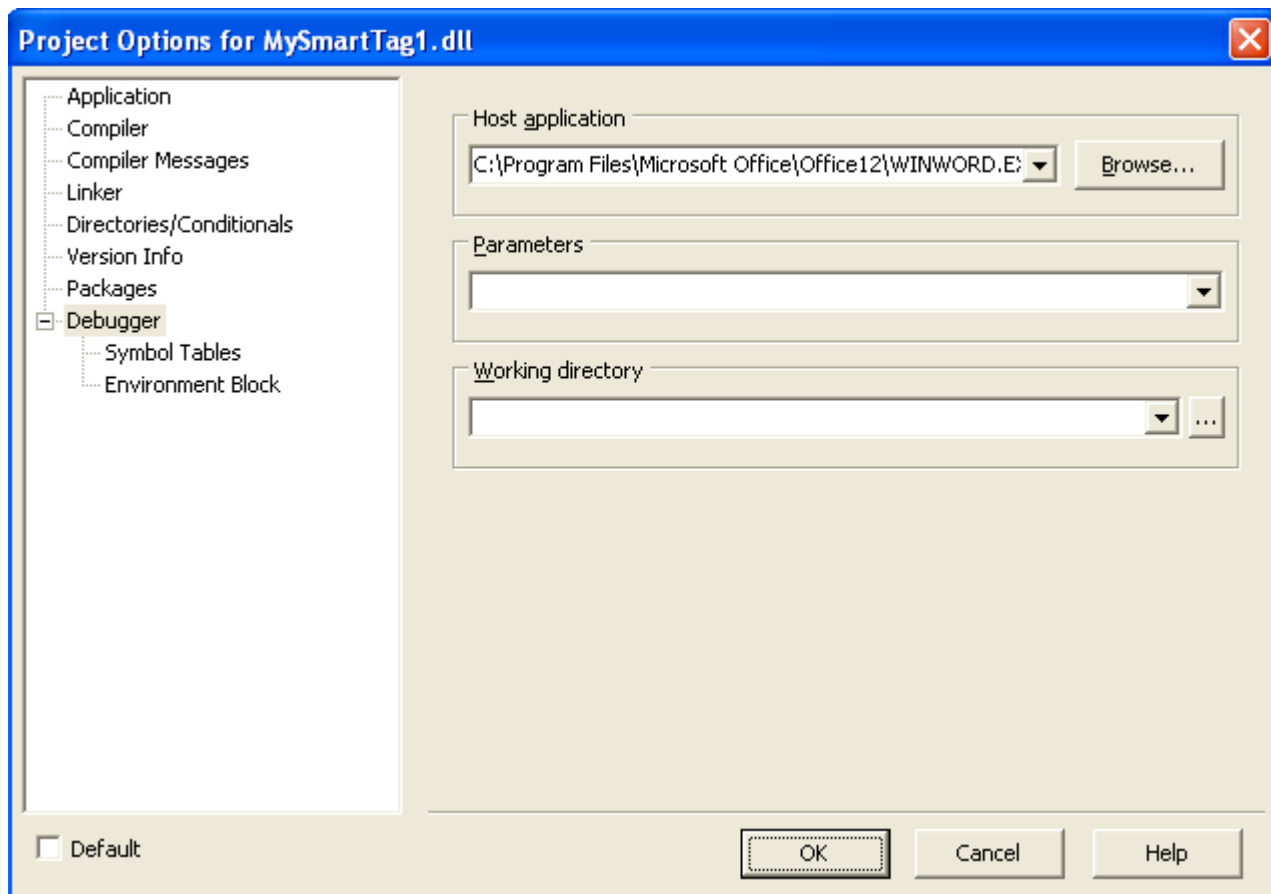
In Office 2003-2003, choose the Tools | AutoCorrect menu item and find your smart tag on the Smart Tags tab. In Office 2007, the path to this dialog is as follows: Office button | Word Options | Add-ins | "Manage" Smart Tags | Go. In Office 2010, see File tab | Options | Add-ins | "Manage" Actions | Go.





Step #7 - Debugging the Smart Tag

To debug your Smart Tag, just indicate the add-in host application as the Start Program in the Project Options window.



