MFG/PRO®

Network User Interface Guide

Screens and Menus
Browses, Reports, and Maintenance Programs
Web Security
Setting Up the Network User Interface

QAD

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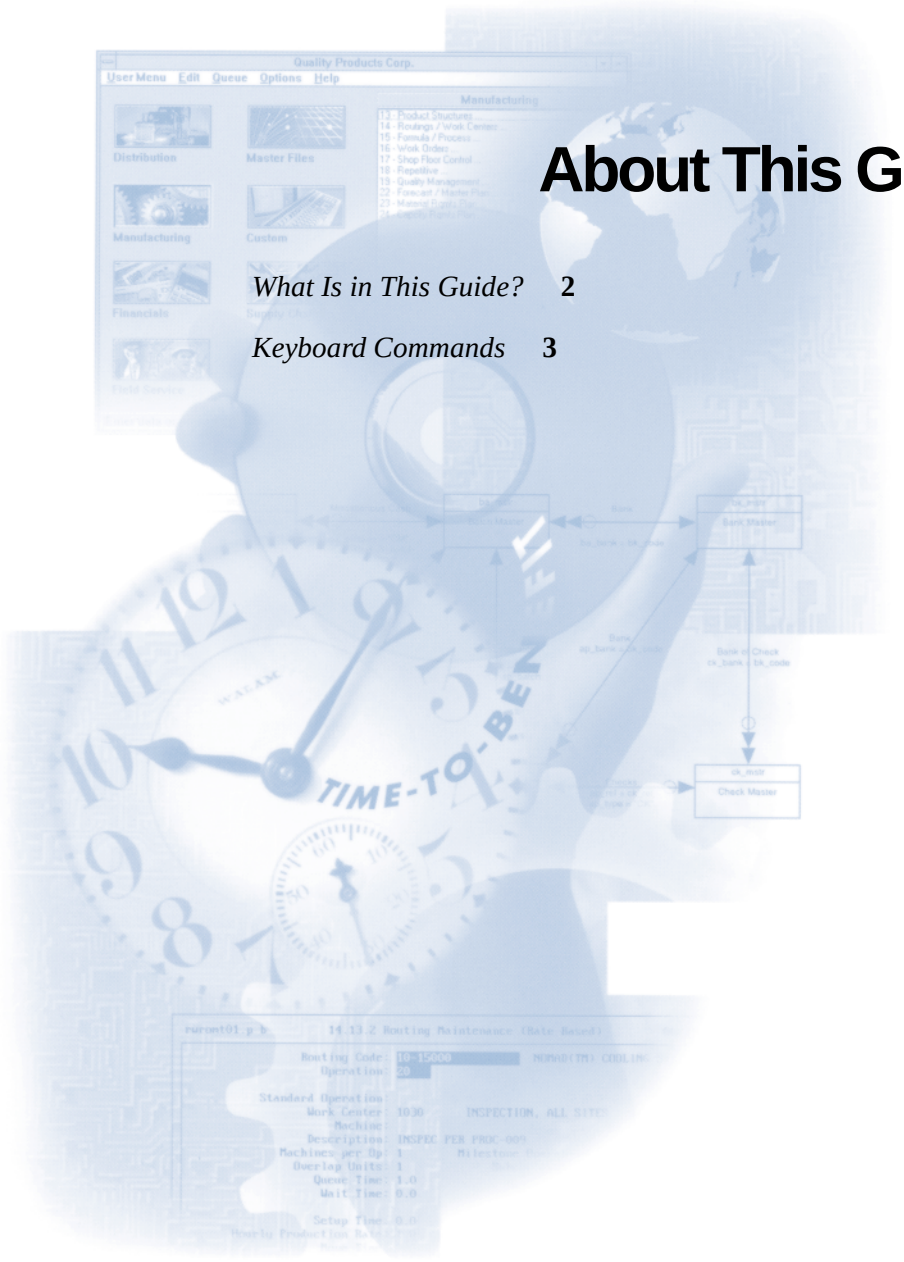


About This Guide

What Is in This Guide?

This guide covers features of the QAD Network User Interface (NetUI) for the Java™ platform, including navigation, use of Web-enabled programs, Web security features, and programs for customizing the interface.

Other 9.0 Documentation

- For an overview of new features and software updates, see the *9.0 Release Bulletin*.
- For software installation instructions, refer to the *9.0 Installation Guides*.
- For instructions on navigation in MFG/PRO using the character and Windows interfaces, refer to the *9.0 User Interface Guide*.
- For information on using MFG/PRO, refer to the *9.0 User Guides*.
- For technical details, refer to the *9.0 File Relationships* and *9.0 Database Definitions.*
- To review MFG/PRO program screens, refer to the 9.0 S*creen Book, Volumes 1–3*.
- To view documents online in PDF format, see the *9.0 Documents on CD*.

Online Help

MFG/PRO has an extensive online help system. Help is available for most fields found on a screen. Procedure help is available for most programs that update the database. Most inquiries, reports, browses, and control files do not have procedure help.

QAD Web Site

For MFG/PRO users with a QAD Web account, MFG/PRO documentation is available for viewing or downloading at:

http://support.qad.com/documentation/

To obtain a QAD Web account, go to:

http://support.qad.com/

The QAD Web site also has information about training classes and other services that can help you learn about MFG/PRO.

Keyboard Commands

The keyboard commands in the NetUI consist of three components:

- Maintenance program keyboard commands assist you in navigating maintenance programs. These commands are similiar to those used to navigate the character interface version of MFG/PRO.
- Browse and report program keyboard commands assist you in navigating browses, reports, and inquiry programs. These commands are similiar to those used to navigate MFG/PRO for Windows. Some browse and report keyboard commands can be customized by individual users.
- Shared commands are keyboard commands that are active for all programs.

See “Preferences” on page 24.

Conventions

In the NetUI documentation, references to keyboard commands are generic; for example, press Go refers to F1.

Use the following tables to identify keyboard and accelerator commands in the NetUI.

Note Accelerators are keyboard commands used to access various tools and features in the NetUI. Accelerator key commands initially default to the standard Windows settings. However, you can change these defaults using the Accelerators fields in the Preferences window.

See “Preferences” on page 24.

Maintenance Program Keyboard Commands

The following table lists keyboard commands used in maintenance programs.

Navigation Commands	Keyboard Entry	Control Key Entry	Description
Go	F1	Ctrl+X	Moves to next frame.
End	F4	Ctrl+E	Exits a frame, program, or menu.
User Menu	F6	Ctrl+P	Displays list of user-selected programs.
Previous	F9 or Up Arrow	Ctrl+K	Retrieves previous record in a key data field and scrolls up in look-up browses.
Next	F10 or Down Arrow	Ctrl+J	Retrieves next record in a key data field and scrolls down in look-up browses.
Enter	Enter		Moves to next field within a frame.
Tab	Tab		Moves to next field within a frame.
Back Tab	Shift+Tab	Ctrl+U	Moves back one field within a frame.
Menu Bar (object)	Esc, M		Accesses the menu bar.
Save (object)	F12		In a key frame, moves to data entry; in data entry, saves and returns to key frame.
Remote Print (object)	Ctrl+P		Prints browse or maintenance information.

Help Commands	Keyboard Entry	Control Key Entry	Description
Field Help	F2	Ctrl+W	Opens help on current field.
Procedure Help	F2	Ctrl+W	Opens help on current program.
Look-Up Browse	F2	Ctrl+W	Displays choice of records.
Browse Options	F7		Opens the browse options window.
Browse Options Toggle	Alt+F		Turns the browse options on and off.
Field Name	Ctrl+F	Ctrl+F	Displays the field name.

Edit Commands	Keyboard Entry	Control Key Entry	Description
Insert	F3	Ctrl+T	Enables text insertion.
Delete Record	F5	Ctrl+D	Deletes an open record.
Recall (standard)	F7	Ctrl+R	Recalls last saved value in a field.
Cut	F8		Clears a field.
Copy	F11	Ctrl+B	Copies a field.
Paste	F11	Ctrl+B	Inserts value that you copied.
Multiple Copy (standard)	F12	Ctrl+A	Copies values from one or more fields and pastes them into the same fields of another record.
Clear Date	Shift+?		Clears the value in date fields.

Browse and Report Program Commands

For some of the following commands, users can change the default keyboard entry settings indicated in these tables to their own custom settings using the Preferences option from the Options drop-down menu.

For detailed command descriptions, see “Screen Elements” on page 16.

Command	Keyboard Entry	Description	Can be Customized
Run	F1	Runs the program.	No
Stop	F4	Ends the generation of program data.	No
Find	Ctrl+F	Accesses the find function in browses.	No
Remote Print	Ctrl+P	Outputs browse and report data to a printer.	No
Graph	Ctrl+G	Accesses browse graph selection criteria window.	Yes
Local Print	Ctrl+L	Outputs browse and report data to a printer.	Yes
Browse Print	Alt+B	Prints browse data.	Yes
Setup Columns	Alt+P	Accesses the Column Output pop-up in a browse.	Yes
Toggle Save Browse Settings	Alt+T	Saves browse settings.	Yes
Lookup	Alt+L	Accesses a look-up browse.	Yes

Command	Keyboard Entry	Description	Can be Customized
Drill Down	Alt+D	Activates a drill-down browse.	Yes
Output Setup	Ctrl+O	Accesses the Output Setup window.	Yes
Cut	Ctrl+X	Cuts a field or selection to clipboard.	No
Copy	Ctrl+C	Copies a field or selection to clipboard.	No
Paste	Ctrl+V	Pastes data from the clipboard.	No
Enter	Enter	In input views, moves to the next field. In dialog boxes, a synonym for OK. In the program menu, opens or closes a folder, runs a program, or activates a URL link. In browse data windows, activates a URL link when applicable.	No
Esc	Esc	In dialog boxes, a synonym for Cancel.	No
Alt	Alt	Selects the application menu.	No
Tab	Tab	In all views, moves to the next field.	No
Shift+Tab	Shift+Tab	In all views, moves to the previous field.	No
Up Arrow	Up Arrow	Moves cursor to previous field.	No
Down Arrow	Down Arrow	Moves cursor to next field.	No
Right Arrow	Right Arrow	Selects the next item or moves the cursor right.	No
Left Arrow	Left Arrow	Selects the previous item or moves the cursor left.	No
Page Up	Page Up	In browse output and program menus, page-up.	No
Page Down	Page Down	In browse output and program menus, page-down.	No

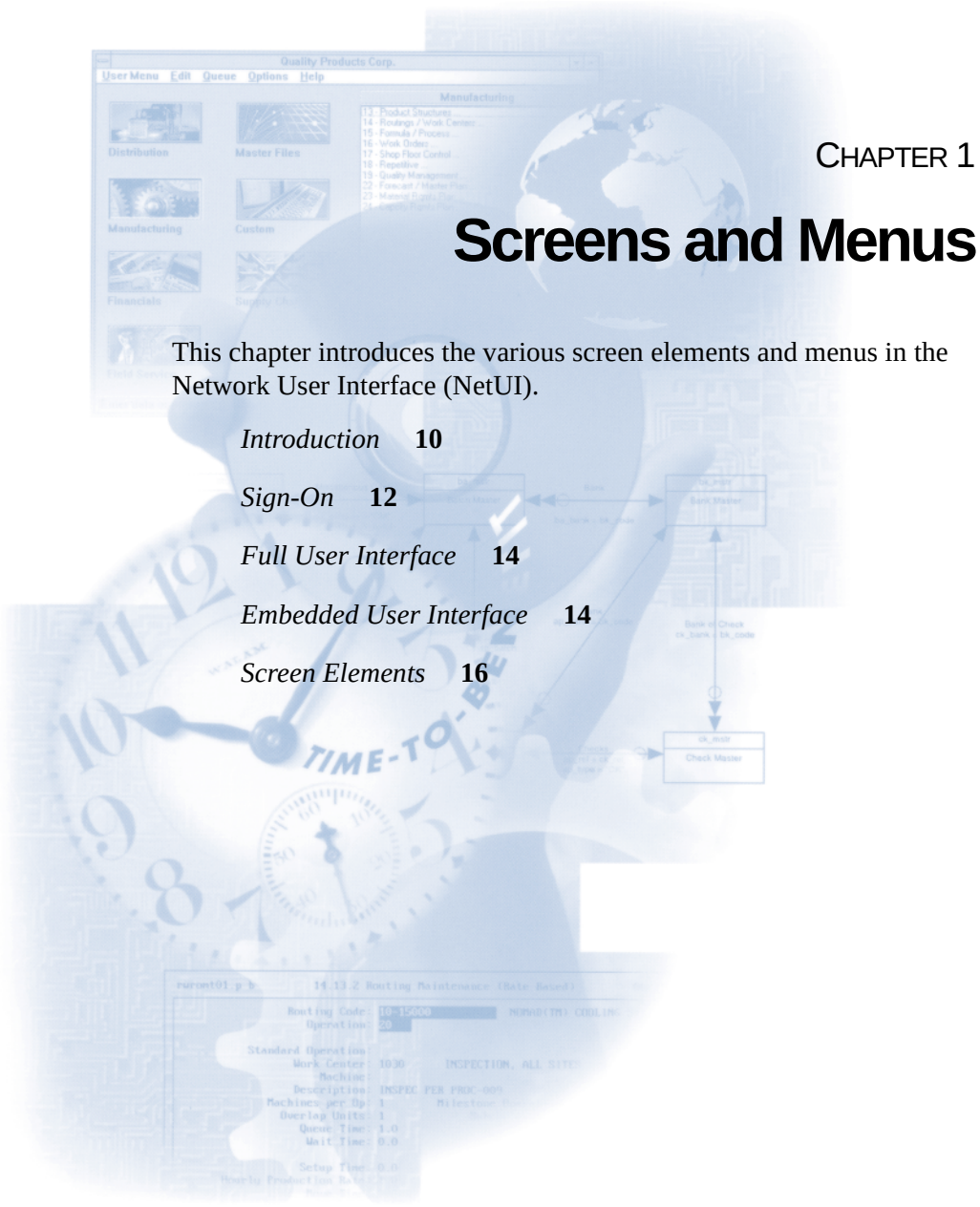
Command	Keyboard Entry	Description	Can be Customized
Home	Home	In browse output and program menus, moves to the top.	No
End	End	In browse output and program menus, moves to the end.	No
Space	Space	For check boxes or radio buttons, toggles state.	No

Shared Commands

Shared commands are keyboard commands that are active for all programs.

Command	Keyboard Entry	Description	Can be Customized
Ctrl+Tab	Ctrl+Tab	Activates the next view.	No
Shift+Ctrl+Tab	Shift+Ctrl+Tab	Activates the previous view.	No
Ctrl+F4	Ctrl+F4	Closes the browse, report, inquiry, or maintenance program that is active on the desktop.	No
Ctrl+Up Arrow	Ctrl+Up Arrow	Scrolls up in the active window.	No
Ctrl+ Down Arrow	Ctrl+ Down Arrow	Scrolls down in the active window.	No
Ctrl+Left Arrow	Ctrl+Left Arrow	Scrolls left in the active window.	No
Ctrl+Right Arrow	Ctrl+Right Arrow	Scrolls right in the active window.	No
Field Help	F2	Opens help on current field.	No
Program Help	Shift+F2	Opens help on current program.	No
MFG/PRO Help	Ctrl+F2	Opens MFG/PRO documentation in a browser.	No
Interface Help	Alt+F2	Opens NetUI help in a browser.	No

Command	Keyboard Entry	Description	Can be Customized
Sign On	Ctrl+S	Accesses the MFG/PRO sign-on screen.	Yes
Save Settings	Ctrl+N	Saves user-specific browse column output and preference changes.	Yes
Toggle Save On Exit	Ctrl+I	Saves user-specific browse column output and preferences changes on exit.	Yes
Exit	Alt+X	Exits MFG/PRO.	Yes
Toggle Menu Substitution	Ctrl+M	Toggles between browses and inquiries.	Yes
Toggle Menu Hiding	Ctrl+Z	Activates or deactivates the menu hiding feature.	Yes
Edit Preferences	Alt+E	Opens the Preferences window.	Yes
About	Alt+A	Accesses the About MFG/PRO window.	Yes
Calendar	Alt+C	Accesses the calendar tool.	Yes
Calculator	Alt+U	Accesses the calculator tool.	Yes



CHAPTER 1

Screens and Menus

This chapter introduces the various screen elements and menus in the Network User Interface (NetUI).

Introduction

QAD's Network User Interface (NetUI) for the Java™ platform provides direct access to MFG/PRO programs from a Web browser. This interface provides important advantages to corporate users:

- Individual users can access MFG/PRO without having to install any MFG/PRO components on their personal computers.
- NetUI takes advantage of network features to optimize performance in an intranet or Internet environment.

See "Web Security" on page 51.

To ensure that valuable corporate resources are not compromised, NetUI includes a comprehensive security scheme to restrict or authorize user access to reports and browses.

NetUI can be used in two forms: a full interface and an embedded interface. The full interface provides a tree menu, ability to access multiple programs simultaneously, and a consistent Windows-based interface. The embedded interface is designed to allow users to access one or more specific programs from another Web page.

All browses, reports, and inquiries display in a full graphical user interface. Maintenance programs display in a character window inside NetUI and function the same way they do in the character interface version of MFG/PRO.

Benefits of the Network User Interface

See "Full User Interface" on page 14.

Web-enablement of MFG/PRO offers many of the features already familiar to users of MFG/PRO and Windows-based programs. The following is a list of key benefits and advantages of this interface.

- Developed with the Java programming language.

  Cross-platform. Products written in Java run anywhere the Java runtime environment is installed. This can include operating systems such as Windows and UNIX, Web browsers, and native Java computers. You can run NetUI—without making changes and without recompiling code—anywhere any other standard Java product can run.

  Nonproprietary. Sun Microsystems developed Java and continues to refine and evolve it. Sun is committed to making Java an international, open standard. This ensures that Java will remain a nonproprietary, open standard for future computing.

  Optimized for networks and the Internet. Java was designed, in part, for developing products to run across networks, including the Internet. While a stand-alone Java application does not have to take advantage of these features, they provide the foundation for network-centric computing.

- User access and data security.

  NetUI includes a comprehensive Web security scheme for browses and reports. Web security can be used in conjunction with standard MFG/PRO security, but offers additional control, including restricting user access at the database-record level.

- Local/remote printing.

  As in standard MFG/PRO, browses, inquiries, and reports can be output to local or remote printers. NetUI also allows users to output information to a browser, a spreadsheet, and to a local or remote file.

- Complete MFG/PRO documentation.

  The NetUI help system displays context-sensitive field and procedure help in a browser. In addition, the complete set of MFG/PRO documentation can be accessed, searched, and navigated in a browser.

- Full UI with a multi-window desktop.

  NetUI follows a dual-pane model, similar to Windows File Manager or Windows NT Explorer, that is familiar to PC users. The full user interface has a hierarchical tree menu, menu bar, tool bar, task bar, status bar, movable and resizable windows, and busy/completion indicators.

