

Microsoft Excel
EIS Builder
User's Guide

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Microsoft Excel EIS Builder
User's Guide

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Before You Begin

What You Should Know to Proceed

To use the Microsoft® Excel EIS Builder, you should have a strong working knowledge of:

Microsoft Excel 4.0 You should be familiar with entering data and working with worksheets, windows, formulas, and formatting in Microsoft Excel. You should also be familiar with Microsoft Windows™ or Apple Macintosh conventions such as choosing commands from menus and selecting options in dialog boxes. For more information, see the *Microsoft Excel User's Guide* and your Windows or Apple Macintosh documentation.

The EIS Builder helps you automate basic activities without using the Microsoft Excel macro language. However, you may want to use conditional statements to add flexibility to scripts you write, and you can also enhance your EIS with macros that you create and include in the EIS. For example, you must use the macro language if you want to include a custom toolbar and custom tools, or allow the user to save EIS documents under other names. For more information, see the *Microsoft Excel Function Reference*.

Your Data and the Way You Want to Present it Before using the EIS Builder, you may find it helpful to diagram the path or paths the user may take through the data. Knowing what you want to accomplish before you begin building a sophisticated information display and management system can help you create the system more quickly and easily.

About the Documentation

This book contains the following information.

Chapter	Title	Description
Chapter 1	About the Microsoft Excel EIS Builder	Gives an overview of the EIS Builder, including an introduction to creating your own EIS applications.
Chapter 2	Getting Started with the Microsoft Excel EIS Builder	Contains a step-by-step tour to quickly familiarize you with the most common activities involved in creating an EIS with the EIS Builder.
Chapter 3	Creating an Enterprise Information System with the Microsoft Excel EIS Builder	Provides instructions for the tasks you will perform when creating your own EIS.
Chapter 4	Microsoft Excel EIS Builder Reference	Contains brief descriptions of the commands, actions, and macro sheets that are part of the EIS Builder.
Glossary		Contains definitions of the terms used throughout this book.

Getting Help

The online Help provided with the Microsoft Excel EIS Builder has complete documentation on actions, commands, and dialog box options, as well as the procedures, reference information, and glossary that are included in this book.

There are several ways to get Help while you work with the EIS Builder. The Help you initially see depends on how you ask for Help. You must have previously installed the EIS Builder to get EIS Builder Help.

EIS Builder Help Contents

You can get Help from the EIS Builder Help Contents window in the following areas:

- Basic concepts
- An overview of the steps to create an EIS
- A list of step-by-step procedures
- EIS Builder command reference
- EIS Builder script action reference
- Definitions for EIS Builder terms

EIS Builder Help for any EIS Builder Command You Specify

You can get Help on any command on the EIS menu. Help for EIS Builder commands includes complete information on any dialog box which appears when you choose a command.

EIS Builder Help for EIS Builder Dialog Boxes or Messages

You can get Help on any EIS Builder dialog box or message which appears on your screen. Help for EIS Builder dialog boxes provides complete information on options and command buttons, with cross-references to related procedures.

Searching EIS Builder Help for a Specific Topic

You can search EIS Builder Help for any topic using a specific term or phrase. When you use Help to search for a specific term or phrase, Help will also list any topics related to the term or phrase for which you are searching.

Microsoft Excel Help is also available when you are using the EIS Builder. For more information on Microsoft Excel Help, see "Using Help" in Chapter 2 of Book 1 of the *Microsoft Excel User's Guide*.

- ▶ **To see EIS Builder Help Contents in Microsoft Excel for Windows**
 - From the Help menu, choose EIS Builder Help.
- ▶ **To see EIS Builder Help Contents in Microsoft Excel for the Macintosh**
 - From the EIS menu, choose Help.
- ▶ **To get Help on an EIS command**
 1. Press SHIFT+F1 in Microsoft Excel for Windows, or COMMAND+SHIFT+QUESTION MARK (?) in Microsoft Excel for the Macintosh.
The mouse pointer changes to a question mark.
 2. Choose the EIS menu command on which you want help.

- ▶ **To get Help in a dialog box or message box**
 - Choose the Help button in the dialog box or message box.
- ▶ **To search EIS Builder Help for a specific topic**
 1. In Microsoft Excel for Windows, choose the EIS Builder Help command from the Help menu.
In Microsoft Excel for the Macintosh, choose the EIS Builder Help command from the EIS menu.
 2. Choose the Search button.
The Search window is displayed.
 3. Type the first letter of the word or phrase you're looking for, or select a word or phrase from the list of keywords.
When you type a letter, the selection in the list shifts to the first keyword that begins with that letter. If several keywords begin with the same letter, you can type additional letters to move the selection to the keyword you want.
 4. Choose the Show Topics button to display a list of topics.
Use the mouse or arrow keys to select a topic from the list.
 5. Choose the Go To button to go to the selected topic.

Using Run-Time Files

In Microsoft Excel for Windows, the files EIS.XLA, XTACTION.XLA, and EISUSER.HLP are "run-time" files. In Microsoft Excel for the Macintosh, EIS.XLA, XTACTION.XLA, and EIS USER HELP are "run-time" files. These run-time files may be distributed in accordance with Section 5 of the Microsoft License Agreement, along with your EIS, to users who do not have licensed copies of the EIS Builder author files. Users must have a licensed copy of Microsoft Excel to use an EIS with these run-time files.

Microsoft Support Services

Microsoft offers a variety of support options to help you get the most from your Microsoft product. This section summarizes these options.

If you have a question about the Microsoft Excel EIS Builder, first look in the printed product documentation, or consult Help. If you cannot find the answer, contact Microsoft Product Support.

Outside the United States, contact Microsoft Product Support Services at the Microsoft subsidiary office that serves your area. For information about Microsoft subsidiary offices, see "Product Support Worldwide" later in this section.

Product Support Within the United States

You can obtain product support for setup and installation of the EIS Builder in the following ways:

Use the Microsoft Forums on CompuServe Microsoft Product Support Services is available on several CompuServe forums. For an introductory CompuServe membership kit specifically for Microsoft users, dial (800) 848-8199 and ask for operator 230. If you are already a CompuServe member, type **GO MICROSOFT** at any ! prompt.

Call Microsoft Product Support Services You can reach Microsoft Product Support Services between 6:00 A.M. and 6:00 P.M. Pacific time, Monday through Friday.

For setup and installation support for the Microsoft Excel EIS Builder at no charge, dial (206) 635-7070.

For additional information about any of Microsoft's fee-based support options, call Microsoft Sales at 1-800-227-4679 between 6:30 A.M. and 5:30 P.M. Monday through Friday, Pacific time, excluding holidays.

When you call, you should be at your computer with the Microsoft Excel EIS Builder running and have the appropriate product documentation at hand. Be prepared to give the following information:

- The version number of the Microsoft product you are using
- The type of hardware you are using
- The exact wording of any messages that appeared on your screen
- What happened and what you were doing when the problem occurred
- How you tried to solve the problem

Microsoft TDD/TT (Text Telephone) Support Microsoft Product Support Services is available for the deaf and hard of hearing. Using a special TDD/TT modem, dial (206) 635-4948. Call between 6:00 A.M. and 6:00 P.M. Pacific time, Monday through Friday.

Microsoft's support services are subject to Microsoft prices, terms, and conditions in place at the time the service is used.

Product Support Worldwide

Microsoft provides product support services throughout the world. To receive product support, contact the Microsoft subsidiary office that serves your country. Microsoft subsidiary offices and the countries they serve are listed in "Microsoft Support Services" in Book 1 of the *Microsoft Excel User's Guide*.

Microsoft Product Support Services Worldwide

If you are outside the United States and have a question about the Microsoft Excel EIS Builder, Microsoft offers a variety of no charge and fee-based support options. To solve your problem you could:

1. Consult the index and other printed product documentation
2. Check on-line Help from the menu
3. Check the README files that come with your product disks
4. Consult electronic options such as CompuServe forums or Bulletin Boards if available in your country.

If you cannot find a solution, you can receive information on how to obtain product support by contacting the Microsoft subsidiary office that serves your country.

Microsoft's support services are subject to Microsoft's prices, terms, and conditions in place in each country at the time the service is used.

About the Microsoft Excel EIS Builder

Microsoft Excel EIS Builder Basics

The Microsoft Excel EIS Builder is a collection of add-in macros that helps you create enterprise information systems (EISs) for your organization. You use EISs to control the presentation, updating, and manipulation of data, and the EIS Builder enables you to create a complete EIS without writing any macro code.