Step #8 - Deploying the Smart Tag

Make sure your setup project registers the smart tag DLL. Say, in Inno Setup projects you use the 'regserver' command. If you use the Register with User Privileges option, please read the following:

- [Registering with User Privileges](#)



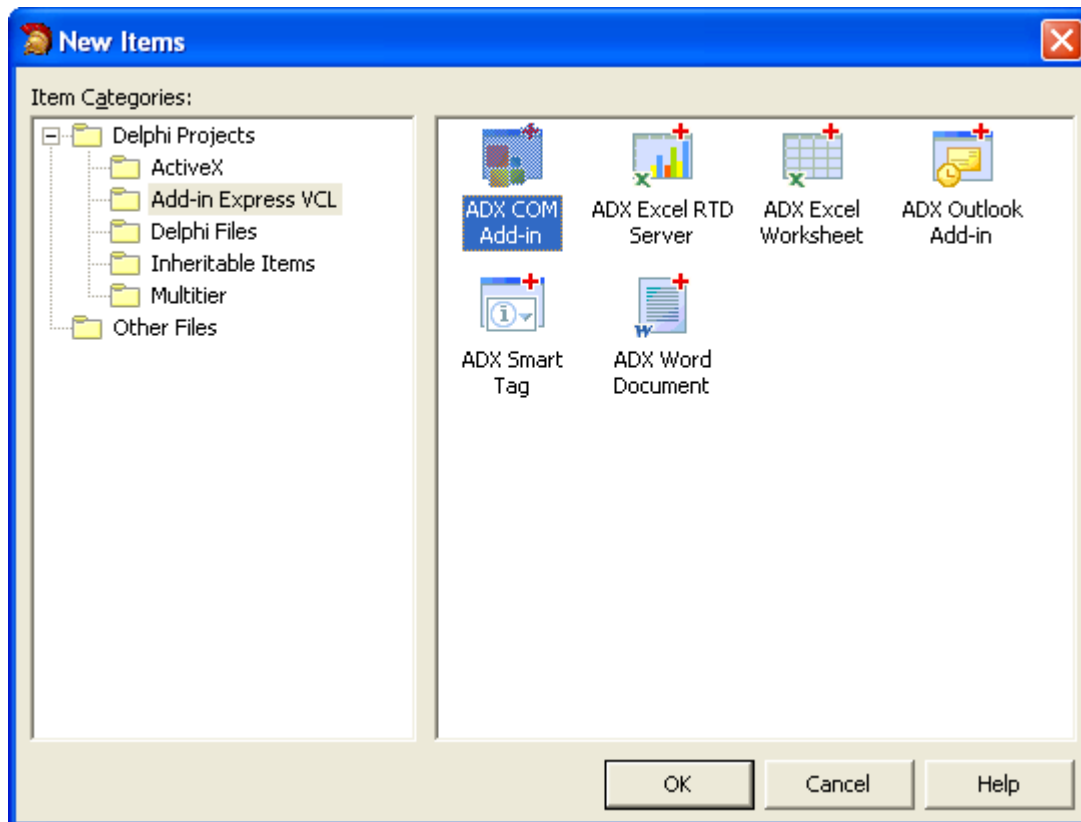
Your First Excel Automation Add-in

You can download this sample at <http://www.add-in-express.com/support/addin-delphi.php#excel-automation>.

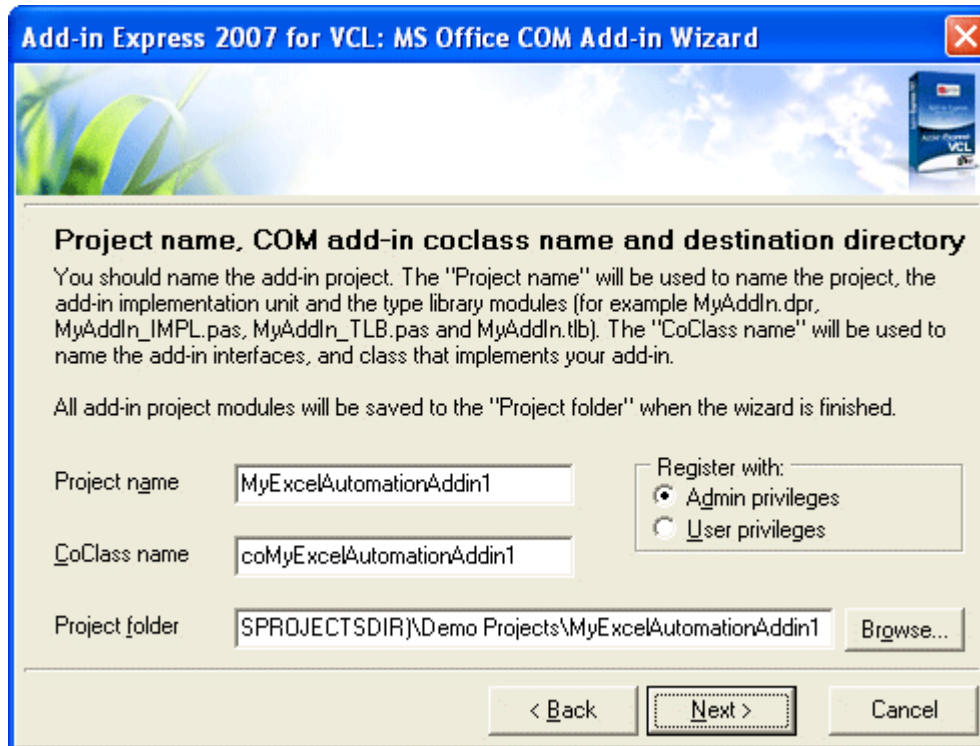
The fact is that Excel Automation Add-ins do not differ from COM Add-ins except for the registry entries. That's why Add-in Express bases Excel Automation Add-in projects on Add-in Express COM Add-in projects.