Unlike the standard MFG/PRO interfaces, you can open multiple programs simultaneously. This means that you can generate more than one report at a time, without having to wait for the first to finish.

- Embedded access to MFG/PRO directly from within a Web browser.

  The embedded user interface utilizes the same tool bar, security, and other screen features as the full user interface. A company can create a Web page that incorporates their look-and-feel and create links from that Web page to specific Web-enabled MFG/PRO programs. These programs display within a browser.

  Using this interface reduces training costs for the occasional user, since they do not need to know anything about how to navigate in MFG/PRO. Simply clicking on a link displays the information they need.

Tip
With the embedded user interface, only one program can be accessed at a time.

- Access links to frequently-used Web pages and Internet addresses.

  For example, you can set up a link to the QAD Web page (http://www.qad.com) so that users can easily review up-to-date MFG/PRO product information.

Sign-On

The sign-on screen is the first screen you see when you run NetUI. Here, you can:

- Enter your user ID.
- Enter your password.
- Get help about signing on.
- Sign on to MFG/PRO.
- Cancel MFG/PRO.

Fig. 1.1
MFG/PRO Sign-On Screen

User Security Profile

The User Security Profile window displays if you belong to more than one security profile in your company's security scheme. You must choose a profile for each session. If you need to change profiles while running MFG/PRO, select Signon from the Application drop-down menu or press the appropriate accelerator keys.

See "Web Security" on page 51 for more information on security.

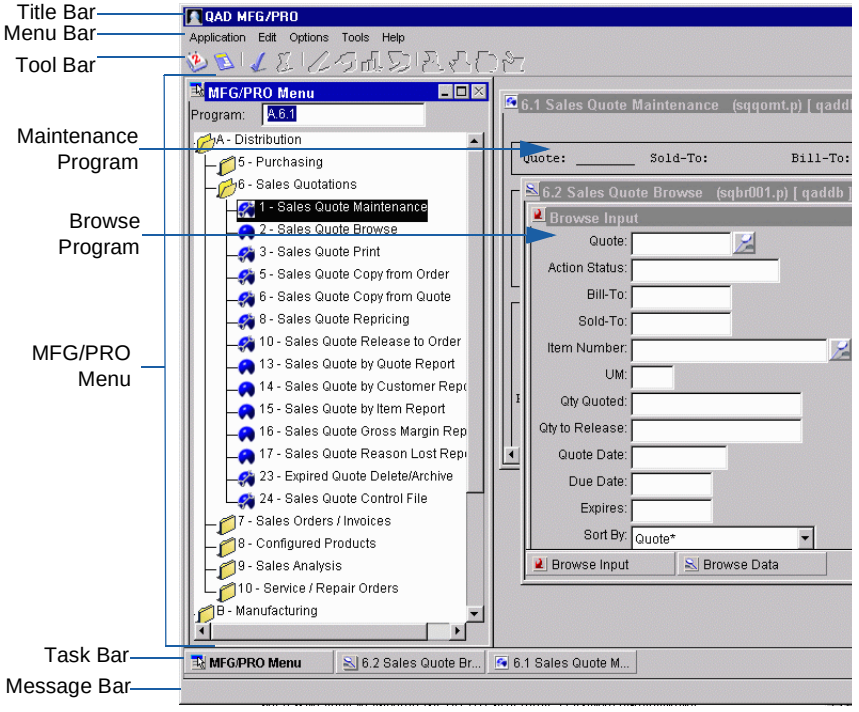
Note If you are assigned to only one security profile, the User Security Profile window does not display.

Fig. 1.2
User Security Profile Pop-Up

Full User Interface

The MFG/PRO full user interface screen is divided into discrete sections. It contains a standard Windows title bar, menu bar, tool bar, and task bar. In addition, the full user interface uses an expanding tree menu structure. In this interface, multiple MFG/PRO programs can be run simultaneously.

Fig. 1.3
Network User Interface Screen



Embedded User Interface

The embedded user interface allows access to predefined MFG/PRO programs in a standard Web browser. Figure 1.4 shows a company Web page with links to specific MFG/PRO programs. A system administrator defines the Web page and determines which MFG/PRO programs to link.

The embedded user interface is designed for intranet or extranet users. By embedding calls to Web-enabled MFG/PRO programs, you can seamlessly integrate reporting into your own Web pages.

The embedded user interface does not have the full user interface desktop or menus. However, it does use the same user authentication and data security as the full user interface.

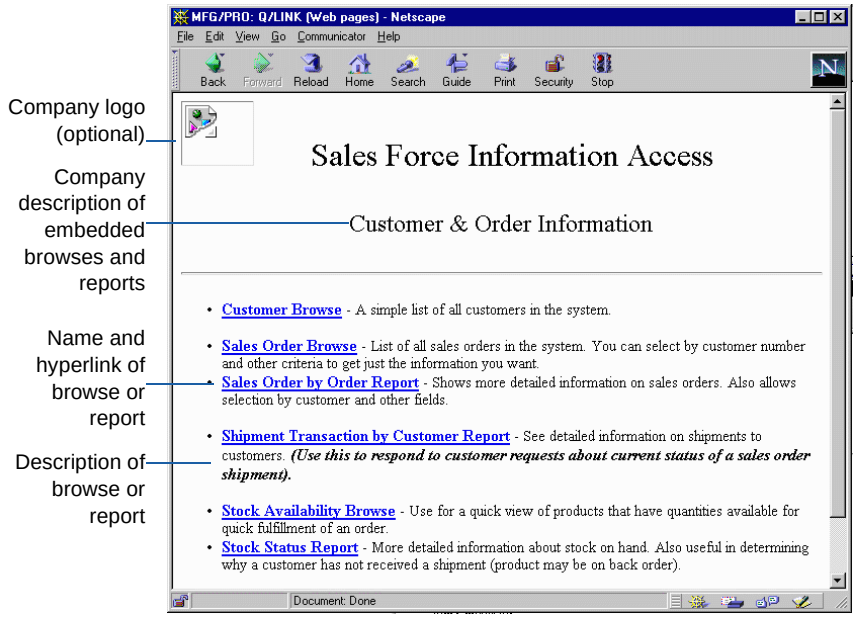


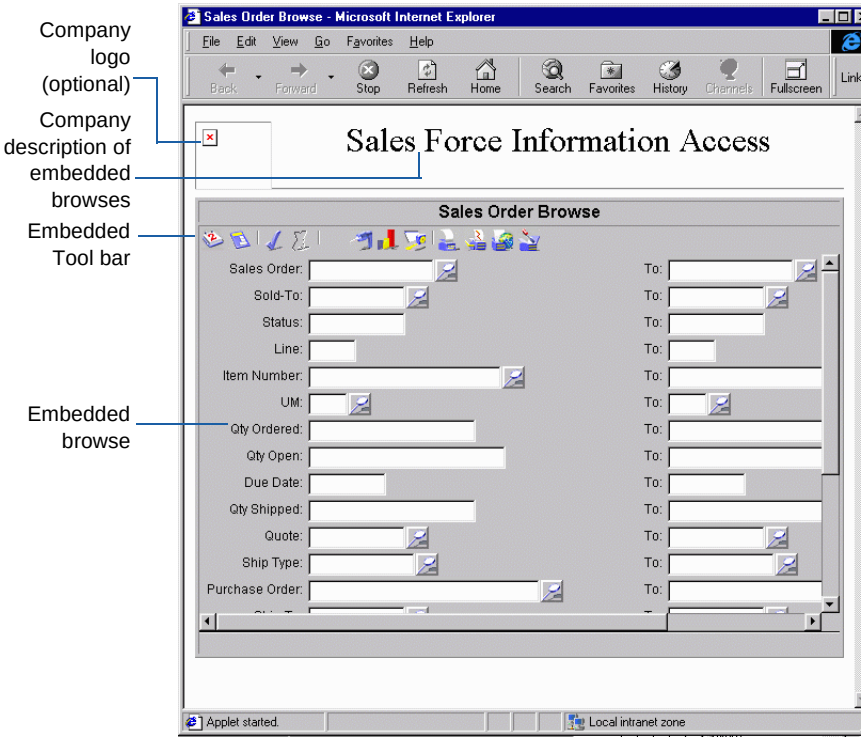
Fig. 1.4 Embedded Access to MFG/PRO

When you select a link, the MFG/PRO sign-on screen displays, in the same way as in the full user interface. The embedded user interface has a tool bar and program display with the same features as the full user interface.

Figure 1.5 shows the embedded user interface.

See the *Network User Interface Installation Guide* for details on how to embed programs.

Fig. 1.5
Embedded Browse



Screen Elements

The following pages explain each of the NetUI screen elements.

Title Bar

The title bar identifies the program you are running. You can also exit the program and minimize or maximize the screen from the title bar.

Clicking on the upper left corner of the Title Bar or pressing the associated accelerator keys accesses a control menu containing move, size, minimize, maximize, and close options. Each MFG/PRO program has a title bar.

Fig. 1.6
Title Bar

Menu Bar

You can accomplish various tasks by clicking items on the menu bar. The drop-down menus associated with each item are described in detail in this section.

Click on the drop-down menu and select an option by clicking it or entering the underlined letter. Some selections have accelerator key access.

See “Keyboard Commands” on page 3.

Fig. 1.7
Menu Bar

Application Menu

The Application drop-down menu enables you to sign on, save the current settings, define output options and setup, and exit the application.

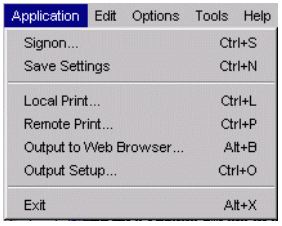


Fig. 1.8
Application Menu

Sign-On

See “Sign-On” on page 12.

This option lets you sign on as a different user or change to a different security profile.

Save Settings

See “Preferences” on page 24.

This option saves output setup and preferences for each user.

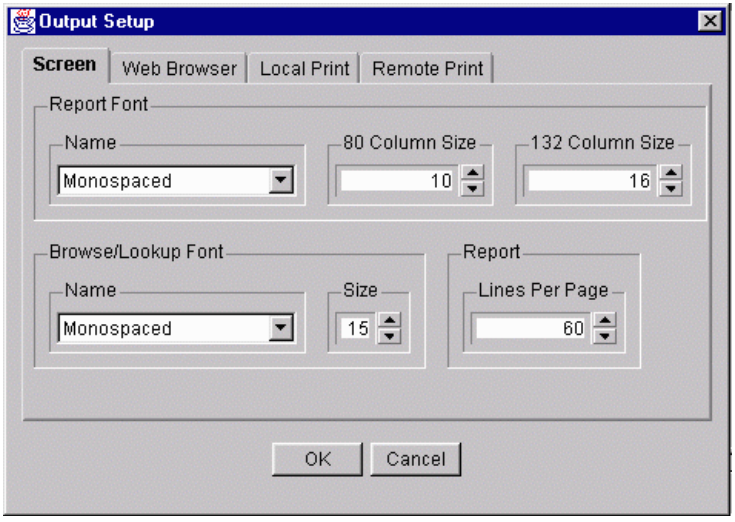
Output Setup 

This option lets you configure different outputs for browses and reports. NetUI lets you output information to printers, a Web browser, a file, a spreadsheet, or to the screen.

Output to Screen

Output to screen is the default output option for NetUI. To output a browse or report to the screen, select the  button on the tool bar or press Go.

Fig. 1.9
Output Setup, Screen



To set up screen output, select the Screen tab in the Output Setup window.

1 To set up report output, do the following.

   a Select an output font from the drop-down.

   b Set font sizes for reports containing 80- and 132-count columns.

   c Select the number of report lines to be output per page.

2 To set up browse output, do the following.

   a Select an output font from the drop-down.

   b Select a font size.

3 Click OK to save your setup.

Tip
Reports display with the data properly aligned only with a fixed-width font, such as Courier.

Output to Web Browser

The Web browser output option lets you output browse data to a browser in a normal format, HTML table, or comma-separated values (CSV) format. You can also output directly to a spreadsheet.

Tip
Report data is output in normal format only.

To output a browse or report to the browser, do one of the following:

- Click on the Web Browser  button on the tool bar.
- Choose Output to Web Browser from the Application menu.
- Press the appropriate accelerator keys.

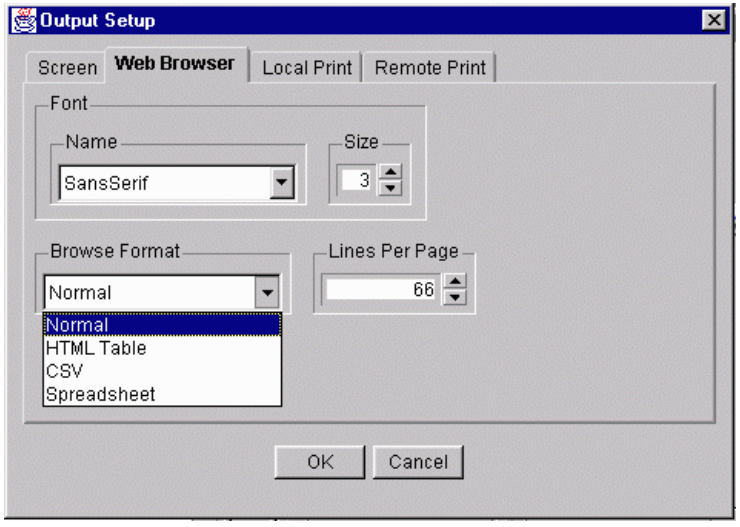


Fig. 1.10
Output Setup, Web Browser

To set up browser output, select the Web Browser tab in the Output Setup window and do the following.

1 Select a font from the drop-down.

2 Select an HTML font size.

Note Information that is output to a browser uses HTML font sizes. HTML font sizes differ from print font sizes, which are measured in points. Table 1.1 compares HTML font sizes with standard print font sizes.

Table 1.1 HTML and Print Font Sizes

HTML Font Sizes	Equivalent Print Font Sizes, in Points
1	8
2	10
3	12
4	14
5	18
6	28
7	36

3 Select a format for browse output.

- Normal: Output data displays in columns.
- HTML Table: Output data is placed in an HTML table.
- CSV: Data is output in comma-separated values (CSV) format. This is useful for importing browse data into a user database.
- Spreadsheet: Output data is placed in a spreadsheet.

Note To use the Spreadsheet format option, Microsoft Excel must be installed on the client.

4 Select the number of lines to be output per page. The lines per page option is only available for reports.

5 Click OK to save your setup.

Output Setup to Local or Remote Printer

The local and remote printer output option lets you output browse and report data to a printer in a normal format or comma-separated values (CSV) format. It also lets you output data to a file.

To output a browse or report to a local printer, do one of the following:

- Click on the Local Printer button on the tool bar.
- Choose Local Print from the Application menu.
- Press the appropriate accelerator keys.

To output to a remote printer:

- Click on the Remote Printer button on the tool bar.
- Choose Remote Print from the Application menu.
- Press the appropriate accelerator keys.

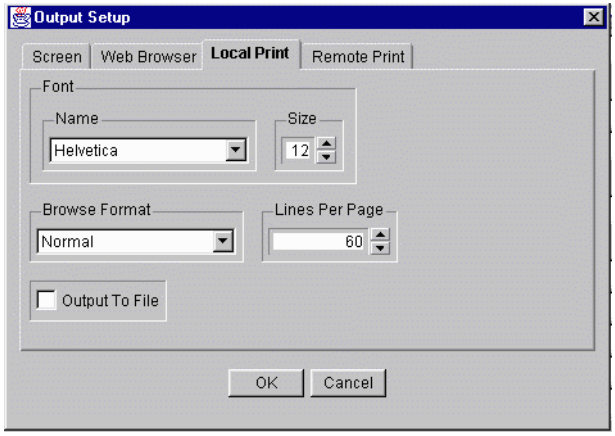


Fig. 1.11 Output Setup, Local Print

To set up local or remote printer output, do the following.

1. Select the Local or Remote Print tab in the Output Setup window.
2. Select a font from the drop-down.
3. Select a font size.

Note When locally printing a 132-count column report, specify landscape mode and a smaller font size.

4 Select a format for printed browse output.
   - Normal: Output data displays in columns.
   - CSV: Data is output in comma-separated value (CSV) format. This is useful for importing browse data into a user database.

5 Select the number of lines to print per page. The lines per page option is only available for reports.

6 To output the browse or report to a file, select Output to File.

Note Remote print saves this file on the server where the WebSpeed default directory is located. Local print saves this file to a user-specified directory.

7 Click OK to save your setup.

Exit

You can exit the application by selecting Exit from the Application menu or by pressing the appropriate accelerator keys.

See “Title Bar” on page 16.

Exit individual programs by doing one of the following:

- Click on the Close box in the upper right corner of the program window.
- Select Close from the Control menu located in the upper left corner of the title bar.

Edit Menu

The Edit drop-down menu offers standard Windows editing functions for cutting, copying, and pasting text.

Fig. 1.12
Edit Menu

Cutting, Copying, and Pasting with the Edit Menu

Cutting deletes text from its current location and copies it to the Windows clipboard. Copying does the same, but leaves the original item in place. In both cases, you can paste the item to another location, the same file, or another file.

Tip
Cutting, copying, and pasting functions are not available in maintenance programs.

To cut or copy items and paste them to other locations, use the following procedure.

1. Use your cursor to select an item to cut or copy.
2. Choose Cut or Copy from the Edit drop-down menu.
3. Position your cursor at the location where you want to insert the item.
4. Choose Paste from the Edit drop-down menu.

Keyboard Shortcuts for Cutting, Copying, and Pasting

Cutting, copying, and pasting can be done using keyboard shortcuts. Use the following procedure.

1. Use your cursor to select an item to cut or copy.
2. Press Ctrl+X to cut or Ctrl+C to copy.
3. Position your cursor at the location where you want to insert the item.
4. Press Ctrl+V to paste.

Options Menu

The Options drop-down menu contains functions for activating menu substitution and menu hiding, defining preferences, saving Browse settings, and saving output and preferences settings upon system exit.

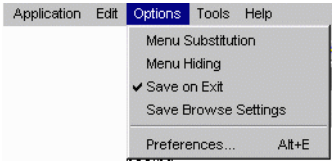


Fig. 1.13
Options Menu

See the *Network User Interface Installation Guide*.

Note Which options are available for individual users and how some of them work depend on how your system administrator has configured settings in User Option Maintenance (36.20.10.1).

Menu Substitution

This option lets you toggle between browses and inquiries. You can also use it to toggle between customized and non-customized versions of a program defined in Menu Substitution Maintenance (36.20.3).

Note If Menu Substitution is No for a user in User Option Maintenance, this function is unavailable to that user in NetUI.

Menu Hiding

See Chapter 3, “Web Security,” on page 51.

Selecting Menu Hiding causes the Program menu to display only folders and programs to which you have access—that is, it automatically hides all items to which you do not have access.

Note If Restrict Menu is Yes for a user in User Option Maintenance, Menu Hiding is unavailable to that user in NetUI.

Save On Exit

See “Output Setup” on page 18 and “Preferences” on page 24.