A typical EIS created with the EIS Builder includes:

- Data presented in views you specify.
- Custom menu bars, menus, commands, and buttons you create.
- Scripts you write which specify the actions performed by the menu bars, menus, commands, and buttons.

The users of your EIS will be able to move between views of data, manipulate information from remote databases, and perform other specialized actions.

Your EIS can provide users with control over:

Presentation and Control The Microsoft Excel EIS Builder gives you tools to easily control the display and status of documents. You can also allow users of your EIS to move data and even entire views out of the EIS to use in other presentations and reports they create.

Data Access Most EISs are dynamic; they contain data linked to real-time data sources, such as external databases and other documents that contain data that changes over time. By controlling data access, you can control when and how the user updates data. You can also allow various levels of data access for different groups of users.

Data Analysis EISs contain documents that allow the user to conduct specialized, controlled analysis of data. For example, the user can manipulate crosstab tables and what-if scenarios, and alter chart views to show different views of the data.

The EIS Builder offers you the ability to use pre-written macros to quickly create a Microsoft Excel-based EIS. The EIS Builder's tools help you to quickly and easily create a fully interactive presentation of "live" data — data that can be automatically updated from external databases or directly manipulated in a controlled fashion by the user.

The advantage of using Microsoft Excel for an EIS is that much of the functionality that you need to use in an EIS — such as data entry, calculation and analysis, charting, and external database access and analysis — is in one integrated application. The complete Microsoft Open EIS Pak provides information on how to integrate the work you do in Microsoft Excel with the full suite of Microsoft applications, such as Microsoft Word, Microsoft Project, and Microsoft PowerPoint®, for both Microsoft Windows and Apple Macintosh platforms. In Microsoft Windows, you can also use Microsoft Visual Basic™.

The Microsoft Excel EIS Builder is a tool to help you automate the presentation of Microsoft Excel documents. It is not designed to help you create the data you want to display in your EIS.

Before you begin using the EIS Builder:

- Create and format the documents you want to use in your EIS.
- Define database queries or crosstab tables.
- Create links to Microsoft Excel documents.
- Define links to documents outside Microsoft Excel.

Use the Microsoft Excel EIS Builder to:

- Define views of documents to be displayed in your completed EIS.
- Add buttons, custom menu bars, menus, and commands to views that allow the user to execute commands and actions.
- Attach scripts to your buttons, custom menu bars, menus, and commands to automate the display of information in your EIS.
- Control access and data exchange between Microsoft Excel documents and documents in other applications.
- Control the user's access to recalculation and other data manipulation actions.

Parts of a Microsoft Excel EIS

A Microsoft Excel EIS consists of worksheets you use to display data and charts, and macro sheets you use to automate and control the worksheets. You use the tools made available by the EIS Builder to create an EIS from a set of worksheets. Then you include those worksheets, along with the macro sheet that automates your EIS, in your completed file set.

Worksheets

A Microsoft Excel EIS displays worksheets. Some of your worksheets, and the charts connected to them, can be linked to remote sources of data — documents used in other applications or documents contained in databases, either on a local computer, on a network, or on a mainframe. Worksheets you use in an EIS can also contain OLE objects from other applications, such as linked graphics, or files from Microsoft Project or any other application that supports object linking and embedding.

EIS Macro Sheets

Macro sheets provided with the EIS Builder contain the macros that run the scripts in your completed EIS. The EIS Builder records the choices you make on a macro sheet named APP.XLA. This macro sheet records actions such as defining views and adding menus and buttons. The first time you save an EIS, the EIS Builder creates a copy of APP.XLA and gives it the name you specify. In future development sessions, you open this document to continue developing the EIS. When you distribute your EIS to users, you have to include this macro sheet along with the other Microsoft Excel documents that are part of the EIS.

Creating an EIS

This section describes how to create an EIS with the Microsoft Excel EIS Builder. Chapter 2 offers a hands-on tour that allows you to use sample files provided with the EIS Builder to create a simple, two-screen application.

Designing Your EIS

Knowing what you want to accomplish before you begin building a sophisticated information display and management system can help you create the system more quickly and easily. Before using the Microsoft Excel EIS Builder, you should plan how the user will navigate through the data. You should also identify:

- The data you want to display.
- How you want to make it available to the user.
- The level of interaction you want the user to have with the data.
- The actions you want the EIS to perform for the user.

Creating the Documents You Want to Use in Your EIS

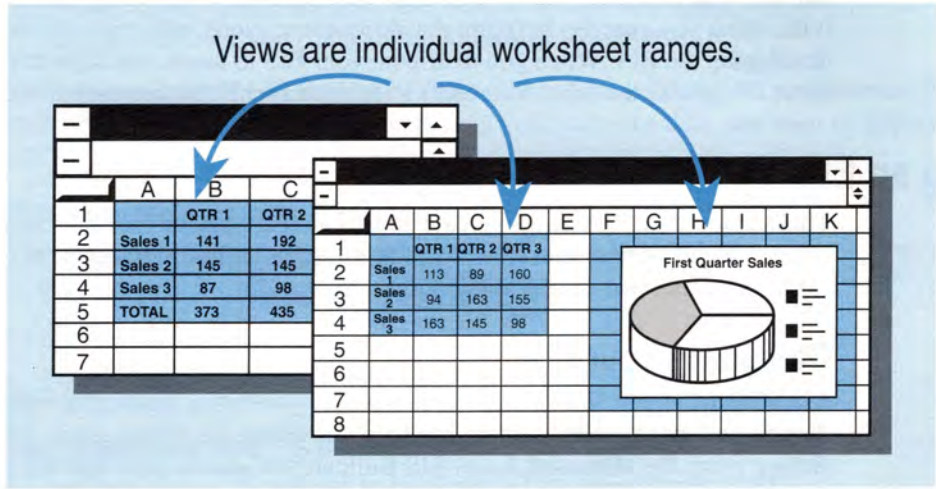
Before you begin using the Microsoft Excel EIS Builder, create the worksheets and charts that you want to use in your completed EIS. The worksheets you display in an EIS can contain anything you would normally use on a Microsoft Excel worksheet, such as:

- Charts
- Database crosstab tables
- Database queries
- Embedded objects

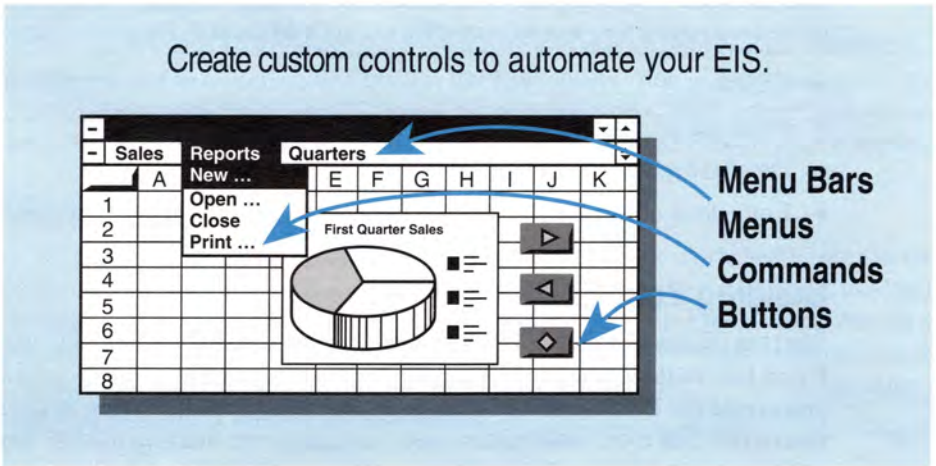
Building Your EIS

Start the Microsoft Excel EIS Builder and Create a New EIS When you open the Microsoft Excel EIS Builder, a menu containing commands you use to create your EIS is installed. As you create the EIS, the selections you make in EIS Builder dialog boxes are recorded in a macro file. For more information, see “Installing and Starting the EIS Builder” and “Creating or Opening an EIS” in Chapter 3.

Define the Views of Worksheets that will be Displayed in the EIS After opening the documents you want to display in your EIS, you use the Microsoft Excel EIS Builder to define *views* of those documents. Views are portions of existing Microsoft Excel documents that you want to display. For more information about views, see "Working with Views" in Chapter 3.



Controlling Navigation Between Views of Data Once you have defined views, you create a way for the user to move between views of data, to quit your EIS, and to quit Microsoft Excel. Use custom menu commands and buttons to automate the display of views. When you create buttons and commands, you define *scripts* that run when you click a button or choose a command. Scripts are collections of *actions*, and each action runs a command-equivalent or action-equivalent macro. For more information about menus and commands, see "Working with Menus" in Chapter 3. For more information about scripts and actions, see "Working with Scripts" in Chapter 3 and "Reference to Actions" in Chapter 4. For more information about buttons, see "Working with Buttons and Graphics" in Chapter 3.