Step #1 - Creating a New COM Add-in Project

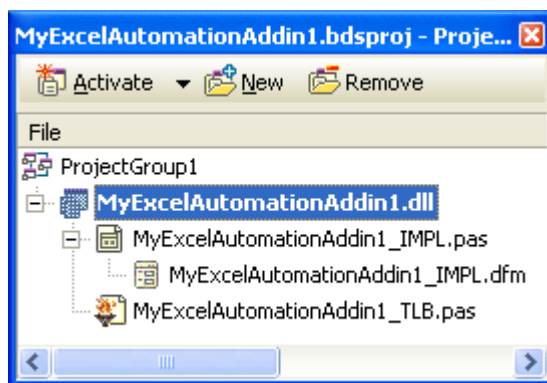
Add-in Express adds the Add-in Express COM Add-in project template to the [New Items Dialog](#).



When you select the template and click OK, the Add-in Express COM Add-in wizard starts. You choose the necessary project options in the wizard windows.



The project wizard creates and opens the COM Add-in project in the IDE.



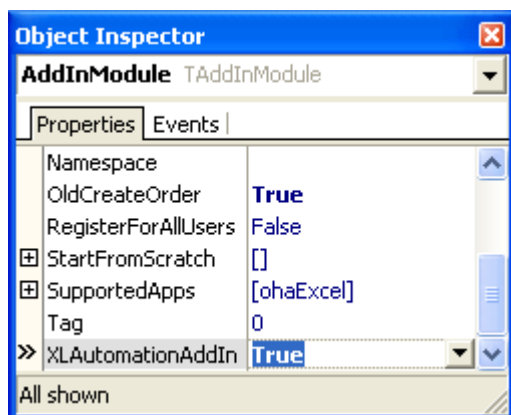
The add-in project includes the following items:

- The project source files (**ProjectName.***);
- The type library files: binary (**ProjectName.tlb**) and Object Pascal unit (**ProjectName_TLB.pas**);
- The add-in module (**ProjectName_IMPL.pas** and **ProjectName_IMPL.dfm**) discussed in [Your First Microsoft Office COM Add-in](#).



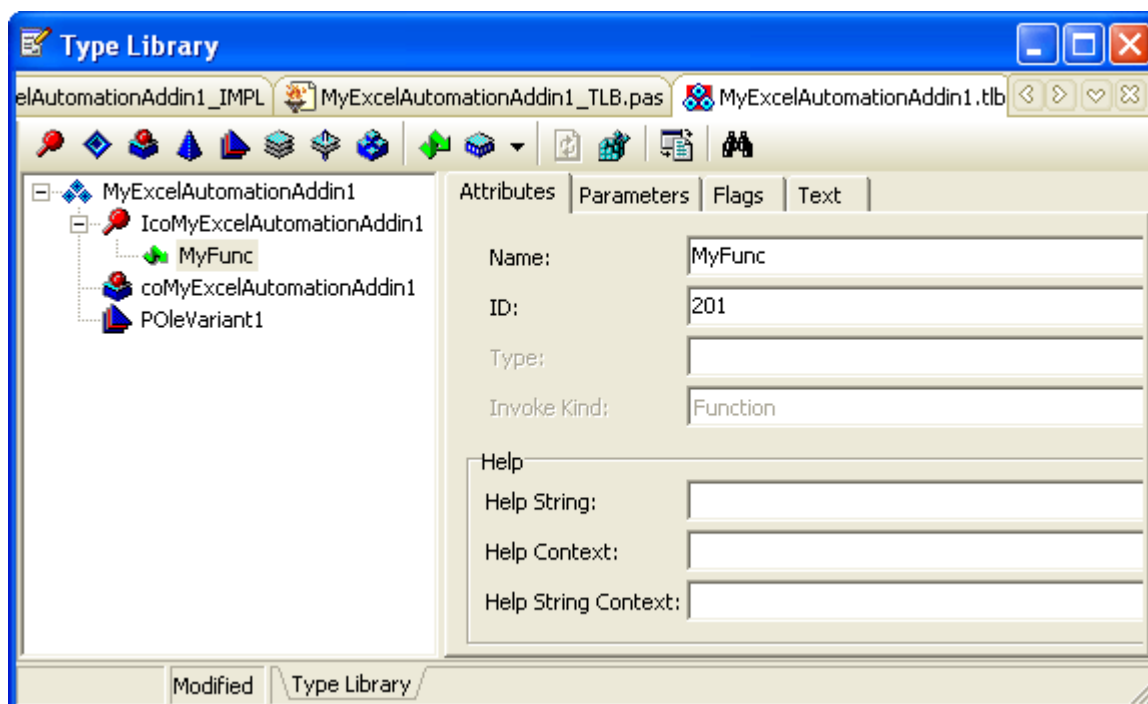
Step #2 - Involving Excel Automation Add-in Functionality