This option saves your output setup and preferences settings upon system exit so that these settings are available the next time you log in to NetUI.

Save Browse Settings

See “Setup Columns” on page 30.

Selecting this option automatically saves your custom browse settings—that is, changes to column order, size, or display—so that the impacted browse has the same format the next time you execute it.

Note If Save Brw Settings is No for a user in User Option Maintenance, this function is unavailable to that user in NetUI.

Preferences

Use this feature to customize accelerator keyboard commands, specify a download size setting for browses, toggle field tips in browse or report input windows, and define an emulation type for maintenance programs.

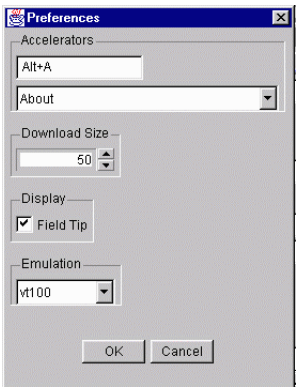


Fig. 1.14
Preferences

Accelerators

Accelerators are keyboard commands used to access various features in NetUI. Accelerator key commands initially default to the standard Windows settings. However, you can change these defaults using the Accelerators fields in the Preferences window.

See “Keyboard Commands” on page 3.

Download Size

The Download Size setting refers to the number of records a browse displays before the system notifies the server to retrieve more records.

Example A browse contains 300 records. If Download Size is set to 50, the browse window initially displays only the first 50 records. When you scroll down to record 50 at the bottom of the window, the client requests the second set of records—51 through 100—and then displays them.

The smaller the download size, the faster—and more often—data is downloaded from the server.

This value defaults from the Max Browse Records value defined by the system administrator in User Option Maintenance (36.20.10.1).You can decrease this default value; however, increasing it has no effect.

See the *Network User Interface Installation Guide*.

Example If the system administrator defines a download size of 25 and you set the Download Size value in the Preferences window to 100, the browse data window still displays only 25 records at a time.

Emulation

Use this field to define the type of terminal emulation to use for displaying maintenance programs in NetUI.

Field Tip

Field tips are context-specific references to NetUI fields. When the field tip function is enabled in NetUI, positioning your cursor over a field automatically displays the associated table and field name.

Use the Field Tip flag in the Preferences window to turn this function on or off.

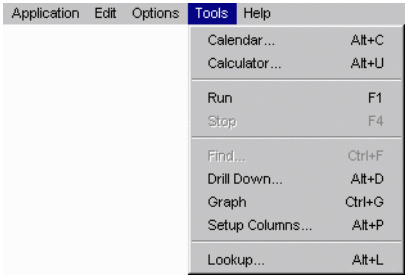
Fig. 1.15
Field Tip

Note Tool tips are descriptions that display when your cursor is positioned over a tool button in NetUI. Tool tips cannot be turned off.

Tools Menu

The Tools drop-down menu provides access to the calendar and calculator tools. You can also start or stop a program, find a record, display drill-down browses, graph browses, set up browse columns, and display look-up browses.

Fig. 1.16
Tools Menu



Calendar

To access the calendar tool, do one of the following:

- Click on the Calendar button  on the tool bar.
- Choose Calendar from the Tools menu.
- Press the appropriate accelerator keys.

If you are in a date field in a browse or report, you can use the calendar to select a date. Use the arrow buttons to display different months and years as shown in Figure 1.17.

Use your cursor to select a date and choose OK to insert that date into the active field in the browse or report.

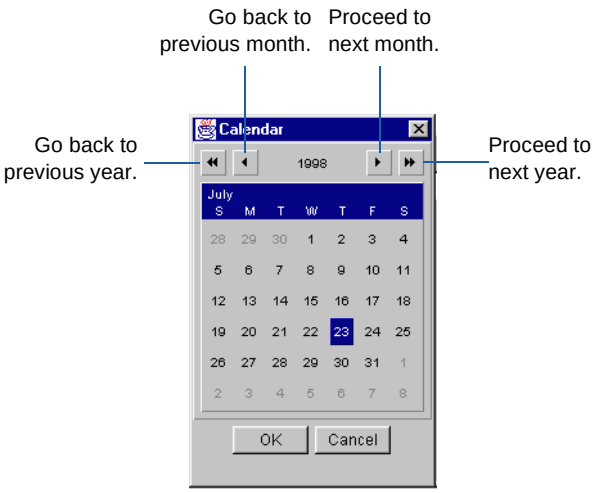


Fig. 1.17
Calendar

Calculator

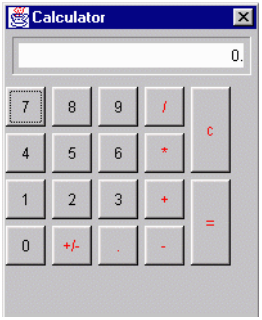
To access the calculator tool, do one of the following:

- Click on the Calculator button  on the tool bar.
- Choose calculator from the Tools menu.
- Press the appropriate accelerator keys.

If you are in a decimal field in a browse or report, you can use the calculator to select a number. Perform the necessary functions on the

calculator, then choose OK to insert the resulting value into the active field of the browse or report.

Fig. 1.18
Calculator



Run

Selecting this option runs the selected browse or report. You can also use the button or press Go to run reports and browses.

Stop

To close a report or browse that is currently running, choose the button on the tool bar, press Stop, or choose Stop from the Tools menu.

Find

Tip
The Find function is not active in report programs.

The Find option is only available in browse data windows and look-up browses.

To search a column in a browse or look-up:

1. Highlight the heading of the column to be searched by double-clicking on it. Values in the highlighted column automatically display in numerical or alphabetical order.
2. To display the Find pop-up window, do one of the following:
   - Click on the Find button .
   - Choose Find from the Tools menu.
   - Press the appropriate accelerator keys.

3 Enter a value in the Find window and click OK.

4 The record containing the requested value is highlighted and displays in the first row of the browse.

Drill-Down Browse

Drill-downs are browses used to view available records and aid in selecting values for specified fields. You can access drill-down browses in browses, inquiries, and reports by doing one of the following:

- Click on the Drill-Down button  on the tool bar.
- Select Drill Down from the Tools menu.
- Press the appropriate accelerator keys.

Unless your cursor is positioned in a specific field in a browse, inquiry, or report window, clicking on Drill Down displays a list of all drill-downs associated with fields in that program, plus any drill-downs that are associated with the program itself.

If your cursor is positioned in a specific field and more than one drill-down is associated with that field, accessing the drill-down option displays a drop-down list of available selections. However, if only one drill-down browse is associated with that field, accessing the drill-down option executes it immediately.

Graph

Graphing features in NetUI can be used to display browse data in several different graph formats. Graphs can be accessed from browse input or data windows by doing one of the following:

For more information on graphing, see “Graphing Browse Data” on page 43.

- Click on the Graph button  on the tool bar.
- Choose Graph from the Tools menu.
- Press the appropriate accelerator keys.

Setup Columns

This function lets you define which data columns to display in a browse.

Access the setup columns option by doing one of the following:

- Click on the Setup Columns button  on the tool bar.
- Choose Setup Columns from the Tools menu.
- Press the appropriate accelerator keys.

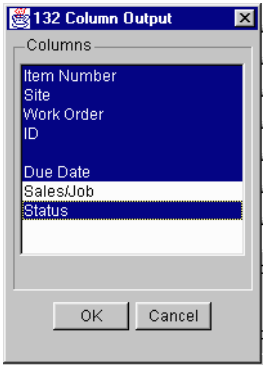
Accessing this feature displays a pop-up window listing available columns for the associated browse. Highlighted column names indicate columns that display in the browse, while column names without highlighting indicate columns that do not display.

Use your cursor to highlight or remove highlighting for column names as needed, then click OK to review the results.

See “Save Browse Settings” on page 24.

Note To have the browse display the same columns the next time you execute it, select the Save Browse Settings option from the Options menu.

Fig. 1.19
Column Output Window



Look-Up Browses

Look-up browses are similar to other browses, but contain less detail. Use them to view and select values for specified fields.

You can access look-up browses by doing one of the following:

- Click the Look-Up Button  next to a field.
- Choose Lookup from the Tools menu.

- Press the appropriate accelerator keys.

To select a value from a look-up browse, highlight it and choose OK to copy it into the active report or browse field.

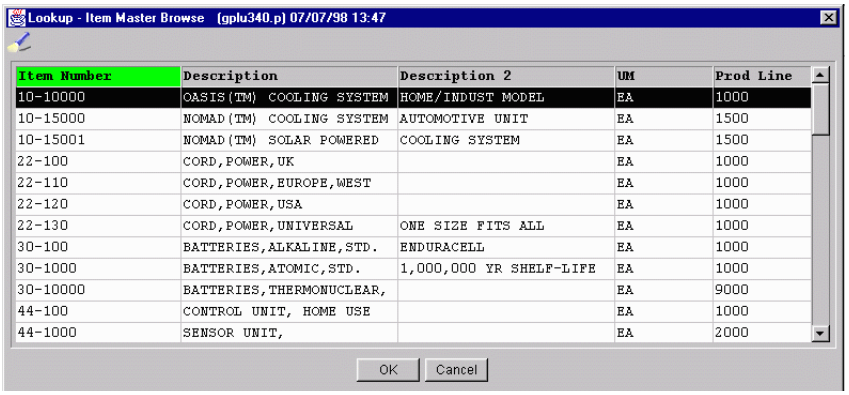


Fig. 1.20
Look-Up Browse

Help Menu

The Help drop-down menu provides access to the following items:

- The MFG/PRO documentation set in HTML
- NetUI help
- Procedure help
- Field help

Additional URLs may display on this menu if it has been customized during setup.

See “Defining Help Menu URL Links” on page 98.

All forms of help display in a Web browser except for maintenance program field help.

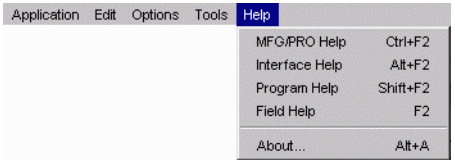


Fig. 1.21
Help Menu

MFG/PRO Help

This option launches QAD's MFG/PRO documentation set in HTML format. The MFG/PRO documentation set includes all volumes of the *MFG/PRO User Guides, File Relationships,* and *Database Definitions*. There is also a comprehensive table of contents and an index to the user guide set.

Interface Help

This option launches NetUI help in HTML format.

Program Help

Accessing this option launches program help for the active program. Program help describes a menu-level function, how it is used, and how it relates to the rest of the system.

Field Help

Accessing this option launches field help for the active field. Field help describes a particular field, its valid values, and how it is used in the associated program.

About...

This option gives you technical information about MFG/PRO and your user ID and profile. You can display the same information by pressing the associated accelerator keys.

Tool Bar and Buttons

The Tool Bar contains buttons to launch programs and tools and select output types.

Note Both forms of the interface—full and embedded—use the same tool bar.

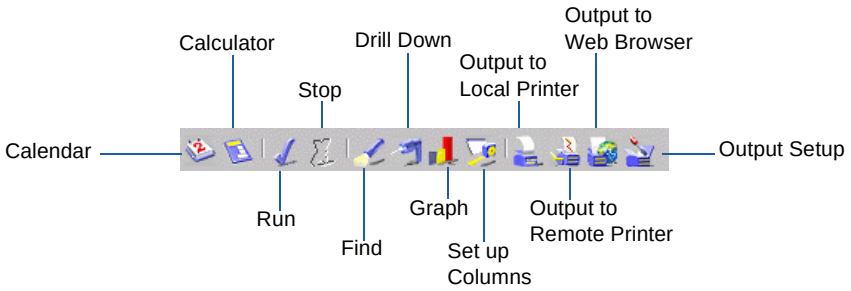


Fig. 1.22
NetUI Tool Bar

Positioning your cursor over a button displays a tool tip indicating the button action.

See "Field Tip" on page 26.

For button descriptions, see the following.

- "Calendar" on page 27
- "Calculator" on page 27
- "Run" on page 28
- "Stop" on page 28
- "Find" on page 28
- "Drill-Down Browse" on page 29
- "Graph" on page 29
- "Setup Columns" on page 30
- "Output Setup to Local or Remote Printer" on page 21
- "Output to Web Browser" on page 19
- "Output Setup" on page 18

Note Not all buttons are enabled for all screens or programs in NetUI. For example, the Print button is disabled for those programs to which it is not relevant.

Program Menu

The Program menu contains folders representing the MFG/PRO functional areas: Distribution, Manufacturing, Financials, Service/ Support Management, Master Files, Custom, and Supply Chain Management. Also included is a User Menu folder to which you can add programs using Menu System Maintenance (36.4.4).

See *User Guide Volume 11: Manager Functions* for information on adding programs to the User Menu.

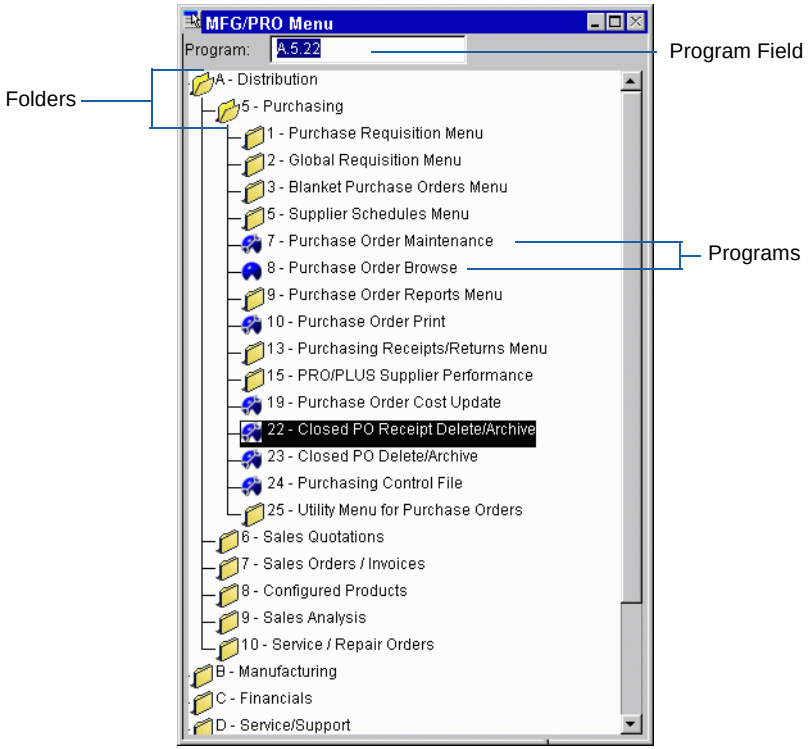
See page 94 for details.

The User URLs folder contains custom URL links created during setup.

Click on a folder to display its associated menu items. As you select folders from this screen, the menu displays your progress.

Double-click on a program name to launch the associated program. You can also launch programs by entering the program name or menu number in the Program field and clicking on the Run button or pressing Enter.

Fig. 1.23
Standard Program Menu



Task Bar

The Task Bar displays a list of open programs. You can use the Task Bar to switch between open programs by clicking on the program you want to activate.

When a program is running, a red busy symbol displays over the task bar button for that program.

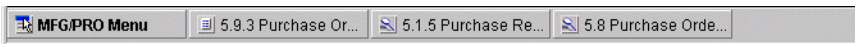
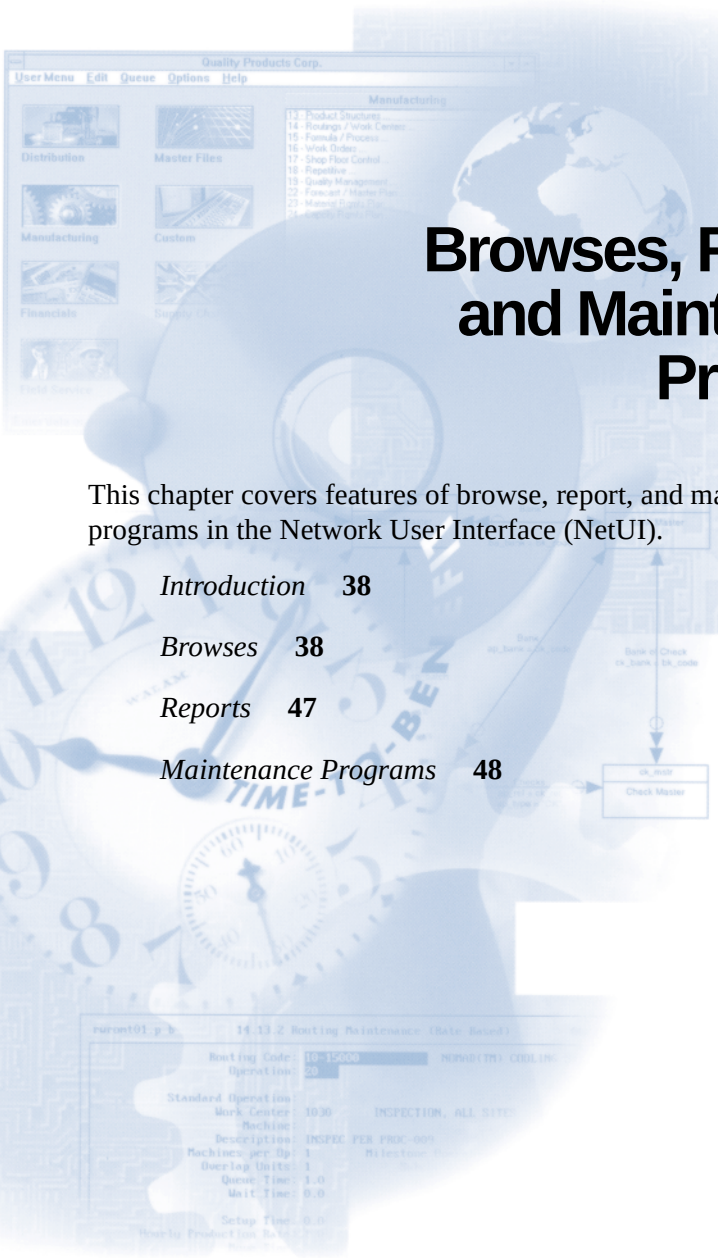


Fig. 1.24
Task Bar

Message Bar

The Message Bar displays program statuses. For example, when you are running a report, the message bar displays a Busy message.



CHAPTER 2

Browses, Reports, and Maintenance Programs

This chapter covers features of browse, report, and maintenance programs in the Network User Interface (NetUI).

Introduction

All MFG/PRO browses, reports, inquiries, and maintenance programs are available in NetUI. They function in the same way as standard MFG/PRO programs. However, NetUI lets you display multiple programs at the same time—for example, you could have two reports and a browse running simultaneously.

This chapter describes the functions of browses, reports, and maintenance programs.

Browses

Browses display selected data in the form of a table and can be used to display, filter, graph, or print data. Look-up browses return the value you select to the active field in the calling program.

See “Preferences” on page 24.

Standard browses and look-up browses display several records at a time. To scroll through the records, click the Down Arrow on the scroll bar or use the Page Down and Page Up keys. A busy message occasionally displays, telling you that the browse is getting the next group of records.