Controlling the User's Interaction with Data Your EIS can contain database crosstab tables or queries to databases. When you include a predefined database crosstab table, you can control the way a user changes the crosstab table's configuration, as well as the formatting and charting of the data. Using database queries in your EIS allows you to control when and how the user can initiate queries on the external database. For more information about crosstab tables and queries in your EIS, see "Working with Queries and Crosstab Tables" in Chapter 3.

You can limit the user's ability to alter the display and contents of the EIS worksheets with *bulletproofing*. Items that you can control through bulletproofing options include the formula bar, scroll bars, keyboard entry, and worksheet navigation. You can also control what the user can enter into a cell. For example, you can specify that the user enter an interest rate between 5% and 15% into a particular cell. For more information about bulletproofing, see "Changing Bulletproof Settings" in Chapter 3. For more information about restricting cell entries, see "Working with Buttons and Graphics" in Chapter 3.

Testing Your Completed EIS

Before installing your EIS on users' machines, you should run it as a user will. This lets you see how the completed EIS works. Test your EIS using all the hardware configurations on which the completed system will run. You should also run it under conditions that are likely to cause errors when the user runs the system, such as when remote databases are not available when expected.

Installing Your Completed EIS

When you install your EIS on users' machines or on network servers, include all the worksheets and macro sheets required to use the EIS. You should also make sure the documents in your EIS don't have links to documents that you won't be including in your final version.

Note If you are going to develop EIS applications that will be used on both Windows and Macintosh platforms, please refer to the information on cross-platform issues in the README.TXT file on your Macintosh EIS disks.



Getting Started with the Microsoft Excel EIS Builder

This tour leads you through the general sequence of steps you will take when you build an EIS. Before using this tour, see “Creating an EIS” in Chapter 1.

The tour uses sample files installed with the EIS Builder. If you plan to use this tour more than once, make a copy of the tour files before using the tour.

► **To create a new EIS**

1. Start Microsoft Excel.
2. From the Options menu, choose Toolbars.
3. Under Show Toolbars, select a toolbar you have currently displayed.
4. Choose the Hide button.
5. Repeat steps 2 through 4 until you have hidden all of the toolbars that are displayed.
6. From the File menu, choose Open.
7. Select AUTHOR.XLA.
8. Choose the OK button.

The EIS menu is added to the menu bar.

9. From the EIS menu, choose New.
10. Type your name and **EIS Demo** in the New Application Title box.
11. Choose the OK button.
12. From the EIS menu, choose Save.
13. In the File Name box, type **DEMO.XLA**
14. Choose the OK button.

The EIS Builder creates a new macro sheet to record the choices you make with the EIS Builder. When you are finished creating your EIS, you will include this macro file with the worksheets and other documents that are part of your EIS.

► **To add a splash file**

You may want to display a splash file when your EIS is started. A splash file is a Microsoft Excel document containing an image that you want to have displayed while the EIS files are loading. You can use this file to display the name of the EIS, the name of the company or people the EIS was created for, and other information about the EIS.

1. From the EIS menu, choose Settings.

The Application Settings dialog box appears.

2. Under Splash File, choose the Browse button.
The Splash File dialog box appears.
3. In the File Name box, select DSPLASH.XLS.
In Microsoft Excel for the Macintosh, select DEMO SPLASH FILE.
4. Choose the OK button.
In Microsoft Excel for the Macintosh, choose the Open button.
The Application Settings dialog box reappears.
5. Choose the OK button.

▶ **To display a menu with views**

You can specify a menu to be displayed whenever a specific view is displayed.

1. From the EIS menu, choose Settings.
The Application Settings dialog box appears.
2. Choose the Defaults button.
The New View Settings dialog box appears.
3. Under Menu Bar, select the Application option button to specify that all the new views use the application menu, which you'll create later.
4. Choose the OK button.
The Application Settings dialog box reappears.
5. Choose the OK button.

▶ **To define a view**

An EIS provides a highly structured and controlled way of displaying and manipulating data. Most of your data will be on Microsoft Excel worksheets. The EIS Builder provides a way to specify ranges on worksheets as views that can be displayed in your completed EIS. You can easily display and hide views at any time.

1. From the File menu, choose Open.
2. Select DCHARTS.XLS.
In Microsoft Excel for the Macintosh, select DCHARTS.
3. Choose the OK button.
In Microsoft Excel for the Macintosh, choose the Open button.
4. Select the area on the sheet you want to use as the view. Include the quarterly data and the embedded chart.
5. From the EIS menu, choose View.
The View dialog box appears.
6. Choose the Add button.
The View Settings dialog box appears.
7. In the View Name box, type **Demo Screen One**
8. Choose the OK button.

▶ **To add a button to toggle the chart on and off**

You may not always want the chart to be displayed on the view. To give users of your EIS the option of displaying the chart, you can add a button which will alternately display and hide the chart on the view.

1. Select a cell above the chart.

2. From the EIS menu, choose Button.
The Draw Button dialog box appears.
3. In the Button Type box, select Stick-it Note.
4. In the Text box, type **Toggle Chart**
5. Select the Size To Cell check box.
6. Choose the Draw button.
The button is drawn on your view. The Script dialog box appears.
7. Under Action Class, select the Display option button.
8. In the Available Actions box, select Toggle Object.
9. Choose the Add button.
The Script Action dialog box appears.
10. In the Description box, type **Toggle Chart On/Off**
11. Select Chart 3 in the Name of Object box.

Note The word “chart” is translated in international versions of Microsoft Excel.

12. Choose the OK button.
The Script dialog box reappears.
13. Choose the Close button.
The Toggle Chart button is added to the worksheet. A script that controls the display of Chart 3 is attached to the button. When you click the button, the script is run and the chart will be displayed or hidden. When you run a script in author mode, the commands on the EIS menu are disabled and the Halt tool appears. Click the Halt tool to activate the EIS Menu commands after running a script.

► **To create a cell that prompts for input**

You can make selected cells on worksheets in your EIS *hot*. When a hot cell is clicked, a dialog box appears which prompts the user for a specific type of input. You can also restrict entries in a hot cell to a specific type of data, such as text, number, date, or to a range of values, such as between 20 and 30.

1. Select the cell that contains the Estimated Growth number.
2. From the EIS menu, choose Prompt Cell.
The Prompt Cell Name dialog box is displayed.
3. Type **Growth** for the cell name.
4. Choose the OK button.
The Prompt Cell Settings dialog box is displayed.
5. In the Prompt Message box, type **Enter new growth forecast:**
6. Under Validation, select Number.
7. In the Min Value box, type **0**
8. In the Max Value box, type **15%**
9. Select the Make Cell Hot check box.
10. Choose the OK button.

▶ **To define a view of a crosstab table**

1. From the File menu, choose Open.
2. Select DCROSTAB.XLS.
In Microsoft Excel for the Macintosh, select DCROSTAB.
3. Choose the OK button.
In Microsoft Excel for the Macintosh, choose the Open button.
4. Select the area on the sheet you want to use as the view. Include the cell at the upper-left corner of the worksheet and all of the crosstab table.
5. From the EIS menu, choose View.
The View dialog box appears.
6. Choose the Add button.
The View Settings dialog box appears.
7. In the View Name box, type **Demo Screen Two**
You'll use the View Settings dialog box in the next procedure, so it remains on the screen.

▶ **To open the crosstab table source data sheet when entering the view**

When Demo Screen Two is displayed, you'll want to make sure that the worksheet containing the data to which the crosstab table is linked is also opened. You can create a script that opens the source data worksheet when the crosstab table worksheet is displayed.

1. Choose the Scripts button.
The Script dialog box appears.
2. In the Run Script On box, make sure Enter is selected.
The script you create will be run when the user views or enters, Demo Screen Two.
3. Under Action Class, select the Display option button.
4. In the Available Actions box, scroll down and select Echo Off.
5. Choose the Add button.
6. Under Action Class, select the Files/Windows option button.
7. In the Available Actions box, select Open File.
8. Choose the Add button.
The Script Action dialog box appears.
9. In the Description box, type **Open crosstab data sheet**
10. In the Filename box, type **DDATA.XLS**
In Microsoft Excel for the Macintosh, type **CROSSTAB DATA**
11. Select the Read Only check box.
12. Choose the OK button.
The Script dialog box reappears.
You'll use the Script dialog box in the next procedure, so it remains on the screen.