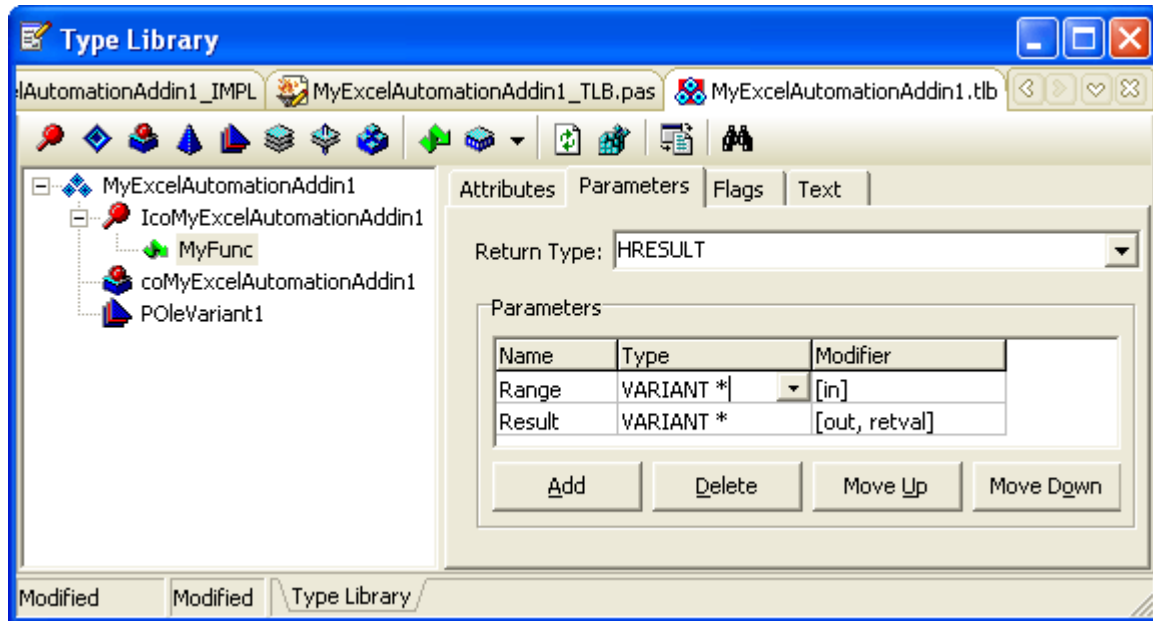
Before you start adding Excel user-defined functions to the COM Add-in, you set the **XLAutomationAddin** property of the add-in module to true.



Step #3- Creating User-Defined Functions

Open the project type library (View | Type Library menu). Add a new method to the type library and define its parameters.



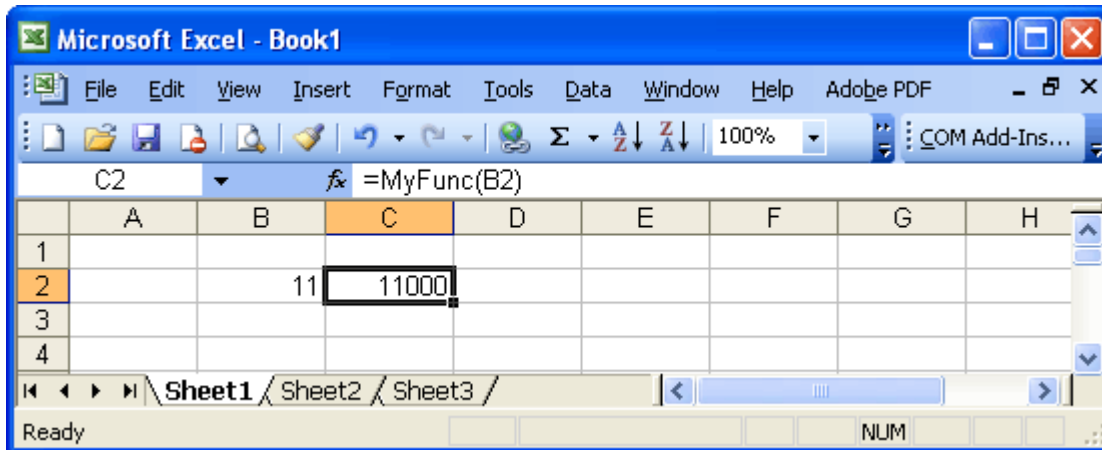


Click the Refresh button and write your code to the `TcoMyExcelAutomationAddin1.MyFunc` function:

```
function TcoMyExcelAutomationAddin1.MyFunc(var Range: OleVariant): OleVariant;
begin
    Result := 0;
    case VarType(Range) of
        varSmallint, varInteger, varSingle,
        varDouble, varCurrency, varShortInt, varByte,
        varWord, varLongWord, varInt64: Result := Range * 1000;
    else
        try
            Result := Range.Cells[1, 1].Value * 1000;
        except
            Result := CVarErr(xlErrValue);
        end;
    end;
end;
```