Using the Search Feature

In both look-up and standard browses, you can use the Find option to search for a field value in a column. See “Find” on page 28 for information on accessing and using this feature.

Look-Up Browses

A look-up browse displays valid values for the field with which it is associated. It can display up to seven columns of fields. A look-up browse cannot filter, graph, or print data.

To access a look-up browse, do one of the following:

- Select Lookup from the Tools menu.
- Click on the look-up button  next to the field.
- Press the appropriate accelerator keys.

To enter the contents of a look-up browse cell into the active field of the calling program, do one of the following:

- Double-click on the browse cell. The first click selects the cell, the second enters the cell data in the active field.
- Select a cell and press Enter or OK.

Look-up browses accept wildcards (*) as search criteria. For example, if you enter `AD*` in the field of the calling program or in the browse, it displays only values beginning with AD.

Important Since browses search the entire database, using wildcards to search for non-indexed fields may incur serious performance losses.

See “Find” on page 28.

Figure 2.1 shows the look-up browse that is associated with the Item Number field.

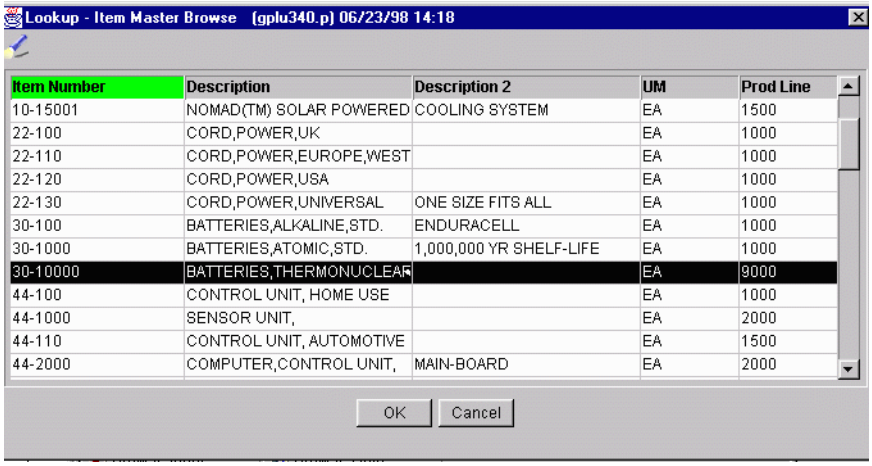


Fig. 2.1
Look-Up Browse

Standard Browses

Standard browses display selected data in the form of a table. In addition, they can be used to display, filter, graph, or print data.

Starting Browses

Start a browse program by doing one of the following:

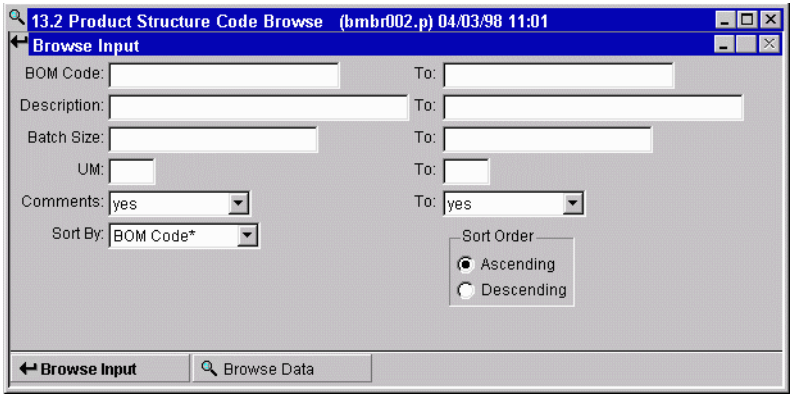
See “Program Menu” on page 33.

- Double-click on the browse program in the Program menu.
- Position your cursor in the Program field and enter the browse program number or program name, then press Enter or click on to open the browse.

Specifying Browse Criteria

The first screen that displays is the browse input window, where you can enter search criteria to select items to display in the browse.

Fig. 2.2 Browse Input Window



1 Enter values in the selection criteria fields. As in look-up browses, you can use wildcards (*) in these fields as needed.

Use wildcards only in left-column character fields; you cannot use wildcards in numeric fields or To fields. When you use a wildcard in a left-column field, the system ignores the corresponding To field.

Example Entering XY* in a left-column field in a browse input window displays only field values that start with XY in the browse. Entering X*Y displays only values that start with X and end with Y.

For each set of criteria fields, be sure to enter the lower alphanumeric value in the first, or left-column, field and the higher alphanumeric value in the second, or right-column, field.

Example To view records for a range of sites 1000 to 4000, enter 1000 in the first site range field and 4000 in the second field. To view records for sites Aberdeen through Dresden, enter Aberdeen in the first field and Dresden in the second.

Leaving all selection criteria fields in the browse input window blank causes all records in the system to display in the browse.

Note When valid values for a set of criteria fields are Yes and No, No is considered the lowest value and Yes the highest. To view records containing either Yes or No values, enter No in the first criteria field and Yes in the second.

2 In the Sort Order field, select Ascending or Descending.

3 Choose  to view the browse.

See “Output Setup” on page 18 for information on output options.

Viewing Browse Data

After you make your selections and choose  from the input window, the browse data window displays. The information in the browse data window can be searched and sorted; in addition, columns can be resized and moved.

Note To save custom browse settings—that is, changes to column order, size, or display—so that the impacted browse will have the same format the next time you execute it, select the Save Browse Settings option from the Options menu.

See “Save Browse Settings” on page 24.

Fig. 2.3 Browse Data Window

Browse Data

BOM Code	Description	Batch Size	UM	Comments
10-10000	OASIS(TM) COOLING SYSTEM	1	EA	no
10-15000	NOMAD(TM) COOLING SYSTEM	1	EA	no
10-15001	NOMAD(TM) SOLAR POWERED	1	EA	no
10-15002	NOMAD COOLING SYSTEM	0	EA	no
44-100		1	EA	no
44-110		1	EA	no
88-100	CASE,AUTO-UNIT	1	EA	no
88-1000	CASE,HOME/INDUST UNIT	1	EA	no
88-200	CASE,HOME/INDUST UNIT	1	EA	no
88-300	BOTTLE,PLASTIC,1 LITRE	1	EA	no
90-100	KOOLAIRE(TM) COOLANT	1000	ea	no
90-110	KOOLAIRE(TM) MEDIC-GRADE	1000	EA	no
COOLANT	KOOLAIRE COOLANTS	1000	EA	no

Resizing Columns

To resize a column, select the boundary on the right side of the column heading and drag it until the column is the width you want.

Moving Columns

To move a column, select the column heading and drag it to the location you want.

Sorting Column Data

To sort data in a column, double-click on the column heading. Values in the column automatically display in numerical or alphabetical order.

Hiding Columns

You can use the Setup Columns option from the Tools menu to define which columns to display in a browse. See “Setup Columns” on page 30 for more information on accessing and using this feature.

Accessing URL Links

See “Defining URL Links for Browses” on page 95.

Browses can contain URL links. These links are defined in Browse URL Maintenance (36.20.10.11) and are indicated by colored and underlined text in individual browse cells.

If a browse cell or a column contains a URL link, double-clicking on it launches your Web browser and displays the intranet or Internet resource to which that URL refers.

Example A supplier ID in the Purchase Order Browse is associated with a URL link to that supplier’s company Web site. Selecting this supplier ID, underlined in blue text, automatically launches a Web browser to display the supplier’s Web site.

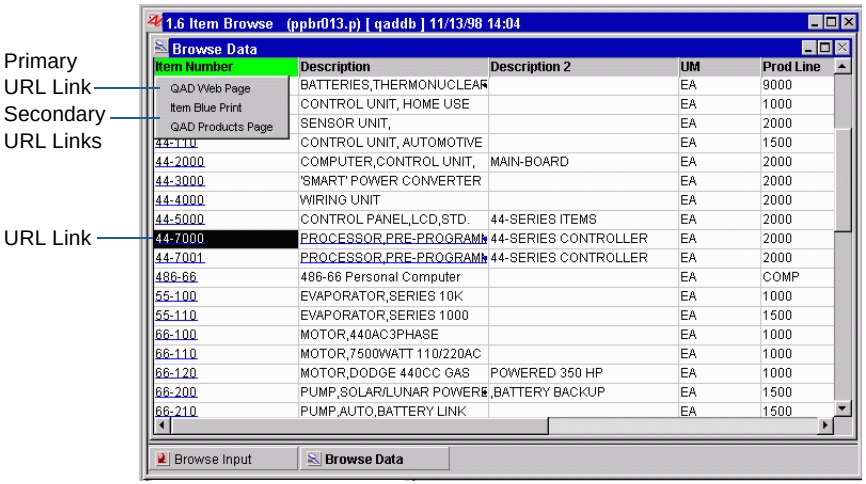


Fig. 2.4
Browse Data Window with URL Links

Right-clicking on a cell or column containing URLs displays a list of all the URLs associated with that cell or column—that is, the primary link and any additional secondary links.

Graphing Browse Data

You can generate graphs of browse data on the screen. To generate a graph of a browse, select the Graph icon on the tool bar.

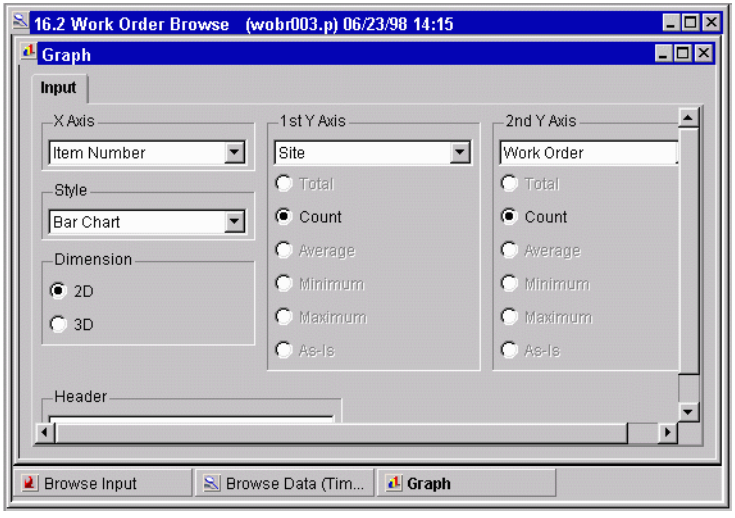


Fig. 2.5
Graph Selection Criteria Window

X-Axis Data

In the X-Axis data box, specify a browse field to use as the x-axis of the graph. Click on the down arrow to view a list of available fields.

1st Y-Axis Data

In the 1st Y-Axis data box, specify a browse field to use as the y-axis of the graph. Click on the down arrow to view a list of available fields. Only non-numeric data can be used with the Count option.

Example Specifying Region in the X-Axis data box and Customer (Count) in the 1st Y-Axis data box displays a graph of the total count of all customers per region.

Note Different fields display in the selection lists depending on the browse being graphed.

2nd Y-Axis Data

To display two sets of data on the y-axis of a graph, specify a browse field in the 2nd Y-Axis data box.

Note Pie charts can be displayed with only one set of data. Therefore, if Pie Chart is selected in Types of Graphs, this field is disabled.

The field options available for the second y-axis value are identical to those for the first y-axis except that the second y-axis includes an entry for None.

Example Selecting Customer in the X-Axis field, Balance in the 1st Y-Axis field, and Credit Limit in the 2nd Y-Axis field produces a graph showing customers as the x-axis with a graph of their balance versus their credit limit. However, if the 2nd Y-Axis data box has a value of None, only one set of data appears on the y-axis.

Total, Count, Average, Minimum, Maximum, and As-Is

Under the 1st Y Axis and 2nd Y Axis data boxes are radio sets listing the following options: Total, Count, Average, Minimum, and Maximum. You can select one option for the 1st Y Axis and one for the 2nd Y Axis.

Note If a non-numeric field is specified in the 1st Y Axis or the 2nd Y Axis data box, the associated radio set for that data box is disabled.

- Total: Adds up all of the values for the selected Y-Axis data field in the browse for each X-Axis field.

  For example, if Region is the X Axis field and Balance is the 1st Y Axis field, the data will represent the total balance of all customers in that region. If Customer is the X Axis and Balance is the 1st Y Axis, the data will represent each individual customer's balance.

- Count: This is used primarily for non-numeric fields. It counts the number of occurrences of Y-Axis data for each X-Axis field.

  For example, if Region is the X Axis and Customer (Count) is the 1st Y Axis, the data will represent the total number of customers in each region.

- Minimum: The system reads through all of the values for the Y-Axis field in the browse and, for each X-Axis value, selects the lowest value.

  For example, if Region is the X-Axis field and Balance is the 1st Y-Axis field, the data will represent the lowest customer balance in the region.

- Maximum: The system reads through all of the values for the Y-Axis field in the browse and, for each X-Axis value, selects the highest value.

  For example, if Region is selected for X-Axis field and Balance is the 1st Y-Axis field, the data will represent the highest customer balance in the region.

- Average: The system adds up all of the values for the Y-Axis field in the browse for each X-Axis field and divides by the total number of occurrences of the Y-Axis data.

  For example, if Region is selected as the X-Axis field and Balance is the 1st Y-Axis field, the data will represent the average balance of all customers in that region.

- As-Is: Data displays in no specific format. The As-Is radio button is inactive for most graphs.

Style of Graph

This drop-down list data box lets you select the type of graph format to display. Valid choices are Bar Chart, Pie Chart, Line Chart, Stacking Bar Chart, and Area Chart.

3-D, 2-D

This radio set lets you select either a three-dimensional or two-dimensional display.

Header

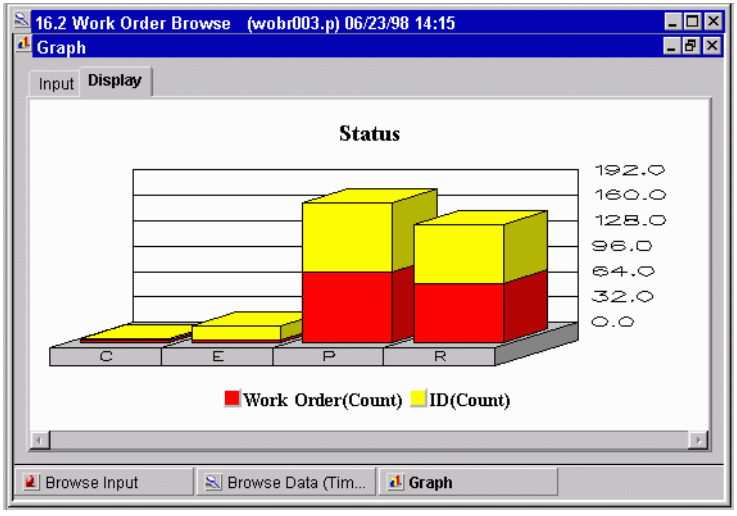
Enter the title of the graph. The default is X Axis.

Generating a Graph

After entering the required input data, click the button on the tool bar to display the graph.

After running a graph the first time, you can change the style, type, or header data and select the Display tab to alter the graph accordingly. You do not need to click the button. However, if you change the X Axis, 1st Y Axis, or 2nd Y Axis values, you must click on the button to display the changes.

Fig. 2.6
Graph Display



Reports

This discussion uses the Supplier Address Report (2.3.3) as an example, but the same basic principles apply to all report programs.

You can start a report program in one of two ways:

- Double-click on the report program in the Program menu.
- Position your cursor in the Program field and enter the report program number or program name, then press Enter or click on .

See “Program Menu” on page 33.

The first screen that displays is the report input window, where you can enter search criteria to select items to display in the report.

Follow these steps to generate a report:

1 Enter selection criteria in the report input window.

Selection criteria for reports are entered in the same manner as criteria for browses.

See “Specifying Browse Criteria” on page 40.

Note Wildcards (*) cannot be used in report criteria fields.

2 Generate the report by clicking on or pressing Go.

By default, report output displays on the screen. To output data to a local or remote printer or browser, select the appropriate button on the tool bar.

See “Output Setup” on page 18.

This sample input produces a report on all suppliers with a post code of 00143.

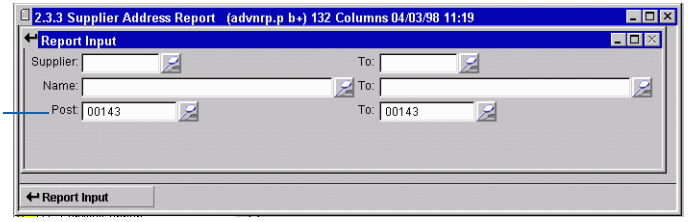


Fig. 2.7 Supplier Address Report (2.3.3), Report Input

You can produce a variety of reports, depending on your needs. Leaving all fields blank produces a report on all records.

Maintenance Programs

Maintenance programs are used to review, add, modify, and delete database records. In NetUI, maintenance programs display in a terminal emulation window in a character-based interface.

You can run multiple browses, reports, and maintenance programs simultaneously.

Starting Maintenance Programs

Start a maintenance program by doing one of the following:

See “Program Menu” on page 33.

- Double-click on the program in the Program menu.
- Position your cursor in the Program field and enter the program number or program name, then press Enter or click on  .

Entering Key Data

The program displays with the cursor in the first field. Enter key data in this field and any subsequent fields as needed, using Enter or Tab to proceed from one field to the next.

This key data is used to identify the record you want to review or modify. Fields in other frames are inaccessible until you enter the required key data to select a record.

Note In some maintenance programs, if you do not know which record you want, you can use the Up and Down arrows to scroll through a list of available records and press Enter to select one.

See “Keyboard Commands” on page 3.

If you are creating a new record, enter new key data as needed and use the appropriate keystrokes to proceed to subsequent fields to complete the record.

Moving Around on the Screen

Selecting a record fills in the fields on the screen. For new records, these fields are empty and ready for your input.

Advance through the fields using the appropriate keystrokes.

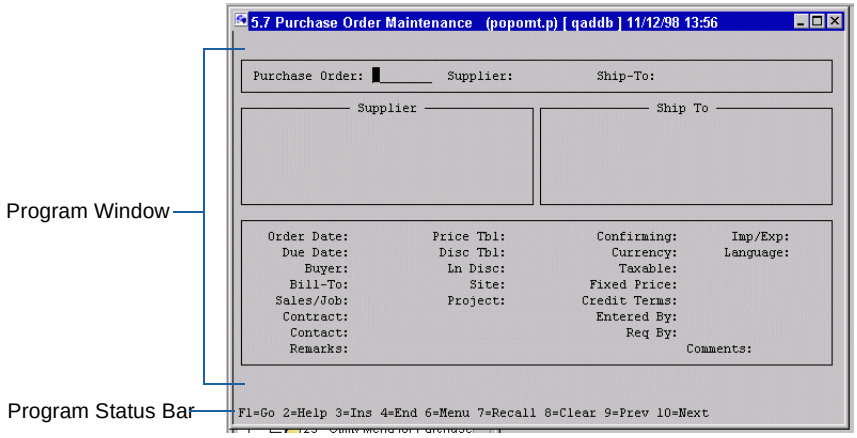


Fig. 2.8
Maintenance Screen

CHAPTER 3

Web Security

Additional security methods can be applied to restrict access to MFG/PRO from the Network User Interface (NetUI). This chapter describes how to set up and use Web security.