▶ **To close the crosstab table source data sheet when exiting the view**

You will want the sheet to be closed when the user leaves the crosstab table view. You can create a simple script to close the crosstab source data sheet.

1. In the Run Script On box, select Exit.
The script you create will be run when the user leaves Demo Screen Two.
2. Under Action Class, select the Files/Windows option button.

3. In the Available Actions box, select Close File.
4. Choose the Add button.
The Script Action dialog box appears.
5. In the Description box, type **Close the crosstab data sheet**
6. In the Name of Sheet to Close box, type **DDATA.XLS**
In Microsoft Excel for the Macintosh, type **CROSSTAB DATA**
7. Choose the OK button.
The Script dialog box reappears.
8. Choose the Close button.
The View Settings dialog box reappears.
9. Choose the OK button.

▶ **To define the crosstab table settings**

You can control the way the user interacts with a data crosstab table in your EIS. The Crosstab command on the EIS menu displays a dialog box that allows you to choose the level and type of data manipulation the user can perform. You can also specify that any Microsoft Excel automatic formats be applied to the crosstab table and to any source sheet drilldowns the user performs.

1. From the EIS menu, choose Crosstab.
The Crosstab Setup dialog box appears.
2. In the Crosstab Sheet box, select Colorful 2.
3. Select the Source Record Drilldown check box.
This option allows the user to double-click a cell in the worksheet to drill down to the crosstab table data.
4. In the Drilldown Sheet box, select Colorful 2.
5. Choose the OK button.

▶ **To add a button that allows users to change the crosstab table**

In addition to simply displaying data, users of your EIS can also manipulate it. In the following procedure, you'll add a button to a worksheet containing a data crosstab table that will allow the user to redefine the crosstab table.

1. Select a cell above the table.
2. From the EIS menu, choose Button.
3. In the Button Type box, select Stick-it Note.
4. In the Text box, type **Change Crosstab**
5. Choose the Draw button.
The button is drawn on your view. The Script dialog box appears.
6. Under Action Class, choose the Data Access option button.
7. In the Available Actions box, make sure Define a Crosstab is selected.
8. Choose the Add button.
9. Choose the Close button.

▶ **To add a button to go from one view to another view**

Once you've created several views, you'll want to create an easy way for the user to move between views. You can add buttons to views and attach to those buttons scripts which display another view when the button is clicked.

1. Select a cell next to the Change Crosstab button.
2. From the EIS menu, choose Button.
The Draw Button dialog box appears.
3. In the Button Type box, select Stick-it Note.
4. In the Text box, type **Chart View**
5. Choose the Draw button.
The Script dialog box appears.

▶ **To attach a script to the button**

1. Under Action Class, make sure the Views option button is selected.
2. In the Available Actions box, make sure Display View is selected.
3. Choose the Add button.
The Script Action dialog box appears.
4. In the Description box, type **Display Chart View**
5. In the View box, make sure Demo Screen One is selected.
6. Choose the OK button.
7. Choose the Close button.

The button you specified is created on the view at the selected cell. The action script you created is attached to the button so that the next time you click the button, the Demo Screen One view will be displayed.

▶ **To create a custom menu**

The Microsoft Excel EIS Builder helps you easily create custom menus and commands. These menus and commands can be displayed whenever the EIS is used, or just when specific views are displayed. You create scripts so each command performs an action.

1. From the EIS menu, choose Menu.
The Menus dialog box appears.
2. Under Menu Type, select the Application option button.
3. Under Menus, choose the New button.
The New Menu dialog box appears.
4. Type **Demo Menu**
5. Choose the OK button.

The Demo Menu is added to the Menus box, and the Commands section of the dialog box is activated, allowing you to create commands for the Demo Menu.

▶ **To add commands to a menu**

1. Under Menus, make sure Demo Menu is selected.
2. Under Commands, choose the New button.
The Menu Command Definition dialog box appears.
3. In the Command Text box, enter **Display Crosstab**

4. Choose the Script button.
The Script dialog box appears.
5. Under Action Class, make sure Views is selected.
6. In the Available Actions box, make sure Display View is selected.
7. Choose the Add button.
The Script Action dialog box appears.
8. In the Description box, type **Display the crosstab view**
9. In the View box, select Demo Screen Two.
10. Choose the OK button.
The Script dialog box reappears.
11. Choose the Close button.
The Menu Command Definition dialog box reappears.
12. Choose the OK button.
The Menus dialog box reappears.
Repeat steps 2 through 12 to create a menu command that displays the chart view. When you are finished creating commands, choose the Close button in the Menus dialog box.

▶ **To define the home view and the first view**

1. From the EIS Menu, choose Settings.
The Application Settings dialog box appears.
2. Choose the Details button.
The Application Details dialog box appears.
3. In the Home View box, select Demo Screen One.
4. In the First View box, select Demo Screen One.
5. Choose the OK button.
The Application Settings dialog box reappears.
6. Choose the OK button.

▶ **To allow the user to quit the EIS**

Every EIS you create should include a way for the user to quit the EIS or Microsoft Excel.

1. In Microsoft Excel for Windows, from the Window menu, choose DCHARTS.XLS.
In Microsoft Excel for the Macintosh, choose DCHARTS.
2. Select a cell next to the Toggle Chart button.
3. From the EIS menu, choose Button.
The Draw Button dialog box appears.
4. In the Button Type box, select Stick-it Note.
5. In the Text box, type **Exit EIS**
6. Choose the Draw button.
The button is drawn on your view. The Script dialog box appears.
7. Under Action Class, select the Application option button.
8. In the Available Actions box, select Quit EIS.
If you prefer to have the user exit both the EIS and Microsoft Excel at the same time, select Quit Microsoft Excel instead of Quit EIS.

9. Choose the Add button.
10. Choose the Close button.

▶ **To run the EIS**

After developing an EIS, you will want to test it by using it as a user would.

1. From the EIS menu, choose Run.
The Run Application dialog box appears.
2. Choose the Beginning button.
The EIS menu is disabled and all of the scripts in your EIS are activated. To return to author mode, click the Halt tool.

▶ **To quit the EIS**

1. From the EIS menu, choose Exit.
If you have made changes to any open documents and not saved them, Microsoft Excel asks you if you want to save the changes before closing.
2. Choose the Yes button to save changes, the No button to discard changes, or the Cancel button to cancel the command.

Creating an Enterprise Information System with the Microsoft Excel EIS Builder

The Microsoft Excel EIS Builder is designed to make creating an enterprise information system (EIS) in Microsoft Excel quick and efficient. This chapter details the procedures you'll use to create a powerful, Microsoft Excel-based EIS.

Installing and Starting the EIS Builder

The Microsoft Excel EIS Builder is a set of add-in macro sheets that you use to add controls to documents you want to use in an enterprise information system. When you open the AUTHOR.XLA file, the EIS menu is added to the Microsoft Excel menu bar. This menu contains commands that help you create an EIS.

▶ **To install the EIS Builder for Microsoft Excel for Windows**

1. Start Microsoft Windows.
2. Insert the disk labeled Setup in drive A.
3. From the File menu in either the Program Manager or the File Manager, choose Run.
4. Type **a:setup**
5. Press ENTER.
6. Follow the instructions on the screen.

▶ **To install the EIS Builder for Microsoft Excel for the Macintosh**

1. Insert the disk labeled Setup in the disk drive.
2. Double-click the Microsoft Excel EIS Builder Setup icon.
3. Follow the instructions on the screen.

▶ **To start the EIS Builder**

1. Start Microsoft Excel.
2. From the File menu, choose Open.
3. In Microsoft Excel for Windows, select AUTHOR.XLA in the EISBLDR directory.
In Microsoft Excel for the Macintosh, select AUTHOR.XLA in the EIS BUILDER folder.

The EIS menu is added to the right of the Window menu on the menu bar. Other add-in macro sheets that are part of the EIS Builder are opened from the EIS menu. For more information about the macro sheets that make up the Microsoft Excel EIS Builder, see "Reference to EIS Macro Sheets" in Chapter 4.

Creating or Opening an EIS

Before you use the Microsoft Excel EIS Builder to create an EIS application, you should have already created all of the documents that will be used in the EIS. This includes documents that will be displayed in the finished EIS and documents that may not be displayed, such as external databases that provide supporting data.

While you create a new EIS application, the commands you select from the EIS menu are recorded in one of the EIS Builder's macro sheets, named APP.XLA. When you save a new EIS application for the first time, you are prompted to give a new name to the APP.XLA macro sheet.