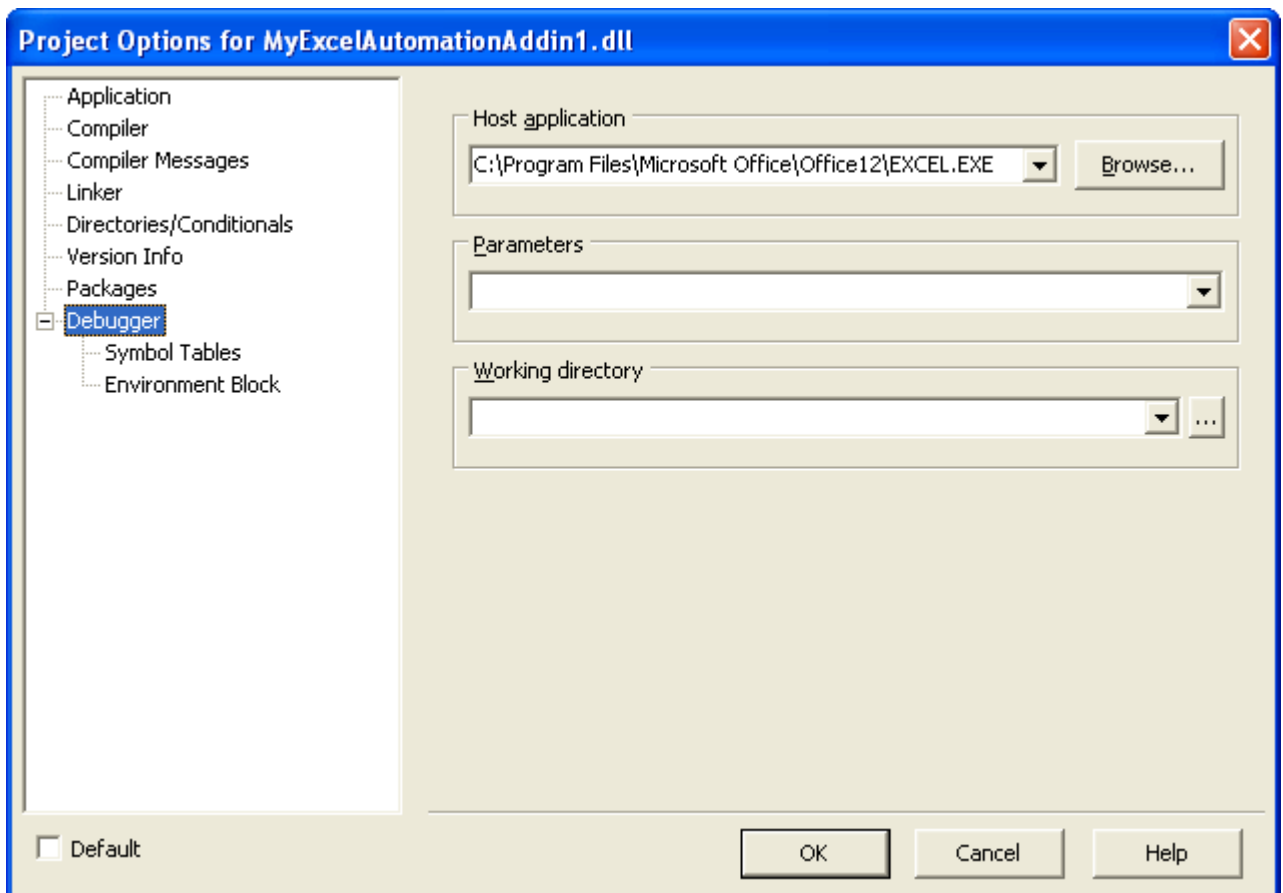
Step #4 - Running the Excel Automation Add-in

Choose the Register ActiveX Server item in the Run menu, restart Excel, and check if your add-in works.



Step #5 - Debugging the Excel Automation Add-in

To debug your add-in, just indicate the add-in host application as the Start Program in the Project Options window.





Step #6 - Deploying the Excel Automation Add-in

Make sure your setup project registers the add-in DLL. Say, in Inno Setup projects you use the 'regserver' command. See also:

- [Registering with User Privileges](#)
- [GDIPLUS.DLL](#)



Add-in Express Tips and Notes

Terminology

In this document, on our site, and in all our texts we use the terminology suggested by Microsoft for all toolbars, their controls, and for all interfaces of the Office Type Library. For example:

- Command bar is a toolbar, a menu bar, or a context menu.
- Command bar control is one of the following: a button, an edit box, a combo box, or a pop-up.
- Pop-up can stand for a pop-up menu, a pop-up button on a command bar or a submenu on a menu bar.