Introduction to Web Security

Accessing data stored in MFG/PRO in an Internet or intranet environment presents a unique set of security issues. Extensive Web security features are fully integrated with NetUI browses and reports. These features place additional restrictions on users, the programs they can execute, and the database records they can access.

Each organization using NetUI must carefully consider their own security needs. Additional security may not be required, depending on how the system is being used. Standard MFG/PRO security or network security may be sufficient for some users.

Standard MFG/PRO Security and Web Security

See *User Guide Volume 11: Manager Functions* for details on MFG/PRO security.

Standard MFG/PRO security features can be used in NetUI for maintenance, browse, and report programs. Maintenance programs use standard MFG/PRO security features only. Web security provides a more detailed and focused way of controlling access to data for browses and reports.

For the most part, the two security systems are set up and defined independently. Two common elements are the MFG/PRO user ID and MFG/PRO programs. Users are defined in MFG/PRO and can then be granted access using either MFG/PRO or Web security features. Groups in the two systems are not the same.

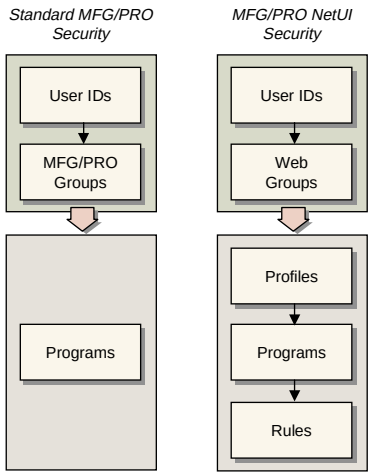


Fig. 3.1
Standard MFG/PRO Security and Web Security

None of the Web security features apply when users are operating in standard MFG/PRO. However, the opposite is not true. MFG/PRO security can extend to Web access.

- The security options and other options in the Security Control File (36.3.24) are checked during user log in.
- Menu-level security can prevent a user from executing a program from NetUI.

Example User JME does not have access to a program based on standard MFG/PRO menu security. When using NetUI, JME still cannot execute this program.

Limitations

Web security has the following limitations.

- The current version of Web security does not provide data encryption. If you are using a private network or intranet, this should not pose a problem. In other cases, you must rely on your own encryption systems. Data encryption is featured in a forthcoming release.
- The Web security model lets you define database access at the record level, but not at the field level. Once qualified, the end user can access every field, but only for the records that meet the defined criteria.

- Depending on the level of security you want to implement, defining a Web security system can require considerable planning and setup.

Web Security Concepts

Web security can be implemented on multiple levels—from the very simple to the increasingly complex. Whatever level of security you decide to implement is built from a small set of basic elements, including users, user groups, profiles, and rules. Understanding these elements is critical to successful implementation.

This section introduces the building blocks of a Web security system. It also describes the three key decision points in the Web security scheme.

Security Elements

Web security is built by grouping users and assigning them a profile that determines the programs they can execute and the database records they can access. In a simple security scheme, multiple users are assigned to a single group that is associated with a single profile.

User

Users may include company employees, customers, suppliers, or other individuals outside your company who access MFG/PRO. To be subject to Web security, users must belong to at least one group. If needed, they can be assigned to more than one group.

Example A department manager can belong to both the accounting department group and the management group.

Group

A group consists of a set of users who typically access the same programs. A group might represent a company division, department, or team, or a particular category of external users such as customers or suppliers. Groups must be associated with at least one profile.

Groups are used to simplify system implementation and maintenance since setup is done only once for all members. While most users in a

group typically have the same access, you can also define exceptions for particular individuals. This approach enables you to streamline setup, while still ensuring that you can accommodate individual differences.

Profile

A profile defines a set of MFG/PRO programs that can be accessed from NetUI. These programs typically display similar kinds of data, such as a set of sales order programs.

Profiles are assigned to one or more groups. Each user in the group can access the programs associated with a profile. You might have separate profiles for sales, administration, purchasing, and customers.

Rule

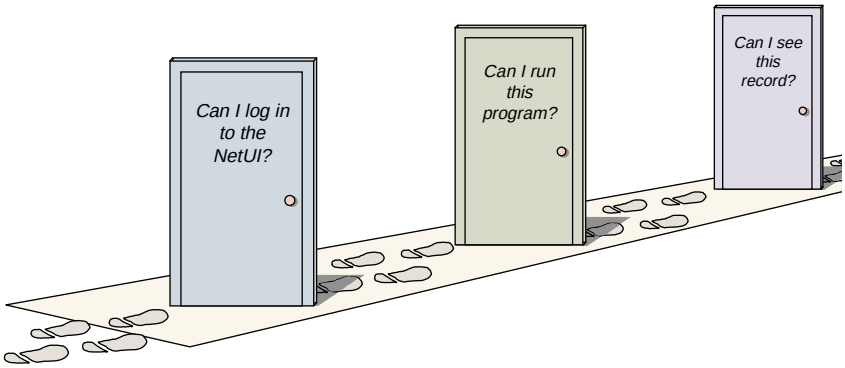
A rule defines the conditions under which specific database records can be accessed by a Web-enabled MFG/PRO program.

Each program can be linked to one or more rules that determine which database records to display. If there are no rules associated with a program, all records are accessible.

Levels of Security

Three kinds of access restriction can be applied to NetUI using Web security: log-in, program, and record. These are represented by the three doors in Figure 3.2.

Fig. 3.2
Web Security
Decision Points



Each decision point represents a unique kind of security that can be defined in NetUI. You can use these types of security alone or in any combination.

User Restriction

In order to access MFG/PRO programs, a user must first enter the NetUI. You can use Web security to ensure that only authorized users can log into MFG/PRO from NetUI. If people access your corporate records from the Internet, you will probably want to establish user restriction.

Note The ability to log into MFG/PRO from the NetUI is determined separately from logging into MFG/PRO itself. When NetUI restriction is enabled, users must be set up in Web security. Otherwise, log in is determined by standard MFG/PRO security parameters.

Conversely, you may not need user restriction if your company only operates NetUI over an intranet. Whether or not you establish user restriction, you can still establish program restriction.

Program Restriction

User restriction determines only whether an individual can log into MFG/PRO using NetUI. You can also use Web security to restrict user access to individual MFG/PRO programs. You can set up program restriction for all users, for individual users, or for users belonging to a

group or profile. When a user is restricted at any level, they must be explicitly given access to execute a program.

If you set up both Web program restriction and MFG/PRO menu password security, a user can access a program only if authorized under both systems.

Record Restriction

Finally, you can use Web security to restrict access to database records displayed by MFG/PRO browses or printed by reports. At the record level, access is restricted based on rules assigned to the MFG/PRO program.

Web Security Example

There are many different ways to set up Web security. To help you understand how Web security operates, one consistent example is used in this chapter.

This example features a company named Acme Ltd. that manufactures transistors. They recently converted computer operations to an intranet to better serve their multiple locations. In an effort to improve communications and service, they want to make MFG/PRO accessible to customers through the Web. In a pilot program, they will work with remote corporate salespeople to determine the feasibility of this objective.

Acme’s goal is to define Web security so the remote sales staff can access only the Web-enabled programs listed in Table 3.1.

Table 3.1 Sample Restricted Programs

Report	Description	Authorized Records
custom	A customized sales order report	This report contains financial information available only to the sales manager.
sobr009	Sales Order Browse	Only records in which the salesperson appears as the primary salesperson are authorized. For the manager, all records are accessible.
sosorp02	Sales Order by Item Report	Only records in which the salesperson appears as the primary salesperson are authorized. For the manager, all records are accessible.

Five employees will access NetUI: four remote sales staff and a manager. Record access will be restricted so that sales staff can see only the sales orders they have generated. The manager, however, can access all records as well as all programs.

This example will be developed as each task in Web security setup is discussed.

Web Security Programs

The Web security maintenance programs are found in the Manager Functions module on the Web Security Menu (36.3.21). Table 3.2 lists functions on the Web Security Menu.

Table 3.2 Web Security Menu (36.3.21)

Menu Name	Menu Number	Description
Program Information Maintenance	36.3.21.1	A reference of all programs with embedded logic for regulating database usage through the Web security system.
Program Information Browse	36.3.21.2	Displays all Web- and security-enabled programs, their status, and the tables they reference.
Rule Maintenance	36.3.21.3	Defines generalized rules used by profiles to restrict database record access.
Rule Master Browse	36.3.21.4	Displays rules, associated tables, and rule components.
Constant Maintenance	36.3.21.5	Defines the generalized constants used by rules.

Menu Name	Menu Number	Description
Constant Master Browse	36.3.21.6	Displays constants, their descriptions, and associated data types.
Profile Maintenance	36.3.21.7	Creates profile names to be associated with programs and rules and sets the profile program restriction.
Profile Master Browse	36.3.21.8	Displays profiles, their descriptions, and the program restriction setting for each.
Profile Program Maintenance	36.3.21.9	Defines the secured programs accessed by each profile.
Profile Program Browse	36.3.21.10	Displays the programs associated with each profile.
Profile Program Rule Maintenance	36.3.21.11	Defines the rules associated with profile programs and the actions that are authorized on the qualified records (Create, Read, Write, Delete).
Profile Program Rule Browse	36.3.21.12	Displays the rules associated with the programs in a profile, as well as the rule components.
Group Maintenance	36.3.21.14	Defines one or more profiles that can be used by the group members and sets the group program restriction.
Group Master Browse	36.3.21.15	Displays groups, their descriptions, associated profiles, and the program restriction settings.
Group Constants Value Maintenance	36.3.21.16	Qualifies record access for group members. Defines values for the constants used in program rules.
Group Constants Value Browse	36.3.21.17	Displays the values of constants assigned at the group level.
User Group Security Maintenance	36.3.21.18	Defines the users of the Web security system by identifying their membership in one or more groups.
User Constants Value Maintenance	36.3.21.20	Qualifies record access for individual users. Defines values for the constants used in program rules.
User Constants Value Browse	36.3.21.21	Displays the values of constants assigned at the user level.

Menu Name	Menu Number	Description
Web Reports and Utilities Menu...	36.3.21.23	See “Reports and Utilities” on page 83 for details on these programs.
Web Security Control File	36.3.21.24	Controls global activity of users and programs in the Web security system.

Setting Up Web Security

Setting up Web security involves a number of steps. This section describes each step in detail. Some steps are optional. The setup tasks are presented in the order in which they are typically performed. Table 3.3 lists each task and the menu-level program used to complete it.

Table 3.3
Web Security Setup Activities

Task	Program	Menu #	Reference
Define MFG/PRO users.	User Maintenance	36.3.18	See *User Guide Volume 11: Manager Functions*.
Define information for custom programs.	Program Information Maintenance	36.3.21.1	See “Defining Program Information” on page 61.
Set up control file parameters.	Web Security Control File	36.3.21.24	See “Setting Up Control File Parameters” on page 63.
Define security profiles.	Profile Maintenance	36.3.21.7	See “Defining Profiles” on page 64.
Define security groups.	Group Maintenance	36.3.21.14	See “Defining Web Security Groups” on page 66.
Assign users to Web security groups and specify Web options.	User Group Security Maintenance	36.3.21.18	“Assigning Users to Groups” on page 67.
Associate programs with profiles.	Profile Program Maintenance	36.3.21.9	See “Associating Programs with Profiles” on page 68.
Define rules qualifying record access.	Rule Maintenance	36.3.21.3	See “Setting Up Rules” on page 69.
Associate rules with programs.	Profile Program Rule Maintenance	36.3.21.11	See “Associating Rules with Programs” on page 78.
Optionally define constants.	Constant Maintenance	36.3.21.5	See “Defining Constants” on page 79.

Task	Program	Menu #	Reference
Assign group constant values.	Group Constants Value Maintenance	36.3.21.16	See “Defining Group Constant Values” on page 82.
Assign user constant values.	User Constants Value Maintenance	36.3.21.20	See “Defining User Constant Values” on page 83.

Defining Program Information

Before a program can be used in NetUI, it must be changed in two ways:

- Modified to run from NetUI.
- Modified to include QAD Web security logic.

Both modifications have been added to all MFG/PRO browses, inquiries, and report programs. A record for each of these programs has been created in a program information file, which can be viewed in Program Information Maintenance (36.3.21.1) or Program Information Browse (36.3.21.2).

Important If you need to add records to the program information file, do this before beginning any other security activity.

You cannot add or remove QAD programs from this file. However, you can modify two fields:

Web Logic Implemented. If No, the associated program cannot be executed over the Web.

Security Enabled. If No, security checking is not performed for the program.

Custom programs must be modified to include required Web and security logic, following the programming standards provided by QAD, before they can be accessed from NetUI. After modifying these programs, add a record to Program Information Maintenance for each custom program modified.

Note You can also use the Program Information Update Utility (36.3.21.23.18) to scan programs and automatically create records for them.

See page 85 for details.

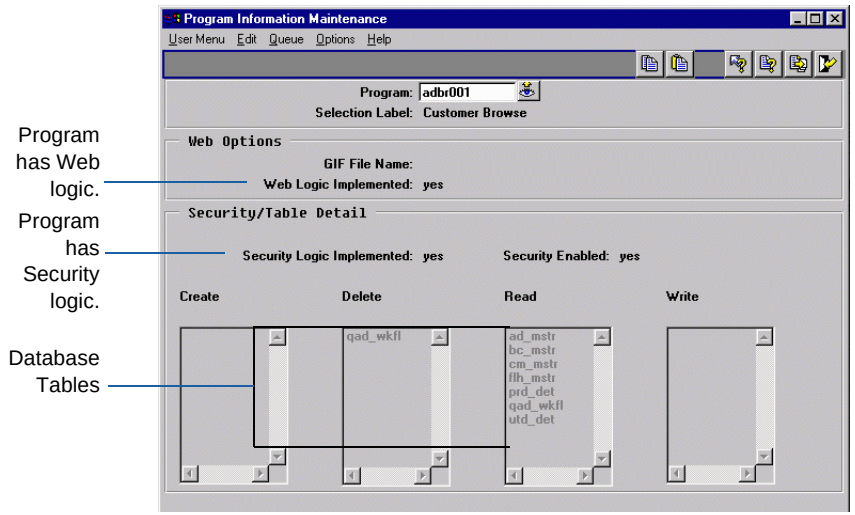
See “Setting Up Rules” on page 69.

You can also use Program Information Maintenance and Program Information Browse to determine which tables are associated with a program. The browse also shows whether each table can be created, updated, read, and deleted by the program. This information is required when you define rules.

Note In this version of NetUI, none of the Web-enabled programs create, delete, or write records.

Example In the sample Web security scheme, an entry must be created for the custom program used by the sales manager. It has been security-enabled and accesses data in the sales order master (so_mstr) and the accounts receivable master (ar_mstr) files.

Fig. 3.3 Program Information Maintenance (36.3.21.1)



To create program information records:

1. Enter a custom program name. Press Go to continue.
2. Optionally, enter a GIF file name for an alternate menu option icon. Press the Tab key.
3. Set the Web Logic Implemented field to Yes. Press the Tab key.
4. Set the Security Logic Implemented field to Yes. Press the Tab key.
5. Set the Security Enabled field to Yes if the program is to execute with security checking. Press the Tab key.

6 Enter the database tables associated with record creates, deletes, reads, and writes in the appropriate columns. Press the Enter key to insert each table. Press Go to save the record.

Note More than one table can be entered in each column.

Setting Up Control File Parameters

Use the Web Security Control File (36.3.21.24) to enable or disable user restriction and set up program restriction at the highest level. You should decide how you want to control user and program access, and at what level, early in the formulation of your Web security scheme.

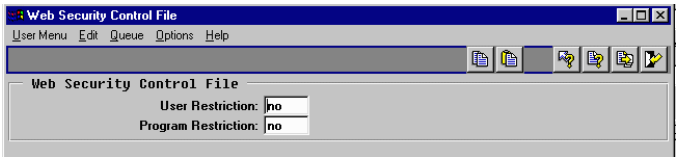


Fig. 3.4
Web Security Control File (36.3.21.24)

User Restriction. When No, user access to MFG/PRO from NetUI is controlled by standard MFG/PRO security features. When Yes, users must be defined in User Group Security Maintenance (36.3.21.18) and User Maintenance (36.3.18) in order to log into MFG/PRO from NetUI.

Program Restriction. When Yes, users can only access the secured programs associated with their group profiles, as defined in Profile Program Maintenance (36.3.21.9). When No, users can execute any program authorized by MFG/PRO menu-level security.

The initial value of these two fields is No, enabling any user to access NetUI and run any program. In this case, only standard MFG/PRO security options and menu-level security determine who can log into MFG/PRO and execute programs.

You can leave the Program Restriction flag set to No in the control file and enable it at a lower level during security setup. Program restriction can be set in three other programs:

- Profile Maintenance (36.3.21.29)
- Group Maintenance (36.3.21.14)
- User Group Security Maintenance (36.3.21.18)

If you set Program Restriction to Yes in the control file, you do not need to set it at a lower level; it automatically applies to all users. If a user belongs to more than one group and the group program restriction is enabled for any one of them, this has the same effect as setting it for all groups.

Example In the sample Web security scheme, the majority of NetUI users are on a corporate intranet and currently have full access to data in MFG/PRO. Setting up individual records for these users would be unnecessary. However, the external users (salespeople) need to be restricted. To accomplish this, leave the control file parameters set to their default values, but define program restriction at the profile level.

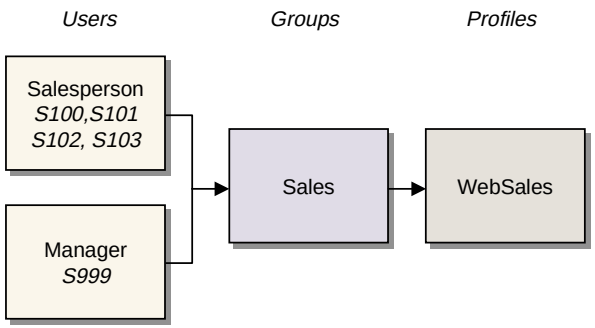
Table 3.4
Sample Control File Setup

Parameter	Setting
User Restriction	No
Program Restriction	No

Defining Profiles

As you develop your security scheme, start by thinking of sets of users and the programs they need to run. Figure 3.5 represents the users, group, and profile that would be defined to complete the requirements of the Web security example.

Fig. 3.5
Users, Groups, and Profiles



Example The profile created in the sample security scheme is WebSales. Use Profile Maintenance to create this record. Since program restrictions are required for these users, set Profile Program Restriction to Yes for this profile.

When you assign a name to a set of users, the programs they use, and the method you use to restrict database access, you have created a profile. In a scheme that incorporates program or record restrictions, users must be associated with a profile.