▶ To create a new EIS

1. From the EIS menu, choose New.
2. In the New Application Title box, type the title you want to use for the application.
3. Choose the OK button.

▶ To open and modify an existing EIS

1. From the EIS menu, choose Open.
2. In the File Name box, select the EIS macro sheet that you want to open.
Only add-in macro sheet files created with the Microsoft Excel EIS Builder can be opened.
You can work with only one EIS at a time.
3. In Microsoft Excel for Windows, choose the OK button.
In Microsoft Excel for the Macintosh, choose the Open button.
The EIS macro sheet you previously created is opened.
4. To open the documents associated with all views in the EIS, choose Run from the EIS menu, and choose the Beginning button.
You can also choose the Open command from the File menu and select the documents with which you want to work. In Microsoft Excel for Windows you can select more than one document by dragging through a continuous group of documents, or by holding down CONTROL and clicking individual documents.
5. In Microsoft Excel for Windows, choose the OK button.
In Microsoft Excel for the Macintosh, choose the Open button.

▶ To specify EIS settings

The Microsoft Excel EIS Builder allows you to specify a variety of global settings for an EIS. You can control variables such as passwords and initial views, and whether the system responds to double-clicks and documents that are open when the EIS is started. You can also specify a splash file that is displayed while your EIS is being opened.

1. From the EIS menu, choose Settings.
The Application Settings dialog box is displayed.
2. Choose the Details button.

3. Enter the information and select the options you want in the Application Details dialog box. For a description of the options, choose the Help button.
4. Choose the OK button to close the Application Details dialog box.
5. To specify a splash file, type in the Splash file box the name of the document you would like to have displayed while the EIS is opened.
You can also choose the Browse button and then select the file from the Splash File dialog box.
In Microsoft Excel for Windows, after selecting the file, choose the OK button.
In Microsoft Excel for the Macintosh, choose the Open button.
6. Choose the OK button to close the Application Settings dialog box.

▶ **To specify default view settings**

You can specify default settings that will apply to each new view you create in an EIS. These defaults determine the menu bar or menu that is displayed and the scripts that are run when the view is entered, exited or changed. You can also specify settings for individual views as you create them.

For more information about views, see “Working with Views” later in this chapter.

1. From the EIS menu, choose Settings.
The Application Settings dialog box is displayed.
2. Choose the Defaults button.
The New View Settings dialog box is displayed.
3. Select the options you want.
For a description of the options, choose the Help button in the dialog box.
4. Choose the OK button.

▶ **To save an EIS**

- From the EIS menu, choose Save.
Microsoft Excel saves the macro sheet containing information about the EIS and prompts you to save any other open documents. If you haven't saved the EIS before, you are also prompted to name the new EIS file. The default EIS file name is APP.XLA.

▶ **To switch from author mode to user mode**

While you are creating an EIS, you may want to see how it will work when run by a user. The Run command on the EIS menu disables all of the authoring commands on the EIS menu, allowing you to use the EIS just as a user would.

1. From the EIS menu, choose Run.
2. In the Run Application dialog box, select Beginning or Current View.
The EIS Builder switches to user mode, but displays the Halt tool in the upper-left corner of the window, and the EIS menu is disabled.
3. Click the Halt tool to return to author mode. This enables the EIS menu command.

▶ **To close an EIS**

- From the EIS menu, choose Close.

If you have made changes to the EIS, you will be prompted to save the changes. Choose the Yes button to save the EIS macro sheet. You will then be prompted to save each document that has changed.

To save the EIS and all documents in one step, choose the Yes To All button.

▶ **To quit the EIS Builder**

- From the EIS menu, choose Exit.

If you have made changes to any open documents, you are prompted to save the changes before closing. Choose the Yes To All button to save the EIS and all associated open documents.

▶ **To display a list of document links**

Before you install your completed EIS on your users' machines, you may want to check the links on the documents you include in the EIS. It is important that none of the documents included in the EIS be linked to documents that are not either included in the EIS or that will not typically be available to the user when the EIS is run.

1. From the EIS menu, choose Utilities.
The Run Utility dialog box is displayed.
2. Select Document Links.
3. Choose the OK button.

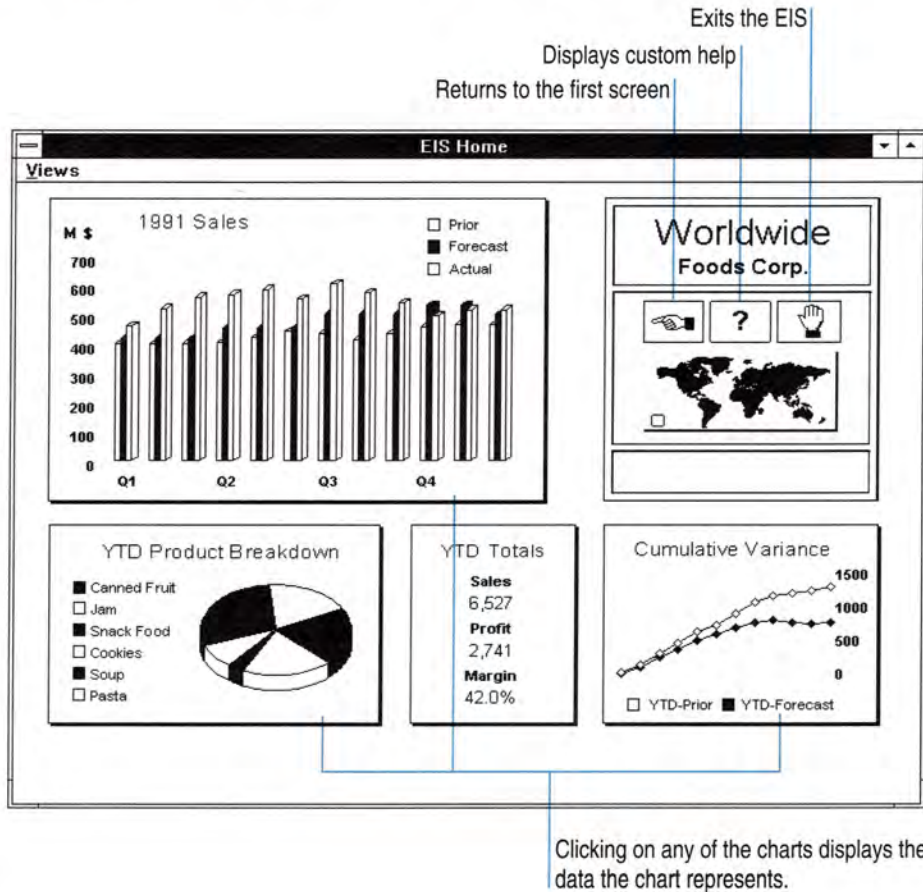
A new worksheet is created listing each view in the EIS, the full path and document that contains the view, and any links between the document and any other documents.

Working with Views

With the EIS Builder, you can create different views to present to the user, and use scripts to control the display of data and the user's access to data. Views consist of a document and the display settings, size, and position of the window containing the document. You create views from worksheets. The first view you create is the home view. The home view can contain:

- Controls that allow the user access to other views in the EIS.
- The name of the organization for which the EIS is developed.
- A name you assign to the EIS.
- Information about using the EIS.
- Access to online Help for the EIS.

The following is an example of a typical home screen.



► **To create a view**

1. Open the document you want to define as a view.
2. Select the range on the document you want included in the view.
3. From the EIS menu, choose View.
4. Choose the Add button.
5. In the View Name box, type the name you want to use for the view.
6. To specify display attributes for the view, choose the Details button.

To create a script to run when entering, exiting, opening, closing, or changing a view, choose the Scripts button.

To control bulletproofing properties, choose the Settings button.

If you have defined menus using the Menu command from the EIS menu, you can also specify menus to be displayed when the view is displayed.

7. Select the options you want.

For a description of the options, choose the Help button in the dialog box.

8. Choose the OK button.

If the document has not yet been saved, the Save View As dialog box is displayed. Type a name for the document and choose the OK button.

▶ **To change an existing view**

After creating a view, you can change the portion of a worksheet to which the view refers, the name of the view, or the settings, details, or script choices you defined for the view.

1. From the EIS menu, choose View.
2. From the Views box, select the view you want to change.
3. Choose the Edit button.
4. The view you selected and the View Settings dialog box are displayed, allowing you to change the settings for the view.
5. Select the options you want to define or change for the view.
For a description of the options, choose the Help button in the dialog box.
6. Choose the OK button to save the changes to the view.