Add-in Express uses interfaces from the Office Type Library. We do not describe them here. Please refer to the VBA help and to the application type libraries.

Getting Help on COM Objects, Properties and Methods

To get assistance with host applications' objects, their properties and methods as well as help info, use the Object Browser. Go to the VBA environment (in the host application, choose menu Tools / Macro / Visual Basic Editor or just press Alt+F11), press F2, select the host application (also Office and MSForms) in the topmost combo and/or specify a search string in the search combo.

COM Add-ins Dialog

In version 2007 of Word, Excel, PowerPoint and Access you click the Office Menu button, then click {Office application} options and choose the Add-ins tab. Now choose COM Add-ins in the Manage dropdown and click Go.

In all other Office applications, you need to add the COM Add-ins command to a toolbar or menu of your choice. To do so, follow the steps below:

- Open the host application (Outlook, Excel, Word, etc)
- On the Tools menu, click Customize.
- Click the Commands tab.
- In the Categories list, click the Tools category.
- In the Commands list, click COM Add-Ins and drag it to a toolbar or menu of your choice.

In Office 2000-2003, this dialog shows add-in registered in HKCU only. In Office 2007, HKLM-registered add-ins are shown as well.



How to Get Access to the Add-in Host Applications

In the add-in module, Add-in Express wizards generate the `<HostName>App` properties. They return the `Application` object (of the `OleVariant` type) of the host application in which the add-in is currently running. To identify the host application, you can also use the `HostType` property of the module.

Registry Entries

COM Add-ins registry entries are located in the following registry branches:

```
HKEY_CURRENT_USER\Software\Microsoft\Office\<OfficeApplication>\AddIns\<Add-in ProgID>
HKEY_CLASSES_ROOT\CLSID\<Add-in Express Project GUID>
```

ControlTag vs. Tag Property

Add-in Express identifies all its controls (command bar controls) by the `ControlTag` property (the `Tag` property of the `CommandBarControl` interface). The value of this property is generated automatically and you do not need to change it. For your own needs, use the `Tag` property instead.

Pop-ups

According to the Microsoft terminology, the term “pop-up” can be used for several controls: pop-up menu, pop-up button, and submenu. With Add-in Express, you can create your own pop-up as an element of your controls command bar collection and add any control to it via the `Controls` property.

However, pop-ups have an annoying feature: if an edit box or a combo box is added to a pop-up, their events are fired very oddly. Please don't regard this bug as that of Add-in Express.

Edits and Combo Boxes and the Change Event

The `Change` event appears only when the value was changed and the focus was shifted. This is by design.

Built-in Controls and Command Bars

You can connect an Add-in Express command bar instance to any built-in command bar. For example, you can add your own controls to the "Standard" command bar or remove some controls from it. To do this just add a new Add-in Express Command Bar instance to the add-in module and specify the name of the built-in command bar you need via the `CommandBarName` property.



In addition, you can add any built-in controls to your own command bars. To do this just add an `ADXCommandBarControl` instance to the `ADXCommandBar.Controls` collection and specify the ID of the built-in control you need via the `Id` property.

CommandBar.SupportedApps

Use this property to specify if the command bar is to appear in some or all host applications supported by the add-in.

Outlook Command Bar Visibility Rules

You can use the `FolderName`, `FolderNames` and `ItemTypes` properties to bind your toolbars to certain Outlook folders. Your toolbar is shown for a folder:

- If its full name (includes the folder path) is found in the `FolderName` or `FolderNames` properties.
- Or if the folder type is found in the `ItemTypes` property.

Removing Custom Command Bars and Controls

Add-in Express removes custom command bars and controls when the add-in is uninstalled. However, this does not apply to Outlook and Access add-ins. You should set the `Temporary` property of custom command bars (and controls) to true to notify the host application that it can remove them itself. If you need to remove a toolbar or button yourself, use the Tools | Customize dialog.

My Add-in Is Always Disconnected

If your add-in fires exceptions at the startup, the host application can block the add-in and move it to the Disabled Items list. To find the list, go to "Help" in the host application and then click "About". At the bottom of the About dialog, there is the Disabled Items button. Check it to see if the add-in is listed there (if so, select it and click the enable button).

Update Speed for an RTD Server

Microsoft limits the minimal interval between updates to 2 seconds. There is a way to change this minimum value but Microsoft doesn't recommend doing this.