To complete the entire process of setting up profiles you must:

- Specify the profile name and determine if program restriction applies to the profile.
- Associate programs with the profile.
- Optionally specify rules that determine which database records can be accessed.

Use Profile Maintenance (36.3.21.7) to create and update profiles. Enter a profile name, a description of the profile, and optionally set the profile program restriction to prevent users associated with the profile from executing any other program that is not associated with it.

Tip
If program restriction is set in the Web Security Control File, you do not need to set it here.

Later you can use Profile Program Maintenance (36.3.21.9) to assign programs to each profile. If you are using rules, you can use Profile Program Rule Maintenance (36.3.21.11) to assign programs and link rules to the programs associated with a profile.

If you need to create a number of similar profiles, you can streamline the process. Use the Profile Copy Utility (36.3.21.23.19) to copy profile programs and, optionally, profile program rules from one profile to another.

See “Profile Copy Utility” on page 85.

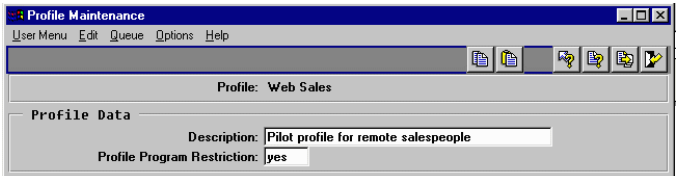


Fig. 3.6
Profile Maintenance (36.3.21.7)

1. Enter a profile name. Press Go to continue.
2. Enter a profile description, up to 45 characters. Press Tab to access the Profile Program Restriction field.
3. Enter Yes to set the Profile Program Restriction flag.

- When Yes, users associated with the profile are restricted to the secured programs defined in Profile Program Maintenance (36.3.21.5) and the database records defined by the profile rules.
- When No, users can access any program authorized by MFG/PRO menu-level security.

4 Press Go to save the profile.

Defining Web Security Groups

Tip
Remember, there is no relationship between Web groups and MFG/PRO groups.

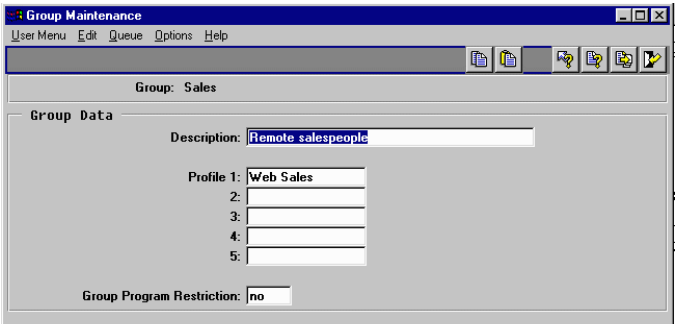
Web security groups enable you to refine the profile concept by subdividing the profile users. In many cases, a single group is associated with a profile. The profile and group can have the same name, such as profile Customer and group Customer. All users in the group access the same programs. You can still apply different methods to restrict database access, using user-level criteria.

A group is not limited to one profile. The set of activities performed by a group can span several functions, each divided into profiles. Group definition must then reference all the profiles.

Example The Web security example has one group named Sales that references profile WebSales. Since program restriction is already set for profiles, it does not have to be set again for groups.

To create a group, complete the following steps.

Fig. 3.7
Group Maintenance (36.3.21.14)



1 Enter a group name. Press Go to continue.

2 Enter a description of the group, up to 45 characters. Press Tab to continue.

3 Associate one or more profiles with the group. You must specify at least one profile—and up to five—for the group.

4 Enter Yes to set the Group Program Restriction flag.

- When Yes, users in the group are restricted to the secured programs defined in Profile Program Maintenance (36.3.21.5) and the database records defined by the profile rules.
- When No, users in the group can access any program authorized by MFG/PRO menu-level security.

5 Press Go to save the group.

Tip
For a user with multiple groups, setting the group program restriction for one of them has the same effect as setting it for all groups.

Assigning Users to Groups

Users must be defined in standard MFG/PRO prior to implementing Web security. Use User Maintenance (36.3.18) to define users.

See *User Guide Volume 11: Manager Functions* for details.

Once users exist, use User Group Security Maintenance (36.3.21.18) to assign them to between one and five Web security groups and set the user program restriction. Setting the user program restriction prevents the user from executing any program that is not authorized by the session profile.

Not every company needs to define users in User Group Security Maintenance. If program access for users is adequately controlled by MFG/PRO menu-level security and you do not want to implement record-level security, you do not need to assign users to Web security groups. This can be the case when NetUI is used in an intranet environment.

Example In the sample Web security scheme, each user is assigned to the Sales group.

To assign users to groups, complete the following steps.

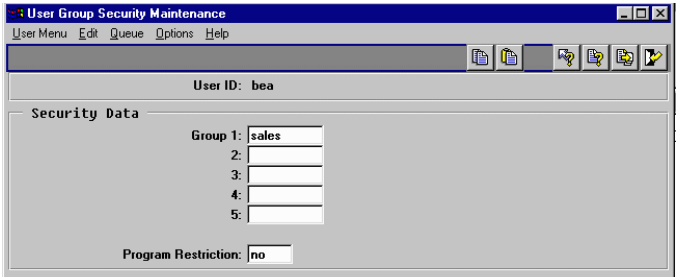


Fig. 3.8
User Group Security Maintenance (36.3.21.18)

1 Enter a valid user ID previously defined in User Maintenance (36.3.18). Press Go to continue.

2 Specify a group name. At least one group—and up to five—must be specified.

Tip
If program restriction is set at any other level (control file, profile, group), it is unnecessary to set it here as well.

3 If needed, enter Yes to set the User Program Restriction flag.

- When Yes, this user is restricted to the secured programs defined in Profile Program Maintenance (36.3.21.9) and the database records defined by the profile rules.
- When No, this user can access any program authorized by MFG/PRO menu-level security.

4 Press Go to save the user information.

Associating Programs with Profiles

Use Profile Program Maintenance (36.3.21.9) to associate programs with profiles. Only programs defined as Web-enabled in Program Information Maintenance (36.3.21.1) can be specified. This step is required if program restriction is set or if you want to use rules to limit record access.

See “Associating Rules with Programs” on page 78.

Note Programs can also be associated with profiles as part of Profile Program Rule Maintenance (36.3.21.11).

If program or record restriction is not in effect, you do not have to associate programs with a profile. In this case, access to programs is based on MFG/PRO menu-level security and all database records are accessible.

Example In the sample security scheme, both program and record access applies to external users. The WebSales profile authorizes three programs: the custom sales report (custom), Sales Order Browse (sobr009), and Sales Order by Item Report (sosorp02). To do this, use Profile Program Maintenance to create the records listed in Table 3.5.

Table 3.5
Sample Profile Programs

Profile	Program
WebSales	custom
WebSales	sobr009
WebSales	sosorp02

Figure 3.8 illustrates the Web security scheme after assigning programs to profile WebSales.

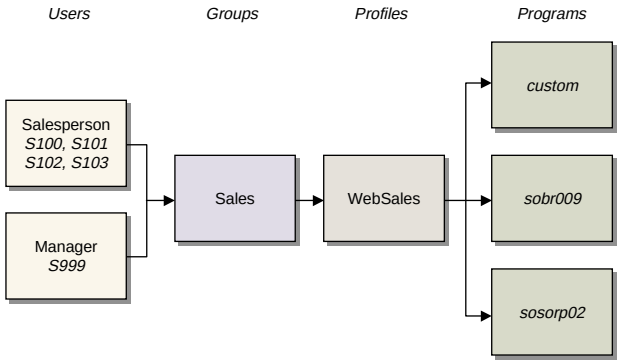


Fig. 3.9 Assigning Programs to Profiles

To associate programs with profiles, complete the following steps.

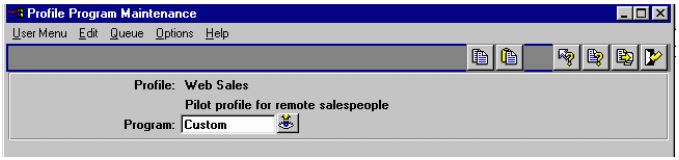


Fig. 3.10 Profile Program Maintenance (36.3.21.9)

1. Enter a profile name previously created in Profile Maintenance (36.3.21.7).
2. Enter a Web-enabled program name defined in the program information file. Press Go to save the record.

Setting Up Rules

Database tables can be restricted at a record level through security rules linked to programs. Creating Web security rules is the most complex process in Web security implementation. Basically, rules are used to qualify access to the data stored in database tables.

Rules are linked to programs, which are in turn associated with profiles. The same rule can be linked to more than one program, as long as the programs reference the same table. Under the same condition, a program can be linked to more than one rule.

When a user with a profile executes a program associated with the profile, the system checks to see if any rules are linked to the program. If a rule exists, the system determines how the rule applies to this user. Only records that meet the conditions of the rule are available to the user. This process can also be described as passing the security check or that the rule evaluates to true.

Before you set up any rule, you should plan:

- The profiles affected by the rule. A rule can be assigned to multiple profiles.
- The MFG/PRO programs that can use the rule. A rule can be assigned to multiple programs, in the same or different profiles.
- The database tables associated with these MFG/PRO programs.

See "Defining Program Information" on page 61.

To define programs, tables, and fields for use in Web security, you may need to refer to the *MFG/PRO Database Definitions* and *File Relationships* manuals. You can also use Program Information Maintenance (36.3.21.1) or Browse (36.3.21.2) to display associated tables.

Web security supports three types of rules: field rules, logical rules, and dual rules. All three types are set up in Rule Maintenance (36.3.21.3).

- Field rules qualify record access by comparing values of table fields with the values of rule constants.

  Tip
  You can predefine constants in Constant Maintenance (36.3.21.5).

  Field rules include a field from the table, an operator, and the name of an existing or new constant. If the constant is new, you are prompted for a description, and a record is added to the constant file. The data type of the constant is set to the data type of the field.
- Logical rules control data access without using a field value within the database record. Logical rules are composed of a constant only. Record access is controlled by setting the group or user constant value of the logical constant to Yes or No. If Yes, all records are accessible. If No, none are accessible.
- Dual rules join two other rules with an operator. Both rules must reference the same table. Dual rules can be used to create complex access logic. The component rules can be field, logical, or other dual rules.

Important Rules are always associated with a table—even logical rules, which do not directly reference a table field. In order for more than one program to be able to use a rule, the program must have a table that matches the table of the rule.

Multiple Rules

You may need to define multiple rules to restrict access appropriately. For example, access may depend on the value of both the site and the customer ID. It is not always necessary to create dual rules to accomplish this objective.

If you create two rules and simply assign them to the same program, MFG/PRO automatically assumes that all the rules apply and the user must pass security checking on *both* rules in order to access a record**.**

If you need to specify multiple criteria that are not additive, you must set up a dual rule.

Setting Up Rules for the Security Example

In the example Web security scheme, there are multiple salespeople in the Sales group. The security administrator wants to accomplish these goals:

1. Allow only the manager to execute the custom program.
2. Ensure that salespeople can only see their own orders.
3. Allow the manager to see all orders.

To complete this setup requires three rules, one of each type. Each rule references the sales order master table (`so_mstr`), so they can be used together.

Sample Logical Rule

The first condition requires a logical rule. The criteria for the custom report—that only the manager has access—does not exist in any field within so_mstr. The criteria *can* be represented by a logical rule, linked to the custom program so that only the manager has access to the program and all database records.

The logical rule is linked to the custom report.

Sample Field Rule

To create the second condition requires a rule authorizing records based on the salesperson's ID. An array (so_slspsn[4]) within the sales order master contains this data. Although the array has four elements, the first field contains the primary salesperson. A field rule can reflect this criteria.

To do this, the administrator creates a field rule called Field1, using the field so_slspsn[1] and a constant called SALESID.

Note If the rule referenced so_slspsn, any one of the four salespersons would be considered a match. In this case, since the administrator only wants the primary salesperson to have access, he specifies the field and the first position in the array.

If this rule were directly linked to a program, however, it would exclude the manager from seeing any records, since the manager is never a primary salesperson.

Sample Dual Rule

To handle both sales staff and the manager requires a dual rule. The dual rule references both the logical rule and field rule joined by the OR operator.

If either of the component rules is true for a user, the record passes security checking and is available in the browse or report. The dual rule is linked to Sales Order Browse and Sales Order by Item Report.

Final Sample Rule Setup

Table 3.6 summarizes the three rules required for the sample security scheme.

Table 3.6
Example Rules

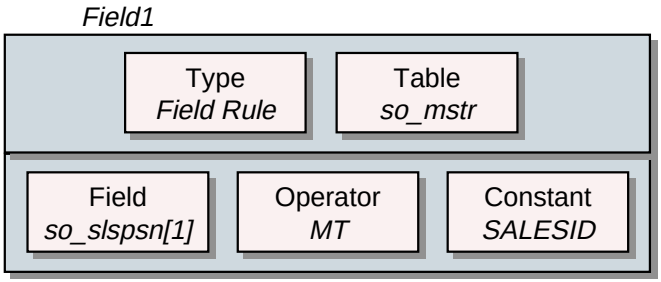
Rule	Type	Table	Field/Rule	Operator	Constant/Rule
Logical1	Logical	so_mstr			MANAGER
Field1	Field	so_mstr	so_slspsn[1]	MT	SALESID
Dual1	Dual	so_mstr	Logical1	OR	Field1

The following sections show how these rules are created in more detail.

Field Rules

Field rules consist of three elements: a field, an operator, and a constant.

Fig. 3.11
Sample Field Rule



Field

Fields are components of database tables, such as po_site, ca_status, and cm_class. They identify the part of the database that is used to qualify a record.

If a field is an array, it can contain more than one value. Use the field without a number to indicate that any value in the array matches. Use the field name with a number to designate the value at a particular position.

See “Sample Field Rule” on page 72.

Operator

Operators include Boolean operators (=, <, >, <>, and so on), as well as those listed in Table 3.7.

Use the range operator when you need a mix of both specific values (From=1000, To=1000) and values ranges (From=1000, To=9999).

Table 3.7
Operator Mnemonics

Mnemonic	Description
BG	Begins With
EQ	Equal to (=)
GE	Greater than or equal to (>=)
GT	Greater than (>)
LE	Less than or equal to (<=)
LT	Less than (<)

Mnemonic	Description
MO	Member of
MT	Matches
NE	Not equal to (<>)
RE	Range Exclusive
RI	Range Inclusive

Constant

A constant is a generic variable that is assigned a specific value at the group or user level. The system compares the value of the constant with the value of the database field when it evaluates the rule. The value of a constant can be assigned at either a group or user level, or both.

Constants are created in two ways:

See “Defining Constants” on page 79.

1. Directly, using Constant Maintenance (36.3.21.5).
2. Indirectly, when creating a rule with Rule Maintenance (36.3.21.3).

Constants can be character, decimal, integer, logical (yes/no), or date. When setting up field rules, the system automatically sets the constant data type to match the data type of the associated table field.

Creating Field Rules

To create a field rule, complete the following steps.

Fig. 3.12 Creating a Field Rule in Rule Maintenance (36.3.21.3)

1. Enter a rule name. Press Go to continue.
2. Enter a description of the rule, up to 50 characters. Press Go to continue.
3. Select the Field Rule radio button. Press Go to continue.
4. Enter the name of the table with which the rule is associated.
5. Enter a field from the table specified in the previous step.
6. Enter an operator.

7 Enter one or more constants. Press Go to continue.

If a new constant is specified, enter a description of the constant in the pop-up window.

Logical Rules

In some cases, it may be important to exclude users from record access unrelated to a value within the records. Use logical rules to do this.

In a logical rule, the only component is a logical constant. However, like other Web security rules, logical rules also reference a table even though they do not reference a table field. This ensures consistency when creating and applying rules. It also means that when the logical rule is used in combination with other rules, the tables must match.

Record access is determined from the corresponding logical constant value, assigned at either a group or user level. If the value of the logical constant is Yes, access to all records is authorized. A value of No restricts access to all records.

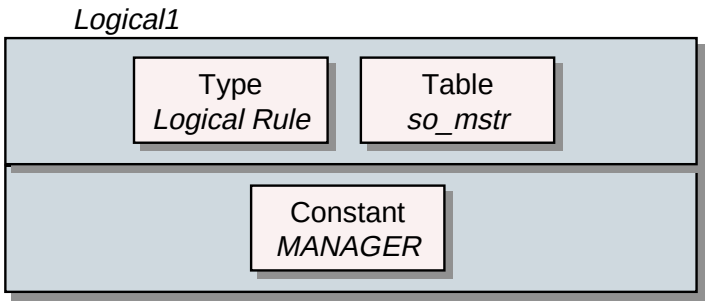


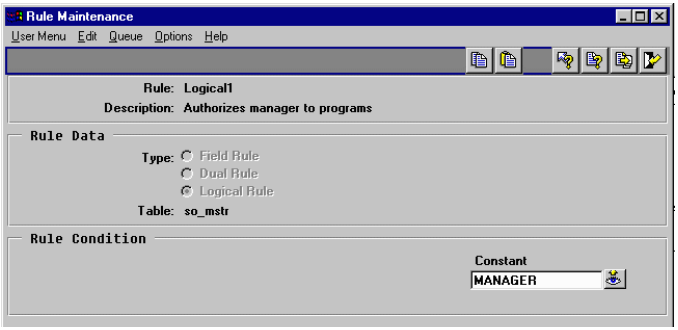
Fig. 3.13 Sample Logical Rule

One use of logical rules is to restrict access for individual users when the database itself contains no inherent criteria for exclusion. In the Web security example, a logical rule is used to allow the manager special access. The value of the logical constant is No for the group, but Yes for the manager.

Creating Logical Rules

To create a logical rule, complete the following steps.

Fig. 3.14
Creating a Logical Rule in Rule Maintenance (36.3.21.3)



1. Enter a rule name. Press Go to continue.
2. Enter a description, up to 50 characters. Press Go to continue.
3. Select the Logical Rule radio button. Press Go to continue.
4. Select a database table name. Press Go to continue.
5. Enter a constant. Press Go to continue.

   If a new constant is specified, enter a description of the constant in the pop-up window.

Tip
You can also create and update constants in Constant Maintenance (36.3.21.5).

Dual Rules

Dual rules join two other rules with an operator. The component rules can be field, logical, or other dual rules. However, each component rule must reference the same table. Use dual rules to create complex access logic.

The operator can be: AND, OR, or XOR.

- Use the AND operator when both rule components must be true. The effect of using the AND operator is the same as simply assigning both rules to the same program.
- Use the OR operator when either one rule component or the other must be true for user access to be granted. Access is denied only if both are false.

- Use the XOR operator when only one of the two rule conditions can be true for access to be granted. If both rules are true, access is denied.

Figure 3.15 illustrates the dual rule required in the Web security example.