▶ **To display a view**

1. From the EIS menu, choose View.
2. From the Views box, select the view you want to display.
3. Choose the Show button.
The view is displayed.
4. Choose the Close button.

▶ **To delete a view**

1. From the EIS menu, choose View.
2. From the Views box, select the view you want to delete.
3. Choose the Delete button.
4. Choose the OK button to confirm the deletion of the view.
The EIS Builder's definition of the document as a view is deleted. The worksheet containing the view is unaffected.
5. Choose the Close button.

Changing Bulletproof Settings

You can use *bulletproof settings* to control the user's keyboard and display options, either for a specific view or for all new views you create.

If you change the default settings for all new views, the changed settings do not affect views you created previously.

▶ **To change bulletproof settings for one view**

1. From the EIS menu, choose View.
2. Select the view for which you want to change the settings.

3. Choose the Edit button.
4. Under Bulletproof, make sure the Active check box is selected. This activates the current bulletproofing settings.

—or—

Under Bulletproof, choose the Settings button. Select the options you want in the Bulletproof Settings dialog box, and then choose the OK button.

5. Choose the OK button to close the View Settings dialog box.

▶ **To change default bulletproof settings for all new views**

1. From the EIS menu, choose Settings.
2. Choose the Defaults button.
3. Under Bulletproof, make sure the Active check box is selected. This activates the current bulletproofing settings.

—or—

Under Bulletproof, choose the Settings button. Select the options you want in the Bulletproof Settings dialog box, and then choose the OK button.

4. Choose the OK button to close the New View Settings dialog box.
5. Choose the OK button to close the Application Settings dialog box.

Working with Buttons and Graphics

You can add buttons to the views in your EIS to allow the user to move easily between views and return to the home view, or to carry out other actions or commands.

Graphic objects offer a way to add visual appeal, point out important data, and show information in interesting ways. You can create a graphic object, such as a line, arc, oval, or rectangle, using the drawing tools available in Microsoft Excel. You can also create a bitmap image in another drawing or painting application, then paste the image into the view.

▶ **To add a button to a view**

To move between different views, or to execute actions or commands that are specific to a view, you can add buttons to the view.

1. From the EIS menu, choose Button.
2. In the Button Type box, select the type of button you want to use.
3. In the Text box, type the text you want to appear inside the button.

If the button type you choose cannot display text, the Text box is unavailable.

4. To size the button to the active cell, select the Size To Cell check box.
5. Choose the Draw button.

The button is drawn starting at the upper-left corner of the active cell, and the Script dialog box is displayed.

6. In the Script dialog box, create the script you want to run when the button is clicked.

For a description of the options, choose the Help button in the dialog box.

For more information about creating scripts, see “Working with Scripts” later in this chapter.

7. When you are done creating the script, choose the Close button.

▶ **To edit, move, or resize a button**

1. In Microsoft Excel for Windows, hold down CTRL and click the button.
In Microsoft Excel for the Macintosh, hold down COMMAND and click the button.
Handles appear around the selected button.
2. To edit the script attached to the button, choose the Button command from the EIS menu.
The Script dialog box is displayed and you can edit the script.
3. To move the button, click the button while it is selected and move it to the new location.
4. To resize a button, select the button, click one of the handles, and drag until it is the size you want.
5. When you finish making changes to a button, click elsewhere in the worksheet or press ESC.

▶ **To edit button text**

1. In Microsoft Excel for Windows, hold down CTRL and click the button.
In Microsoft Excel for the Macintosh, hold down COMMAND and click the button.
Handles appear around the selected button.
The mouse pointer changes to an insertion point.
2. Click to place the insertion point in the text.
3. Make the changes you want.
4. When you finish, click elsewhere in the sheet or press ESC.

▶ **To add a graphic object to a view**

1. Create the graphic object using the Microsoft Excel drawing tools or create the object in another application.
2. If necessary, paste the object where you want it in the view.
From another application, copy the object to the Clipboard. Then choose Paste Special from the Edit menu, select Bitmap under Data Type, and choose the Paste button.
3. Select the object by clicking it.
Handles appear around the selected object.
4. From the EIS menu, choose Button.
5. In the Script dialog box, create the script you want to run when the user clicks the object.
For a description of the options, choose the Help button in the Script dialog box.
6. Choose the Close button to close the Script dialog box.

▶ **To delete a button or graphic object**

1. In Microsoft Excel for Windows, hold down CTRL and click the button or graphic object.
In Microsoft Excel for the Macintosh, hold down COMMAND and click the button or graphic object.
Handles appear around the selected object.
2. From the Edit menu, choose Clear.

▶ **To validate entries in cells**

You can specify cells on your worksheets that prompt the user for a particular type of entry when clicked.

1. Select the cell you want to specify.
2. From the EIS menu, choose Prompt Cell.
3. In the Prompt Cell Name dialog box, type a name for the cell.
If the selected cell already has a name defined, this dialog box is not displayed.
4. Choose the OK button.
5. In the Prompt Cell Settings dialog box, select the options you want to use.
For a description of the options, choose the Help button in the dialog box.
6. Choose the OK button.

▶ **To change cell validation settings**

1. Select the cell for which you want to change the setting.
If the cell is hot, use the arrow keys to select it.
2. From the EIS menu, choose Prompt Cell.
3. In the Prompt Cell Settings dialog box, make the changes you want.
For a description of the options, choose the Help button in the dialog box.
4. Choose the OK button.

▶ **To clear cell validation settings**

1. Select the cell for which you want to clear the settings.
If the cell is hot, use the arrow keys to select it.
2. From the EIS menu, choose Prompt Cell.
3. In the Cell Definition dialog box, choose the Delete button.
Choose the OK button to confirm the deletion of the prompt cell.
The definition of the cell as a prompt cell is deleted.

▶ **To unhide all objects**

In the process of developing your EIS, you may show and hide various objects. Use the following procedure to quickly display all objects on a worksheet.

1. From the EIS menu, choose Utilities.
2. In the Run Utility dialog box, select Unhide All Objects.
All of the objects on the active document are unhidden.

Working with Menus

You can create custom menus with the EIS Builder. Use custom menus to offer users of your EIS easy access to commands that run scripts you have created. Custom menus can either be per-view menus, which are displayed only when you display a specific view, or they can be application menus, which are displayed at all times when you run an EIS.

When you define menus, you specify whether they are displayed along with the default Microsoft Excel menu bars or displayed on a new menu bar that replaces the Microsoft Excel menu bars.

▶ To create a new menu

1. From the EIS menu, choose Menu.
2. To display the menu on an application menu bar, select the Application option button.
To display the menu with a specific view, select the Per-View option box on either the application menu bar or the Microsoft Excel menu bar.
3. Under Menu, choose the New button.
4. In the New Menu dialog box, type the name for the new menu.
Type & preceding the letter you want to use as the access key.
5. Choose the OK button.
The menu name you typed is added to the menu list and the buttons in the Commands section of the dialog box are activated, allowing you to create commands to be displayed on the menu.
6. To create another menu, repeat steps 3 through 5.
7. When you are finished creating new menus, choose the Close button to close the Menus dialog box.

▶ To display a menu with a particular view

After creating a custom menu, you can choose to have the menu displayed either when the EIS is opened, or when specific views are displayed.

To do this procedure, you must have already created a menu.

1. From the EIS menu, choose View.
2. From the Views box, select the view you want to edit.
3. Choose the Edit button.
4. Under Menu Bar, choose the Application option button to specify that the menu should be part of a menu bar displayed for the EIS.
Under Menu Bar, choose the Microsoft Excel option button to display the menu along with the default Microsoft Excel menu bars.
5. Choose the OK button to close the View Settings dialog box.

▶ To create a menu command

To create new commands, you must have created a menu.

1. From the EIS menu, choose Menu.
2. Under Commands, choose the New button.
The Menu Command Definition dialog box is displayed.

3. In the Command Text box, type the name you want to use for the command. Type & preceding the letter you want to use as the access key.
4. In the Status Bar Text box, type the text you want displayed in the status bar when the command is highlighted.
For Microsoft Excel for the Macintosh, in the Shortcut Key box, type & followed by the letter you want to use as the shortcut key.
The shortcut key you choose should not conflict with other shortcut keys that will be available to the user.
5. Choose the Script button to create the script to be run when the command is chosen.
When you are finished creating the script, choose the Close button to close the Script dialog box.
For more information about creating scripts, see “Working with Scripts” later in this chapter.
6. In the Menu Command Definition dialog box, choose the OK button.
The new command is added to the list.
7. To create another command, repeat steps 2 through 7.
To create a line between commands on the menu, follow steps 2, 3, and 7 above. Instead of typing a name in step 3, type a hyphen (-).
8. When you are finished creating commands, choose the Close button.