Sequence of Events When an Office 2007 Task Pane Shows up

- `AddinModule.OnTaskPaneBeforeCreate`



- `AddinModule.OnTaskPaneAfterCreate`
- `AddinModule.OnTaskPaneBeforeShow`
- `TaskPane.OnVisibleStateChange`
- `AddinModule.OnTaskPaneAfterShow`

Adding an Office 2007 Task Pane to an Existing Add-in Express Project

- Add an instance of `ActiveForm` to the project (File | New | Other | ActiveX | Active Form)
- Change its `AxBorderStyle` property to `afbNone`.
- Add the following declaration to the private section of the `ActiveForm`

```
procedure WMMouseActivate(var Message: TWMMouseActivate); message
WM_MOUSEACTIVATE;
```

- Change the method code to the following:

```
var
  FocusedWindow: HWND;
  CursorPos: TPoint;
begin
  inherited;
  FocusedWindow := Windows.GetFocus;
  if not SearchForHWND(Self, FocusedWindow) then begin
    Windows.GetCursorPos(CursorPos);
    FocusedWindow := WindowFromPoint(CursorPos);
    Windows.SetFocus(FocusedWindow);
    Message.Result := MA_ACTIVATE;
  end;
```

- Add the following function used by the `WMMouseActivate` method (place it before the method):

```
function SearchForHWND(const AControl: TWinControl; Focused: HWND): boolean;
var
  i: Integer;
begin
  Result := (AControl.Handle = Focused);
  if not Result then
    for i := 0 to AControl.ControlCount - 1 do
      if AControl.Controls[i] is TWinControl then begin
        if TWinControl(AControl.Controls[i]).Handle = Focused then begin
          Result := True;
          Break;
        end
      end;
```



```

        else
            if TWinControl(AControl.Controls[i]).ControlCount > 0 then begin
                Result := SearchForHWND(TWInControl(AControl.Controls[i]),
                Focused);
                if Result then Break;
            end;
        end;
    end;
end;

```

- Add and override the **ActiveForm** destructor using the following code:

```

destructor TMyTaskPane.Destroy;
var
    ParkingHandle: HWND;
begin
    ParkingHandle := FindWindowEx(0, 0, 'DAXParkingWindow', nil);
    if ParkingHandle <> 0 then
        SendMessage(ParkingHandle, WM_CLOSE, 0, 0);
    inherited Destroy;
end;

```

- Now you add an item to the **TaskPanels** collection of **TAddinModule** and set its **ControlProgID** property to the ProgID of the **ActiveForm** – just select it from the dropdown list.
- Remember about the **Title** property – the host application generates an exception if this property is left empty.
- Clear the Target File Extension field in the project properties (Project | Options | Application).

Temporary or Not?

According to the help reference for the Office object model contained within Office.DLL (see [Getting Help on COM Objects, Properties and Methods](#)), temporary command bars and controls are removed by the host application when it is closed.

Normally, the developer has the following alternative: if command bars and controls are temporary, they are recreated whenever the add-in starts; if they are non-temporary, the installer removes those command bars and controls from the host. Looking from another angle, you will see that the real alternative is the time required for start-up against the time required for uninstalling the add-in (the host must be run to remove command bars).

Outlook and Word are two exceptions. It is strongly recommended that you use temporary command bars and controls in Outlook add-ins. If they are non-temporary, Add-in Express must run Outlook to remove them. Now imagine password-protected PST and multiple-profile scenarios.

In Word add-ins, we strongly advise making **both** command bars and controls non-temporary. Word removes temporary command bars. However, it does not remove temporary command bar controls, at least



not all of them. When the add-in starts for the second time, Add-in Express finds such controls and just connects to them. In this way, it processes the user-moved-or-deleted-the-control scenario. Accordingly, the controls are missing in the UI.

Note that main and context menus are command bars. That is, in Word add-ins, custom controls added to these components must have `Temporary = False` as well. If you set `Temporary` to true for such controls, they will not be removed when you uninstall your add-in. That happens because Word has another peculiarity: it saves temporary controls when they are added to a built-in command bar. And all context menus are built-in command bars. To remove such controls, you will have to write some code or use a simple way: set `Temporary` to false for all controls, register the add-in on the affected PC, run Word. At this moment, the add-in finds this control and traces it from this moment on. Accordingly, when you unregister the add-in, the control is removed in a standard way.

Registering with User Privileges

When you use this option of the project wizard, all COM objects are registered in `HKCU/Software/Classes` instead of `HKLM/Software/Classes`. This allows registering COM objects with non-admin privileges.

To support this option, Add-in Express modifies the code of the `<project name>.dpr` file and creates a special `<project name>.ini`. When you deploy the project created with this option, you should place the `<project name>.ini` and `<project name>.dll` files in the same location.

Restrictions:

- This works on Windows 2000+ only.
- The `TAddinModule.RegisterForAllUsers` property is ignored if you use the Register with User Privileges option.
- RTD servers in EXE cannot be registered for the current user, so this option will be ignored if selected.