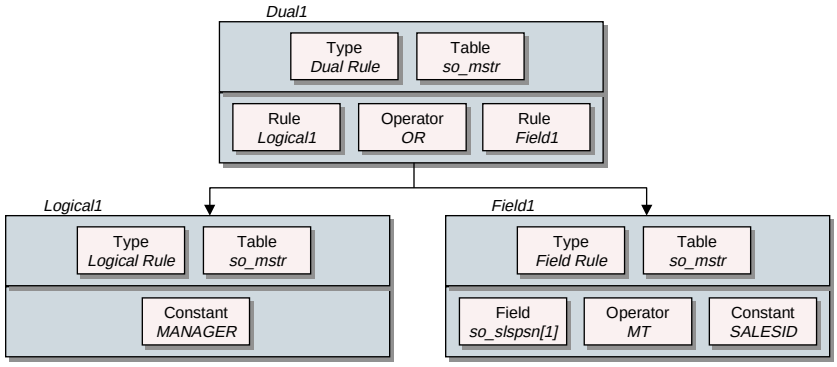


Fig. 3.15
Sample Dual Rule

When dual rules are used within a dual rule, each component rule is evaluated as if it is enclosed in parentheses.

Creating Dual Rules

To create a dual rule, complete the following steps.

Fig. 3.16
Creating a Dual Rule in Rule Maintenance (36.3.21.3)

1. Enter a rule name and a description, up to 50 characters. Press Go to continue.
2. Select the Dual Rule radio button. Press Go to continue.

3 The Table field is display only. After you enter the first rule in the Rule Condition frame, the system displays the table associated with it.

4 Enter an existing rule. Press Go to continue.

5 Enter the appropriate operator: AND, OR, XOR.

6 Enter another existing rule. Press Go to save the rule.

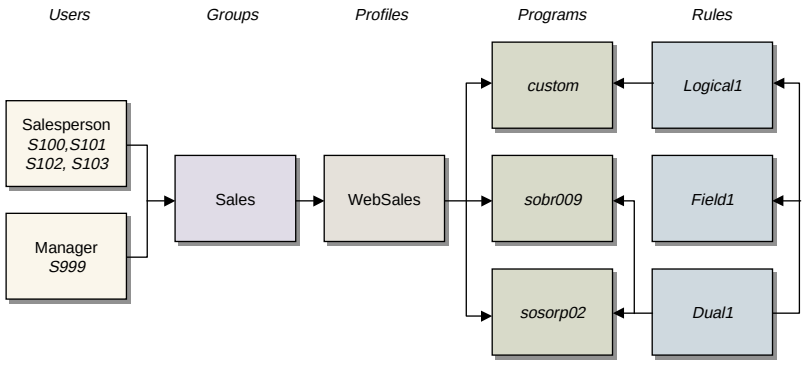
Associating Rules with Programs

Tip
If you assign more than one rule to a profile program, they are combined with a logical AND at run time.

After you have created the rules you need to qualify database access, you must assign them to programs in the appropriate profiles.

Important If a profile program does not have any associated rules, no database restrictions apply. In this case, users are able to access all records.

Fig. 3.17
Assigning Rules to Programs



Use Profile Program Rule Maintenance (36.3.21.11) to associate rules with programs in a profile. Select a profile name, a Web- and security-enabled program, and a rule name. Then indicate whether database records can be created, read, written, or deleted.

Note Currently, only the Read category is functional, since only standard MFG/PRO reports, browses, and inquiries are Web-enabled.

To associate rules with programs in a profile, complete the following steps.

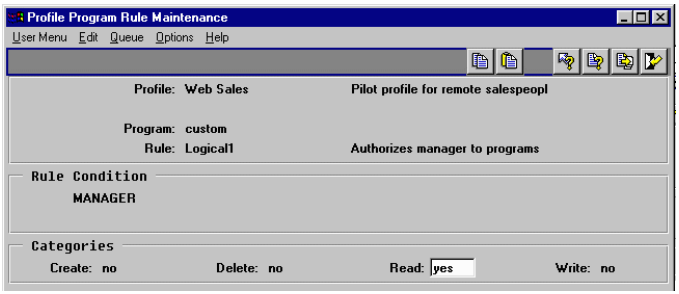


Fig. 3.18
Profile Program Rule Maintenance (36.3.21.11)

1. Enter the name of a profile previously defined in Profile Maintenance (36.3.21.7).
2. Enter the name of a Web-enabled program already defined in Program Information Maintenance (36.3.21.1).
3. Enter the rule name. Press Go to continue. The system displays the rule conditions. The rule must reference a database table associated with the program specified.
4. Enter Yes or No for Read to use this rule for qualifying database record reads.

Tip
You can also assign programs in Profile Program Maintenance (36.3.21.9).

Tip
Currently, Create, Delete, and Write are not active.

Defining Constants

A constant is a variable that identifies a category of data affected by a rule. Examples of constants include user name, group name, customer number, and site code.

Constants are created in two ways:

1. Directly, using Constant Maintenance (36.3.21.5).
2. Indirectly, when creating a rule with Rule Maintenance (36.3.21.3).

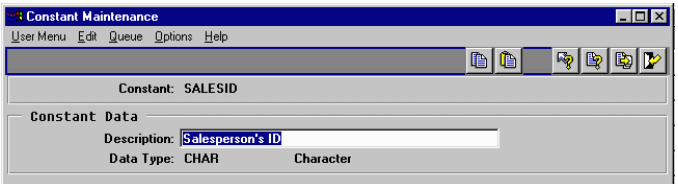
Constants have a name and an associated data type. Data types are the same as field types within MFG/PRO tables: character, decimal, integer, logical, or date. When you create a constant in Constant Maintenance, you specify the data type. When you create a constant in Rule Maintenance, the data type is determined by the rule:

- For a logical rule, the constant data type must be logical.

- For a field rule, the data type must be the same as the field being referenced. Since the field is specified first, the constant data type is implied.

To create a constant using Constant Maintenance (36.3.21.5), complete the following steps.

Fig. 3.19 Constant Maintenance (36.3.21.5)



1. Enter a constant name, up to 24 characters. Press Go to continue.
2. Enter a description of the constant, up to 60 characters.
3. Enter the constant data type. Valid choices are:
   - CHAR (character)
   - DATE (date)
   - DECI (decimal)
   - INTE (integer)
   - LOGI (logical)

   You cannot modify the data type associated with a constant once it is used by a rule.
4. Press Go to save the record.

Specifying Constant Values

When constants are defined as components of rules, they have no associated value. In order for the rule to be evaluated, however, the constant must have a specific value. Constants are assigned a value in two ways:

- Specifying a value that applies to all members of a group.
- Specifying a value that applies only to an individual.

Users are assigned the constant value associated with their group. Since exceptions may exist for certain members of a group, a precedence rule is used. User constant values, if assigned, take precedence over group constant values.

Tip
To ensure Web security, if a group or user constant value is not defined for a particular user, the program does not execute.

Note To minimize record creation, follow this rule for logical constants. When fewer users are authorized than are not, set the group value of the logical constant to No. Create user constant value records to set the logical constant to Yes where needed.

Specifying Constants for the Security Example

The Web security example required the three rules listed in Table 3.8, associated with the sales order master (so_mstr).

Table 3.8
Example Rules

Rule	Type	Table	Field/Rule	Operator	Constant/Rule
Logical1	Logical	so_mstr			MANAGER
Field1	Field	so_mstr	so_slspsn(1)	MT	SALESID
Dual1	Dual	so_mstr	Logical1	OR	Field1

These rules have no effect until values for the rule constants exist.

Constants for Logical1

The logical rule must be true for the manager, allowing the manager to access any record from the custom program. It must be false for the sales staff, preventing them from accessing any records, which effectively prevents them from executing the program.

To accomplish this, set a group constant value for MANAGER of No for the Sales group, which includes the manager. Then, create a user constant value override of Yes for the manager.

Table 3.9
Example Logical Constant Values

Type	Applies to...	Constant	Value
Group Constant	Sales Group	MANAGER	No
User Constant	User S999	MANAGER	Yes

You can accomplish the same effect by setting the user constant value of MANAGER to No for the four salespeople and Yes for the manager.

However, this approach is less efficient, requiring five records instead of two.

Constants for Field1

The field rule constant (SalesID) must have a different value for each salesperson, so it cannot be set at the group level. The value set must be the salesperson's ID, which is the same as the user logon ID. Set user constant values as shown in Table 3.10.

Table 3.10 Example Field Constant Values

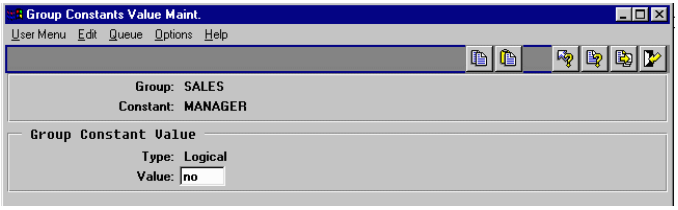
Type	Applies to...	Constant	Value
User Constant	S101	SALESID	S101
User Constant	S102	SALESID	S102
User Constant	S103	SALESID	S103
User Constant	S104	SALESID	S104

A value for SalesID is not set for the manager, who can access all records on the basis of the logical rule. The dual rule uses the OR operator, which means that either one or the other rule must be true to access a record. For the manager, the value of Yes for the logical constant ensures that every record passes security checking.

Defining Group Constant Values

To create group constant values, use Group Constants Value Maintenance (36.3.21.16). You enter a group and constant name along with a group constant value.

Fig. 3.20 Group Constants Value Maintenance (36.3.21.16)



1. Enter a group and constant name. Press Go to continue.
2. The data type of the constant displays.

3 Enter the value. What you can enter for a value depends on the data type. For example, for a logical constant, valid values are Yes and No only.

4 Press Go to save the group constant.

Defining User Constant Values

To create user constant values, use User Constants Value Maintenance (36.3.21.20). You enter a user ID, a constant name, and a user constant value. User constant values, if assigned, always take precedence over group constant values. When a user constant value does not exist, the user is assigned the constant value of their group.

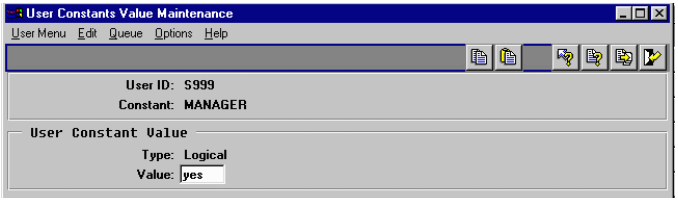


Fig. 3.21
User Constants Value Maintenance (36.3.21.20)

1 Enter a user and constant name. Press Go to continue.

2 The data type of the constant displays.

3 Enter the value. What you can enter for a value depends on the data type. For example, for a logical constant, valid values are Yes and No only.

4 Press Go to save the user constant.

Reports and Utilities

Use the reports on the Reports and Utilities Menu (36.3.21.23) to view and validate your Web security scheme. Many of these reports have features that can be very useful during setup. For example, User Profile Program Rule Report marks constants without values. Any rules using these constants cannot be evaluated, so all users will be denied access.

Security Reports

Table 3.11 lists each report with a brief description. Other browses are listed in Table 3.2 on page 58.

Table 3.11 Web Security Reports

Menu Label	Menu #	Description
Profile Master Report	36.3.21.23.1	Report of profiles.
Profile Where-Used Report	36.3.21.23.2	Report of profiles and the groups that reference them.
Profile Program Rule Report	36.3.21.23.3	Report of the rules referenced by each profile program, sorted by program within profile.
Profile User Report	36.3.21.23.4	By profile and group, lists each user and the settings of the program restriction flags.
Constant Master Report	36.3.21.23.5	Report of constants and constant types.
Constant Where-Used Report	36.3.21.23.6	Report of rule constants and the rules, profiles, and programs that use them.
Group Master Report	36.3.21.23.7	List of groups, their descriptions, the program restriction flag settings, and the profiles they reference.
Group Constants Value Report	36.3.21.23.8	By group, lists each constant and its assigned value.
Program Constant Report	36.3.21.23.9	By profile, reports the rules associated with each program and the value of the constant components.
Rule Master Report	36.3.21.23.10	Detailed report of each security rule, table, and rule components.
Rule Where-Used Report	36.3.21.23.11	Report of security rules, their components, and the profile programs that reference them.
User Constants Value Report	36.3.21.23.13	For each user, lists the values of all constants that have been assigned through User Constants Value Maintenance (36.3.21.20).
User Profile Report	36.3.21.23.14	By profile, reports all users assigned to each group.

Menu Label	Menu #	Description
User Profile Program Rule Report	36.3.21.23.15	Report of program rules assigned to each program with the user evaluation criteria. Constants that have not yet been defined are flagged.
Buffer Where-Used Inquiry	36.3.21.23.16	Displays which programs use a database table (buffer).

Security Utilities

Currently, two utilities are provided to streamline security setup tasks.

- Use Program Information Update (36.3.21.23.18) to add custom programs to the program information file.
- Use Profile Copy Utility (36.3.21.23.19) to copy profile programs and, optionally, profile program rules from one profile to another.

Program Information Update

Use Program Information Update to automatically add records for custom programs to Program Information Maintenance (36.3.21.1). Use this utility as an alternative to manually adding records. It is especially useful for initially populating records with referenced tables.

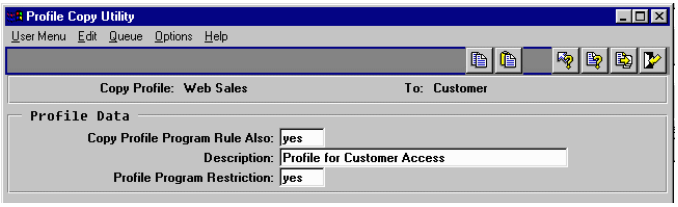
Fig. 3.22
Program Information Update (36.3.21.23.18)

Profile Copy Utility

Use the Profile Copy Utility to create new profiles based on existing ones. All information associated with the profile is copied, including programs and rules. This is useful if you have similar profiles that differ only in the particular programs or rules applied.

To copy a profile, complete the following steps.

Fig. 3.23
Profile Copy Utility
(36.3.21.23.19)



1. Enter an existing source profile in the Copy Profile field.
2. Enter the profile to be created in the To field.
3. Indicate whether you want rules to be copied with other profile information.
4. Enter a description for the profile to be created during the copy.
5. Indicate whether the profile program restriction flag should be set for the new profile.
6. Press Go to complete the operation.

Run-Time Processing

Once a Web security scheme is implemented, the system determines user access based on the conditions you have defined. How the system determines run-time access follows the three decision points discussed in the introduction:

- Can the user log in?
- Can the user run a program?
- Can the user access a record?

User Sign-On

Figure 3.24 illustrates how the system answers the first question.

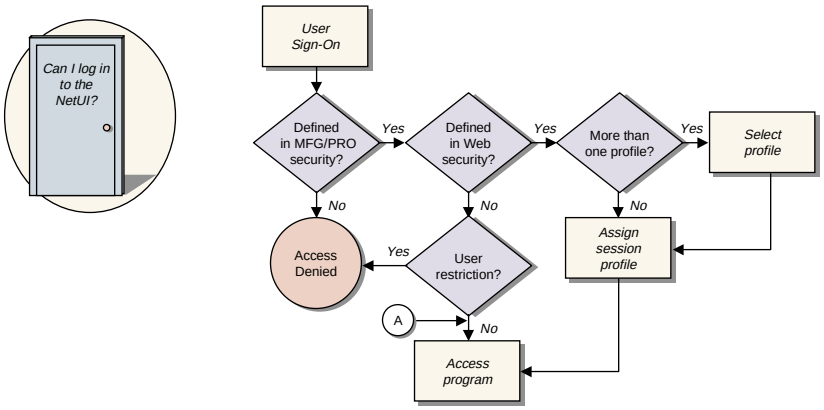


Fig. 3.24
User Sign-On Access Logic

The system first checks the standard MFG/PRO security settings in the Security Control File (36.3.24). If the Security Option is Both, both a user ID and password are required or access is denied.

Then, the system determines if the user is defined in User Group Security Maintenance (36.3.21.18). If the user is defined in Web security, the session profile associated with the user's group is assigned. Users with more than one group or more than one profile must select the profile they want to use during the current session.

See "User Security Profile" on page 13.

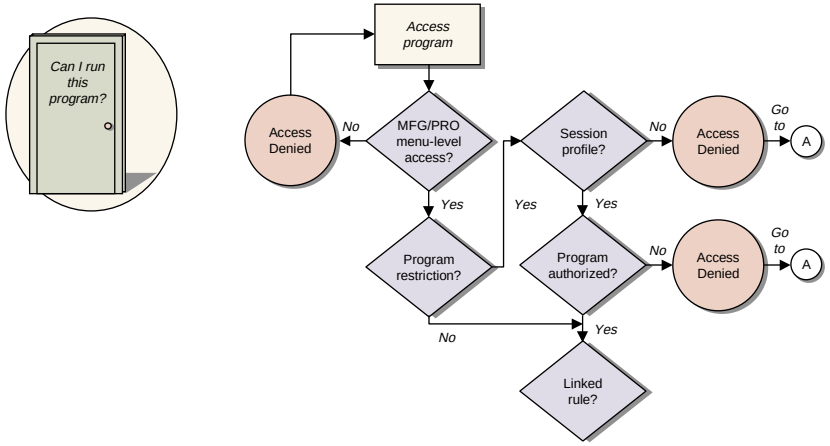
If the user is not defined, user authorization is controlled by the value of User Restriction in the Web Security Control File (36.3.21.24). If it is Yes, access is denied. Otherwise, the user can continue into NetUI and select programs from the NetUI menu system.

Note In Figure 3.24, the letter A represents the point of return during later decisions, discussed in the next section.

Program Access

Figure 3.25 illustrates how the system answers the second question.

Fig. 3.25
Program Access Logic



Initial program access is determined by standard MFG/PRO menu-level security. If this is No, access is denied.

Next, the system checks the Program Restriction field in the Web Security Control File (36.3.21.24). If program restriction is enabled and the user does not have a session profile (determined during log in), access is denied.

If a session profile exists, the system checks for an appropriate record in Profile Program Maintenance (36.3.21.9). When a record exists, access to the program is authorized.

If no record is found, lower Program Restriction flags are checked for profile, group, and user. If none are enabled, the user can access the program; if any one is set to Yes, program access is denied.

Record Access

Figure 3.26 illustrates how the system answers the third question.