► **To change the order of menus or commands**

1. From the EIS menu, choose Menu.
2. Select the menu or command you want to move.
Moving a menu up moves it to the left on the menu bar; moving it down moves it to the right.
3. To move the menu or command up in the list, choose the Up button.
To move the menu or command down in the list, choose the Down button.
4. To save your changes, choose the Close button.

► **To delete a menu or a command**

1. From the EIS menu, choose Menu.
2. In the Menus dialog box, select the menu or command you want to delete.
3. Choose the Delete button.
The menu or command is deleted. When you delete a menu, all of the commands on that menu are also deleted.
4. Choose the Close button to close the Menus dialog box.

Working with Scripts

The Microsoft Excel EIS Builder includes actions that you use to create scripts that change and control the display and content of documents included in your EIS.

Actions are macros that perform many of the basic operations that are essential to creating an EIS. You can also create custom actions with Microsoft Excel macros. Scripts are collections of actions that you use to have your EIS carry out commands.

You use the Settings, View, Button, or Menu commands on the EIS menu to create scripts. Scripts can be attached to buttons, views, and menu commands, as well as to the EIS itself. Each of these menu commands allows you to create scripts, or to specify an existing named script, and assign it to an object in an EIS. When the object is selected, displayed or hidden, clicked or updated, the specified script is run.

You can modify actions by specifying properties unique to some of the actions, such as document names, view names, even specific ways that the user can work with a data crosstab table. For example, the Open File action can be edited to include the name of the file you want to open. You can set conditions to determine whether or not an action should be carried out when its script is run. Specifying conditions for individual actions within a script gives you step-by-step flexibility to determine, while your scripts are running, whether it is appropriate for each action to be executed. For example, you might have a script that runs when the user opens a worksheet containing a database crosstab table, or a script that contains an action that is carried out only if the source database is also open.

To use a script in more than one object in an EIS, you can assign a name to the script and use it in another object with the Run Named Script action.

To see a list of the actions in the Microsoft Excel EIS Builder, see “Actions” in Chapter 4.

Since you can add scripts to a variety of objects in an EIS, there are different ways to display the Script dialog box, as shown in the following table.

To add scripts to	From the EIS menu, do this
Settings	Choose the Settings command, and then choose the Scripts button.
Views	Choose the View command, choose the Add or Edit button, and then choose the Scripts button.
Buttons	Choose the Button command, then choose the Draw button. You can also select a button on a view and choose the Button command.
Menus	Choose the Menu command, create a menu and a menu command, and then choose the Scripts button.

► To create a script

To create a script, the Script dialog box must be displayed.

- Under Action Class, select the action class you want.
A list of the available actions for the actions class is displayed.
- In the Available Actions box, select the action you want to add to a script.
- Choose the Add button.
The action is added to the Script box on the right side of the dialog box. For many actions, a dialog box is displayed after you choose the Add button. This dialog box allows you to specify additional information about the action, such as the description, which you can edit, and a condition, which controls when the action is executed.
- Repeat steps 1 through 3 until you have created the script you want.
- To close the Script dialog box and save the script you created, choose the Close button.

► To set or change a condition for an action

To set a condition for an action, the Script dialog box must be displayed.

- In the Script dialog box, select the action for which you want to set a condition.
- Choose the Edit button.

3. In the Condition box, type the condition you want to use for the action.
The condition should be a valid Microsoft Excel formula that returns either TRUE or FALSE.
4. Choose the OK button.
5. When you are done specifying conditions for actions, choose the Close button in the Script dialog box.

▶ **To name a script**

To make a script available to other views, commands, and buttons, you can assign a name to a script. After naming a script, you can use the Run Named Script action to run the script associated with the name you chose as an action in another script.

To name a script, the Script dialog box must be displayed.

1. In the Script dialog box, choose the Name button.
2. In the Name Script dialog box, type the name you want to use for the script.
3. Choose the OK button.

▶ **To change a script**

To change a script, the Script dialog box must be displayed.

1. In the Script box, select the action you want to edit.
2. Choose the Edit button.
3. In the Script Action dialog box, make the changes you want.
4. Choose the OK button.
5. When you are done editing the script, choose the Close button.

▶ **To change the order of actions in a script**

To change the order of actions in a script, the Script dialog box must be displayed.

1. In the Script box, select the action you want to move.
2. To move the action up in the script, choose the Up button.
3. To move the action down in the script, choose the Down button.
4. When you are done changing the action order, choose the Close button.

▶ **To delete an action from a script**

To delete an action from a script, the Script dialog box must be displayed.

1. In the Script box, select the action you want to delete.
2. Choose the Delete button.
Choose the OK button to confirm the deletion.
The selected action is deleted.
3. When you are done deleting actions, choose the Close button.

To delete an entire script, select each action in the script and choose the Delete button. When you have deleted all of the actions in a script, the name that was assigned to the script is also deleted.

▶ **To specify a script to be run on startup or exit**

You can create scripts that run automatically when the EIS is opened or closed. Use these scripts to execute actions that establish EIS settings when it is opened, or to restore Microsoft Excel settings when it is closed.

1. From the EIS menu, choose Settings.
2. Choose the Scripts button.
3. In the Run Script On box, select the option you want.
4. Create a script that you want to run automatically every time the EIS is opened or closed.
5. When you are done creating the script, choose the Close button.
6. Choose the OK button to close the Application Settings dialog box.

▶ **To present a list of scripts to the user**

You can present a list of named scripts to the user when you specify a list of named scripts on a worksheet that you will include with your completed EIS.

To present a list of scripts to the user, you must have defined at least one named script. For more information about naming scripts, see "Working with Scripts," earlier in this chapter.

1. From the EIS menu, choose Utilities.
2. Select List Named Scripts.
3. Choose the OK button.

A new worksheet is created with the descriptions and script numbers of all the named scripts in the active EIS.

4. Select the range of cells containing the descriptions and script numbers.
5. From the Formula menu, choose Define Name.
6. Type the name you want to use for the range of named scripts in the Name box.
7. Choose the OK button.
8. Save the worksheet.

You can now use the name you defined for the range in the Pick List of Scripts action. You should be sure to include the worksheet that contains the list with your completed EIS.

▶ **To edit a named script**

To edit a named script, the Script dialog box must be displayed.

1. In the Script dialog box, select the named script you want to edit.
2. Choose the Edit button.

The Script dialog box changes to display the individual actions in the named script you selected.

3. Follow the preceding procedures to change, reorder, or delete actions from scripts.
4. When you are finished editing the script, choose the Close button.
5. Choose the Close button.

The Script dialog box updates to display the named script action.

The changed script is saved as the named script.

▶ **To add Microsoft Excel macros to your EIS application**

Use the Run External Macros action to incorporate Microsoft Excel macros in your EIS. The macro sheet that contains the macros you want to add should be open before you use this action. The Microsoft Excel macro is not added to your EIS macro sheet. Instead, a call to the macro sheet containing the macro you specify is added to the EIS macro sheet. You should be sure to include the macro sheet in the final group of documents you distribute in the completed EIS.

To do this procedure, the Script dialog box must be displayed and the macro sheet containing the macros you want to add to your EIS must be open.

1. Under Action Class, select the Scripts option button.
2. In the Available Actions box, select Run External Macro.
3. Choose the Add button.

A dialog box is displayed asking you to specify the macro you want to run.

4. In the Macro Sheet box, select the macro sheet that contains the macro you want to run.
5. In the Macro box, select the macro you want to run.

Note If the macro sheet you selected contains more than 256 command macros, only the first 256 command macros are listed, alphabetically. To use a macro that does not appear in the list, type the name of the macro in the Macro box.

6. Choose the OK button.
7. In the Script dialog box, choose the Close button.

Working with Queries and Crosstab Tables

When you choose to include a query or a crosstab table as part of your EIS, you can also specify the way the user will interact with the data, including specifying such options as how often the data is updated, whether or not the user can manipulate the data, and whether or not the user's changes should be saved in the source database.

▶ **To create or modify a database query**

To use a query in an EIS, you must first have created a query on a worksheet. The EIS Builder allows you to specify how the user can interact with the query. For example, you can put a button on the EIS document that allows the user to perform an existing query stored on the worksheet.

1. From the EIS menu, choose Query.
2. Enter the information and select the options you want.

For a description of the options, choose the Help button in the dialog box.