When modifying existing projects, you should do the following:

- Add the following code to the `<project name>.dpr` file:

```
...
uses
...
ComObj, Windows, adxAddIn,
...

type
  TDummyComServer = class(TObject)
  private
    procedure FactoryRegister(Factory: TComObjectFactory);
    procedure FactoryUnRegister(Factory: TComObjectFactory);
```



```
end;

procedure TDummyComServer.FactoryRegister(Factory: TComObjectFactory);
begin
    UpdateFactory(Factory, True);
end;

procedure TDummyComServer.FactoryUnRegister(Factory: TComObjectFactory);
begin
    UpdateFactory(Factory, False);
end;

function DllRegisterServer: HRESULT;
begin
    Result := E_FAIL;
    try
        if CheckConfigSection() then begin
            RegisterToHKCU := True;
            with TDummyComServer.Create do
                try
                    ComClassManager.ForEachFactory(ComServer, FactoryRegister);
                finally
                    Free;
                end;
            Result := S_OK;
        end;
    except
    end;
    if Result <> S_OK then Result := ComServ.DllRegisterServer();
end;

function DllUnregisterServer: HRESULT;
begin
    Result := E_FAIL;
    try
        if CheckConfigSection() then begin
            RegisterToHKCU := True;
            with TDummyComServer.Create do
                try
                    ComClassManager.ForEachFactory(ComServer, FactoryUnRegister);
                finally
                    Free;
                end;
            Result := S_OK;
        end;
    except
```



```
end;
if Result <> S_OK then Result := ComServ.DllUnregisterServer();
end;

exports
...
```

- Create the <project name>.ini file in the project directory and modify its contents as follows:

```
[Config]
Privileges=User
```

GDIPLUS.DLL

This is the Microsoft Windows GDI+ library providing two-dimensional vector graphics, imaging, typography, etc. GDI+ improves on the Windows Graphics Device Interface (GDI) by adding new features and by optimizing existing features. It is required as a redistributable for COM Add-ins based on Add-in Express 2009 for VCL that run on the following operating systems: Microsoft Windows NT 4.0 SP6, Windows 2000, Windows 98, and Windows Millennium Edition (Windows Me).

This file must be located in the folder where your COM add-in is registered.

Sharing Ribbon Controls Across Multiple Add-ins

First off, you assign the same string value to the `TAddinModule.Namespace` property of every add-in that will share your Ribbon controls. This makes Add-in Express to add two `xmlns` attributes to the `customUI` tag in the resulting xml markup:

- `xmlns:default="%ProgId of your add-in, say TAddinModule.COMAddInClassFactory.ProgID%",`
- `xmlns:shared="%the value of the TAddinModule.Namespace property%".`

Originally, all Ribbon controls are located in the default namespace (`id="%Ribbon control's id%"` or `idQ="default:%Ribbon control's id%"`) and you have a full control over them via the callbacks provided by Add-in Express. When you specify the `Namespace` property, Add-in Express changes the markup to use `idQ's` instead of `id's`.

Then, in all add-ins that should share a Ribbon control, you set the `Shared` property to `True` for the control with the same Id (you can change the Id's to match), For the Ribbon control whose `Shared` property is `True`, Add-in Express changes its `idQ` to use the shared namespace (`idQ="shared:%Ribbon control's id%"`) instead of the default one. Also, for such Ribbon controls, Add-in Express cuts out all callbacks and replaces them with "static" versions of the attributes. Say, `getVisible="GetVisible_Callback"` will be replaced with `visible="%value%"`.



The shareable Ribbon controls are the following Ribbon container controls:

- Ribbon Tab - **TadxRibbonTab**
- Ribbon Box - **TadxRibbonBox**
- Ribbon Group - **TadxRibbonGroup**
- Ribbon Button Group - **TadxRibbonButtonGroup**

When referring to a shared Ribbon control in the **BeforeId** and **AfterId** properties of another Ribbon control, you use the shared controls' **idQ**: **%namespace abbreviation% + ':' + %control id%**. The abbreviations of these namespaces are available in the **adxDefaultNS** and **adxSharedNS** constants ('**default**' and '**shared**' string values).

The resulting XML markup may look like this:

```
<customUI xmlns="http://schemas.microsoft.com/office/2006/01/customui"
  xmlns:default="MyOutlookAddin1.coMyOutlookAddin1"
  xmlns:shared="MyNameSpace" [callbacks omitted]>
  <ribbon>
    <tabs>
      <tab idQ=" shared:adxRibbonTab1" visible="true" label="My Tab">
        <group idQ="default:adxRibbonGroup1" [callbacks omitted]>
          <button idQ="default:adxRibbonButton1" [callbacks omitted]/>
        </group>
      </tab>
    </tabs>
  </ribbon>
</customUI>
```

In the XML-code above, the add-in creates a shared tab with a private group containing a button.

Final Note

If your questions are not answered here, please see the HOWTOs section on www.add-in-express.com. We are adding sample projects to these pages. A number of sample projects are zipped and published at <http://www.add-in-express.com/downloads/adxvcl.php>.