3. Choose the OK button.

▶ **To create crosstab table settings**

You can specify how the user can display, control, and manipulate the contents of a database crosstab table. You can allow the user to specify the row, column, and summary fields when the crosstab table is initially created or to modify the crosstab table settings later by double-clicking in the crosstab table.

To do this procedure, the active document must contain a crosstab table report.

1. Switch to the worksheet for which you want to change the crosstab table settings.
2. From the EIS menu, choose Crosstabs.
3. Select the options you want.
For a description of the options, choose the Help button in the dialog box.
4. Choose the OK button.

Microsoft Excel EIS Builder Reference

Commands

The following list contains all of the commands that are part of the Microsoft Excel EIS Builder. For more information about individual commands, see Help.

Command	Description
About	Displays information about the EIS Builder.
Button	Creates a button and specifies a script to be run when it is clicked.
Close	Closes the EIS macro file and all associated Microsoft Excel documents.
Crosstab	Defines how the user will interact with crosstab tables.
Exit	Exits the EIS Builder.
Menu	Creates custom menus and commands, and assigns scripts to commands.
New	Creates a new EIS.
Open	Opens a previously created EIS.
Prompt Cell	Controls cell entries.
Query	Defines how the user will interact with external database queries.
Run	Runs the EIS you are creating from the user view, temporarily disabling development capabilities.
Save	Saves changes made to all of the active EIS documents, including any add-in macro files created by the EIS Builder.
Settings	Sets the global constants for the EIS you are creating.
Utilities	Displays all hidden objects on the active document.
View	Creates, displays, edits or deletes a view.

Actions

The following list contains all of the actions that are part of the Microsoft Excel EIS Builder, as displayed in the Script dialog box. For more information about using actions, see “Working with Scripts” in Chapter 3. For more information about individual actions, see Help.

View Actions	Description
Display View	Displays the specified view.
Next View	Displays the next view.
Previous View	Displays the previous view.
Home View	Displays the home view.
Clear Previous Path	Clears the list of previous views the user displayed.

File/Window Actions	Description
Open File	Opens the specified document.
Close File	Closes the specified document.
Save File	Saves the specified document.
Activate Window	Activates the specified window.
Unhide Window	Unhides the specified window.
Hide Window	Hides the specified window.
Print	Prints the current view.
Print Microsoft Excel Report	Prints a specified Microsoft Excel report.
Data Access Actions	Description
Define a Crosstab	Defines or modifies a crosstab table on the active worksheet.
Calculate a Crosstab	Calculates the current crosstab table. Takes no action if the currently active worksheet does not contain a crosstab table.
Drilldown a Crosstab Cell	Performs a crosstab table drilldown on a specified cell.
Create Chart from Crosstab	Creates a chart from a crosstab table.
Recreate Chart from Crosstab	Adjusts a chart definition to fit the current crosstab table. Makes appropriate adjustments to the crosstab table definition based on the number of x and y fields in the crosstab table and the number of fields being summarized.
Logon	Connects to an external database. Displays the Q+E dialog box and prompts the user for a password, if one is required.
Logoff	Disconnects from an external database.
Perform Query	Carries out a query.
Display Actions	Description
Expand Outline	Expands an outline.
Collapse Outline	Collapses an outline.
Outline Level	Displays the specified outline level.
Hide Object	Hides the specified object.
Unhide Object	Displays the specified hidden object.
Toggle Object	Displays or hides the specified object.
Show Outline Symbols	Displays outline symbols.
Hide Outline Symbols	Hides outline symbols.
Toggle Outline Symbols	Displays or hides outline symbols.
Beep	Sounds a tone.
Echo On	Turns on macro echo.
Echo Off	Turns off macro echo.
Show Microsoft Excel View	Displays the specified Microsoft Excel view.
Show Microsoft Excel Scenario	Calculates a worksheet model based on a specified Microsoft Excel scenario.

Cell Actions	Description
Calculate Document	Calculates the active document.
Set Cell Value	Enters a value into a cell.
Enter Prompt Cell	Displays the Prompt Cell dialog box.
Clear Range	Clears the specified range.
Copy - Paste	Copies a range to another range.
Calculate All	Calculates all open documents.
Apply Style	Applies a predefined style or styles to a cell range based on criteria you specify.
Select Range	Selects the specified range.
Script Actions	Description
Run Named Script	Runs a named script of actions.
Pick List of Scripts	Presents the user with a selected list of scripts to run.
Run External Macro	Runs a macro as a custom action.
IF-ELSE-END.IF	Inserts an IF, ELSE, END.IF structure into a script.
Time Delay	Specifies a time delay before running the next action in a script.
Timed Execution	Specifies a time to run the next action in a script.
Application Actions	Description
Quit Microsoft Excel	Quits the active EIS and Microsoft Excel.
Quit EIS	Quits the active EIS.
Show Application Menu Bar	Displays the menu bar and menus you created using the Menu command on the EIS menu.
Show Microsoft Excel Menu Bar	Displays the default Microsoft Excel menu bar for the active sheet.
Enable Command	Enables a menu command previously disabled by the Disable Command action.
Disable Command	Disables a menu command you create using the Menu command on the EIS menu.
Alert Box	Displays an alert box.
Activate Bulletproofing	Turns on bulletproofing settings for the active view.
Deactivate Bulletproofing	Clears bulletproofing settings for the active view.
Help	Displays a specified custom help topic.
Inter-Application Actions	Description
Initiate DDE Channel	Opens a dynamic data exchange (DDE) channel to another application.
Perform DDE Operation	Performs a specified dynamic data exchange (DDE) operation.
Poke DDE Data	Sends Microsoft Excel data to another Microsoft Windows application using a dynamic data exchange (DDE) channel.
Request DDE Data	Requests data from a topic in another Microsoft Windows application using a dynamic data exchange (DDE) channel.

Inter-Application Actions	Description
Close DDE Channel	Closes the currently active dynamic data exchange (DDE) channel to another application.
Activate Application	Switches to the application to which you have opened a dynamic data exchange (DDE) channel.

Reference to EIS Macro Sheets

The following macro sheets are contained in the disks for the EIS Builder. An asterisk (*) denotes run-time files required by users of your EIS only.

File Name	Description
APP.XLA	Records on a macro sheet the choices you make when creating an EIS.
AUTHOR.XLA	Contains the main macros used to create an EIS in Microsoft Excel.
BUTTONS.XLA	Contains the macros used to create buttons and the bitmaps for the buttons.
CELLDEF.XLA	Contains the macros used to create prompt cells.
*EIS.XLA	Contains the macros used to create a run-time EIS.
MENU.XLA	Contains the macros used to create custom menus and commands.
XTAB.XLA	Contains the macros used to control access to crosstab tables with the EIS.
*XTACTION.XLA	Contains the macros used to execute crosstab table actions in a run-time EIS.

Note These run-time files should reside in the same directory or folder as the application, or in the Microsoft Excel Library directory or folder.

Glossary

Action

Actions represent macros that run the most common commands in a Microsoft Excel-based EIS. You use actions to create scripts. There are nine categories of actions in the Microsoft Excel EIS Builder: Display, Scripts, Application, InterApplication, Cells, Edit, Data Access, Files/Windows, and Views.

Application menu

An application menu is a custom menu bar that is displayed any time that your EIS is active. The application menu replaces the Microsoft Excel menu bar.

Bulletproofing

Bulletproofing is a set of constraints you can put on your entire EIS or on specific views that restricts the ability of the user to perform specific actions such as displaying workspace options and using various command keys.

Controls

A control is an object to which you attach a script. A control can be a custom menu, a menu command, a button, a validated cell or a prompt cell.

Home view

The home view introduces the EIS and is the point of return from other views that the user encounters when using the EIS. The home view should contain controls that allow the user to display other views and to quit the EIS.

Named script

A named script is a script to which you have applied a name. The name allows you to group the actions contained in the script as one action in another script.

Per-view menu

A per-view menu is a custom menu that is displayed only when a specific view is activated.

Script

A script is a list of actions that are run when an EIS is opened or closed, when a button is clicked, when a custom command is chosen, or when a view is opened, closed, entered, exited, or changed.

View

A view is a range on a worksheet that you want to display. The EIS Builder saves the selected range and the display and workspace options associated with that range. The area defined as the view should contain information that you want the EIS user to see, such as data tables and charts, as well as controls that allow the user to manipulate data or move between views.



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Microsoft Corporation
One Microsoft Way
Redmond, WA 98052-6399

Microsoft®