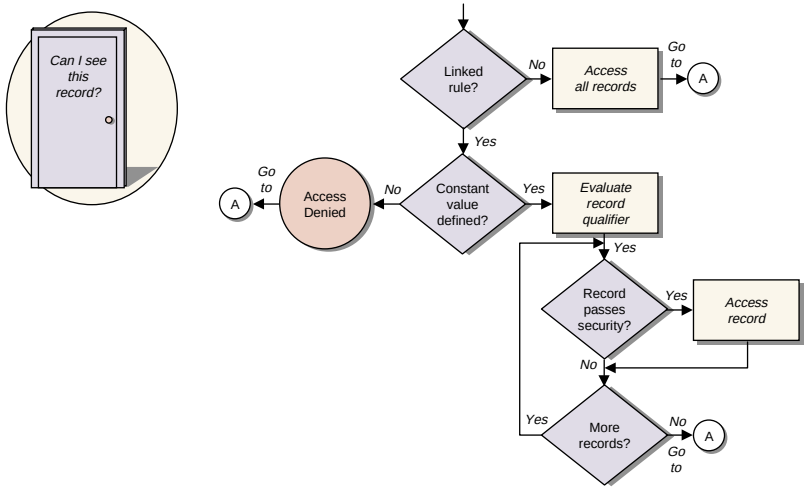


Fig. 3.26
Record Access Logic

If no session profile exists and the user is authorized to use a program, all database records are accessible. If a session profile exists, there are two possibilities:

- If no rules are associated with the program, all database records are accessible.
- If one or more rules are linked to the program, record access is defined by a record qualifier. The record qualifier is determined by all the rules. The user can access only those records that meet the evaluation criteria. Record action (Create, Read, Write, Delete) on those records is controlled by the categories defined in Profile Program Rule Maintenance (36.3.21.11).

Tip
Only Read is currently in effect.

CHAPTER 4

Setting Up the Network User Interface

This chapter discusses the programs used to perform setup tasks in NetUI.

Setup Overview

Table 4.1 lists the tasks and programs used to set up NetUI. These setup tasks are generally performed by a system administrator.

Table 4.1
Setup Tasks

Task	Program	Menu #	Reference
Create a standard MFG/PRO user record for each NetUI user.	User Maintenance	36.3.18	See *User Guide Volume 11: Manager Functions*.
Establish configuration settings for NetUI users.	User Option Maintenance	36.20.10.1	See the *Network User Interface Installation Guide*.
Establish configuration settings for maintenance programs.	User Option Telnet Maintenance	36.20.10.3	See the *Network User Interface Installation Guide*.
Optionally define user-menu URL links to intranet or Internet locations.	Menu URL Maintenance	36.20.10.8	See “Defining Menu-Level URL Links” on page 94.
Optionally define browse URL links to intranet or Internet locations.	Browse URL Maintenance	36.20.10.11	See “Defining URL Links for Browses” on page 95.
Verify that the URLs are correctly configured for MFG/PRO help and interface help.	Help URL Maintenance	36.20.10.13	See “Defining Help Menu URL Links” on page 98.
Configure the Web security settings.	Web Security Programs	36.3.21	See “Web Security” on page 51.

Menu Listing

The programs used to configure user settings and establish URL links are located on the Web Menu (36.20.10). Table 4.2 lists the functions available on this menu.

Table 4.2 Web Menu (36.20.10)

Number	Menu Label	Program
36.20.10.1	User Option Maintenance	mgusromt.p
36.20.10.2	User Option Browse	mgbr062.p
36.20.10.3	User Option Telnet Maintenance	mgusrtmt.p
36.20.10.4	User Option Report	mgusrrp.p
36.20.10.8	Menu URL Maintenance	mgurlmt.p
36.20.10.9	Menu URL Browse	mgbr220.p
36.20.10.11	Browse URL Maintenance	mgburlmt.p
36.20.10.12	Browse URL Browse	mgbr221.p
36.20.10.13	Help URL Maintenance	mghurlmt.p
36.20.10.15	Session Master Maintenance	mgsessmt.p

Defining User Settings

Before they can access and use programs in NetUI, users must have settings defined for them in User Option Maintenance (36.20.10.1) and User Option Telnet Maintenance (36.20.10.3).

User Option Maintenance defines settings that determine which options are available to users in browses, inquiries, and reports and how the system processes data in the NetUI.

User Option Telnet Maintenance defines settings for the Telnet sessions used to run maintenance programs in NetUI. You can also create log-in scripts to initiate these Telnet sessions.

Defining URL Links

Uniform Resource Locators (URLs) are text strings that indicate the location of an intranet or Internet resource. In NetUI, you can use URLs to access the resources associated with them.

Using functions on the Web Menu, you can define URL links to intranet or Internet locations.

- Links defined in Menu URL Maintenance (36.20.10.8) are accessible from the User URLs folder in the Program Menu.
- Links defined in Browse URL Maintenance (36.20.10.11) are accessible in the NetUI browse windows.
- Links defined in Help URL Maintenance (36.20.10.30) are accessible from the MFG/PRO Help and Interface Help options in the Help drop-down menu.

Defining Menu-Level URL Links

See page 33.

Use Menu URL Maintenance to establish URL links that users can access from the User URLs folder in the Program menu.

Fig. 4.1 Menu URL Maintenance (36.20.10.8)

User ID. Enter a user ID to associate with the specified URL link. To associate all users in the system with that link, enter an asterisk (*) in this field. The link only displays in the associated user's User URLs folder.

URL to Execute. Enter a URL to include in the User URLs folder for this user.

Description. Enter a descriptive label to associate with the specified URL. This label displays as a menu item in the User URLs folder for this user.

GIF File Name. Optionally enter the name of a graphic file saved in the Graphics Interchange Format to be used as an icon for the associated URL. Do not include the .gif extension.

Tip
If this field is blank, the standard QAD icon is used.

This .gif file should be placed on the Web server in a subdirectory named `images`, beneath the directory containing the Java Archive (JAR) file. Typically, the JAR file is in the `qad/java` subdirectory in the default documents directory. The .gif file image size should be approximately 24 x 24 pixels.

Defining URL Links for Browses

Use Browse URL Maintenance (36.20.10.11) to create URL links that users can activate from NetUI browse data windows.

See “Accessing URL Links” on page 42.

When a browse cell or a column contains a URL link, double-clicking on it launches a Web browser and displays the intranet or Internet resource associated with the URL.

Use Browse URL Maintenance to create links to information that is related to items in the browse, as in the following example.

Example You want to establish a URL link in the Purchase Order Browse from supplier ID GS10100 to the corresponding supplier’s company Web site, located at http://www.generalsupplies.com. To do this, enter the following values in Browse URL Maintenance.

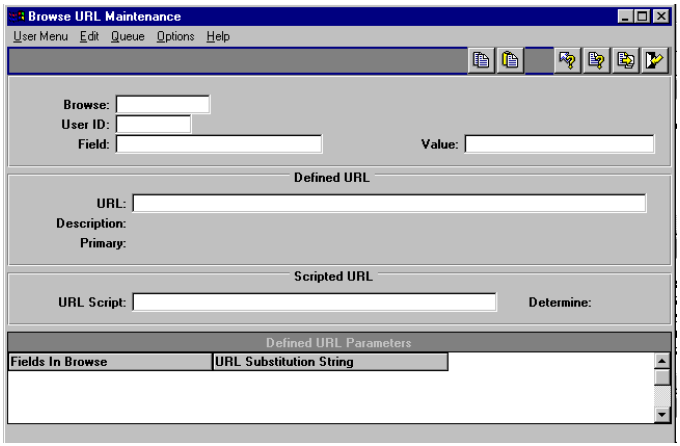
Table 4.3
Sample Field Entries

Field Name	Value
Browse	pobr006.p
User ID	*
Field	so_vend
Value	gs10100
URL	http://www.generalsupplies.com
Description	General Supplies Web Site
Primary	Yes

Using Browse URL Maintenance, you can:

- Associate one or more URLs with a single column or specific field value in a browse.
- Limit access to URLs by user, if required.

Fig. 4.2
Browse URL Maintenance (36.20.10.11)



Browse. Enter the name of the Web-enabled browse program to contain the specified URL link.

Entering an asterisk (*) in this field allows the specified URL to be associated with any Web-enabled browse in the system.

Example To associate a specific URL with the sales order number column in all NetUI browses, enter an asterisk in this field and specify the Sales Order column's corresponding field name (so_nbr) in Field.

Entering a value in this field automatically displays a list of valid values for Field in the Defined URL Parameters frame.

User ID. Enter a user ID to associate with the specified URL link. To associate all users in the system with that link, enter an asterisk (*) in this field.

Field. Designate the browse column in which you want to establish a URL link by entering the MFG/PRO field name associated with that column. Entering a value in the Browse field automatically displays valid values for this field in the Defined URL Parameters frame.

This field cannot be left blank.

Value. Specifying a value in this field associates the designated URL with every browse cell that contains that value and belongs to the browse column indicated in Field. Enter an asterisk (*) to associate the URL with every cell in the column.

URL. Specify a URL referring to an Internet or intranet location.

Tip
You cannot specify both a URL and a URL script.

URLs can contain special strings that are automatically replaced by field values in the browse. Selecting a link containing this type of string automatically replaces that string with the corresponding field value in the row.

Follow these steps to define this type of special string in a URL.

a Enter #b# to indicate the beginning of the string.

b After the #b#, enter an MFG/PRO field name associated with the specified browse.

c Enter #e# to indicate the end of the string.

Example The Web site for one of your primary suppliers contains a catalog of items. Entering an item's identifier at this Web site accesses the catalog entry for that item, containing information such as item cost, quantity available, and ship weight. To create links from MFG/PRO supplier item numbers to their corresponding catalog entries at the supplier's Web site, create the following URL:

http://www.generalsupplies.com/catalog/#b#vp_vend_part#e#

Then, associate it with the Supplier Item column in the Supplier Item Browse. After you establish this link, selecting a supplier item number in the Supplier Item Browse automatically inserts the selected field value. For example, selecting supplier item 10-1005 creates this URL:

http://www.generalsupplies.com/10-1005

The system then launches a Web browser to display the relevant catalog information for that item located at that URL address.

Description. Optionally enter a description to display when this URL is selected.

Primary. Enter Yes to indicate that the specified URL is the primary URL for a cell.

In browse data windows, right-clicking on a cell or column containing multiple URLs displays a list of all the URLs associated with that cell or column. The primary link displays at the top of the list and is the default link for the cell.

This value applies to defined (non-scripted) URLs only.

Tip
You cannot specify both a URL and a URL script.

URL Script. To associate the specified user, browse, column, field value, or combination of these with a custom URL script, enter the full path to the directory containing the custom script.

Note Scripts should be based on the supplied template urltempl.p, located in the source code directory, `/src/urltempl.p`.

Determine. Enter Yes to have the system run the specified custom URL script upon selection of the associated cell or column to determine whether that cell or column has an associated URL.

When this field is No, the script is not run and the designated column or cell is defaulted to having a URL.

Defining Help Menu URL Links

See "Help Menu" on page 31.

Use Help URL Maintenance (36.20.10.13) to establish URL links to policy or procedure documents. Users can then access these links from the MFG/PRO Help or Interface Help options in the Help drop-down menu. This allows you to supplement standard help with your own custom instructions.

To add your own documents to the MFG/PRO help or interface help menus, you must first do the following:

- Place the documents to which you want to create links on a Web server or an intranet or Internet site.
- If these documents reside on your Web server and are not HTML files, set up the document MIME types on your server.

Tip
For information on setting up MIME types, see your Web server documentation.

When you establish a URL link using this program, choosing the appropriate help option from the Help drop-down menu launches a browser to access the site or document to which the URL refers.

Example To create a help URL link to QAD's MFG/PRO documentation Web site, enter the following field values in Help URL Maintenance.

Table 4.4
Sample Field Entries

Field Name	Value
Type	HelpMFG
URL to Execute	http://support.qad.com/documentation/mfgpro/
Description	MFG/PRO Documentation Site

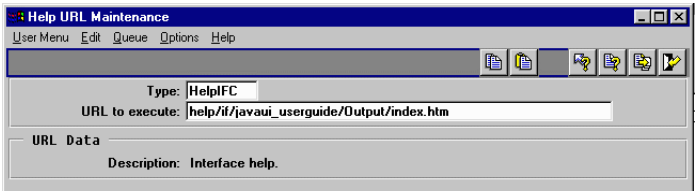


Fig. 4.3
Help URL Maintenance (36.20.10.13)

Type. Specify where the URL should display in the Help menu. This field cannot be left blank.

Valid entries are:

- HelpMFG: The help displays in the MFG/PRO Help section of the Help menu.
- HelpIFC: The help displays in the Interface Help section of the Help menu.

You can access standard MFG/PRO help by selecting the MFG/PRO Help option from the Help drop-down menu and interface help by selecting the Interface Help option.

See “Help Menu” on page 31.

URL to execute. Specify a URL referring to the Internet or intranet location of the document you want included in the help.

Description. Optionally enter a description to display when this URL is selected.

Glossary

Accelerator Keys. Keystroke equivalents to mouse actions. For example, you can exit MFG/PRO by selecting Exit from the Application menu or by pressing Alt+X. Accelerator key commands initially default to the standard Windows settings; however, in NetUI, you can change these defaults as needed.

Applet. See *Java Applet*.

Array. A field or variable with multiple elements, each element having the same data type.

Browse. An inquiry program that displays MFG/PRO records in a tabular format. Browse types in NetUI include standard (or menu-level) browses, look-up browses, and drill-down browses. Look-up and drill-down browses are associated with individual fields for use in selecting entry values. See also *Drill-Down Browse* and *Look-Up Browse*.

Browser. An application used to view and navigate the World Wide Web and other Internet resources. Common browsers include Microsoft Internet Explorer and Netscape Navigator.

Bytecode. Compiled Java code containing instructions to the Java virtual machine. The virtual machine, in turn, interprets these instructions so they can be performed by the system. See also *Java Virtual Machine (JVM)*.

CGI. See *Common Gateway Interface (CGI)*.

Character Interface. Sometimes abbreviated as CUI or CHUI, an interface to MFG/PRO that displays only keyboard characters on the screen rather than icons and buttons. In NetUI, all maintenance programs display in the character interface, while browses, reports, and inquiries display in a full graphical user interface. Compare with *Graphical User Interface (GUI)*.

Comma-Separated Values (CSV). Sometimes referred to as *flat files*, CSV files organize values as a series of ASCII text lines where each column value is separated by a comma from the next column's value and each row starts a new line. Data in CSV files can be conveyed as input to other table-oriented applications such as Microsoft Excel.

Common Gateway Interface (CGI). A standard way for a Web server to pass a Web user's request to an application program and to receive data in response, which it then forwards to the user. CGI is part of the Web's hypertext transfer protocol (HTTP). See also *HTTP (Hypertext Transfer Protocol).*

Constant. In Web security, a generic variable identifying a category of data affected by a rule. Constant values are used with rules to determine which database records users can access in MFG/PRO programs. See also *Rule*.

CSV. See *Comma-Separated Values (CSV)*.

Data Encryption. See *Encryption*.

Download Size. In NetUI browses, this is the number of records the browse window displays before the system notifies the server to retrieve more records.

Drill-Down Browse. A type of browse that is associated with individual fields for use in selecting entry values. In NetUI, drill-down browses only apply to fields in standard browses, inquiries, and reports. All other program types use look-up browses only. Compare with *Look-Up Browse*.

Encryption. Conversion of data into a form that cannot be easily intercepted by unauthorized people.

Embedded User Interface. In NetUI, an MFG/PRO interface designed to allow users to access MFG/PRO programs from a Web page. You can access only one program at a time in the embedded interface. Compare with *Full User Interface*.

Emulation. See *Terminal Emulation*.

Extranet. A private network designed to securely share portions of business information or operations with suppliers, partners, customers, or other businesses. An extranet can be viewed as part of a company's intranet that is extended to users outside the company. See also *Intranet*.

Field Tips. Context-specific references to fields consisting of the field name and its associated table name.

Full User Interface. In NetUI, an MFG/PRO interface characterized by a hierarchical tree menu and ability to access multiple programs simultaneously. Compare with *Embedded User Interface*.

Graphics Interchange Format (GIF). A graphics file format that is the industry standard for Web and Internet use.

Graphical User Interface (GUI). A user interface that presents computer actions and options as pictures, buttons, and icons. The most common example of a graphical user interface is Microsoft Windows. Compare with *Character Interface*.

Group. See *Web Security Group*.

GUI. See *Graphical User Interface (GUI)*.

HTML (Hypertext Markup Language). A tag-based ASCII language used to create pages on the World Wide Web. HTML uses codes surrounding a block of text to indicate how it should display. In HTML, you can also specify that a block of text, or a word, is linked to another file on the Internet.

HTTP (Hypertext Transfer Protocol). The set of rules for exchanging text, graphic images, sound, video, and other multimedia files on the World Wide Web. See also *Common Gateway Interface (CGI)*.

Interface. See *User Interface (UI)*.

Internet. A system of linked computer networks—international in scope—that facilitates data communication services such as remote log-in, file transfer, electronic mail, and newsgroups. The Internet is a way of connecting existing computer networks.

Intranet. A private network inside a company or organization that uses the same kinds of software found on the public Internet.

Internet Server Application Programming Interface (ISAPI). A program-level means of communicating with the Microsoft Internet Explorer Web server.

JAR File. See *Java Archive File (JAR)*.

Java. An object-oriented programming language created by Sun Microsystems. Java is a device-independent language. Programs compiled in Java can be run on any computer. Java programs can be run as free-standing applications or as applets placed on a Web page.

Java Applet. A small application program that can be sent along with a Web page to a user. Applets written in Java are served from a Web site but executed on the client computer.

Java Archive File (JAR). A file that contains the class, image, and sound components of a Java applet gathered into a single file and compressed for faster downloading to a Web browser.

Java Class. In object-oriented programming, a class is a template definition of the methods and variables in a particular kind of object.

Java Development Kit (JDK). A software development environment from Sun Microsystems for writing applets and applications in the Java programming language.

Java Plug-In. Software provided by Sun Microsystems that replaces the default virtual machine associated with a Web browser. Using the Java plug-in allows developers to deploy Java applets that depend on the latest features of the Java platform and be assured that their applets will run reliably and consistently in both Microsoft Internet Explorer and Netscape Navigator.

Java Virtual Machine (JVM). The part of the Java runtime environment responsible for interpreting bytecode. See also *Bytecode*.

Java Runtime Environment (JRE). A subset of the Java Development Kit for end users and developers who want to redistribute the Java runtime environment. The Java runtime environment consists of the Java virtual machine (JVM), the Java core classes, and supporting files.

JDK. See *Java Development Kit (JDK)*.

JRE. See *Java Runtime Environment (JRE)*.

JVM. See *Java Virtual Machine (JVM)*.

Look-Up Browse. A type of browse that is associated with individual program fields for use in selecting entry values. Look-up browses contain less detail than standard and drill-down browses and cannot be used to filter, graph, or print data. Compare with *Drill-Down Browse*.

Maintenance Programs. Programs used to add, modify, and delete records and codes in MFG/PRO. In NetUI, all maintenance programs display in the character interface.

Menu Substitution. Replacing one program with another on the MFG/PRO menu; for example, replacing a standard program with a customized version.

MIME (Multipurpose Internet Mail Extension). A protocol for exchanging different kinds of information on the Internet. The MIME header is inserted at the beginning of a Web transmission so that client programs can select the appropriate associated application.

Netscape Server Application Programming Interface (NSAPI). A program-level means of communicating with the Netscape Web server.

Network. A series of points or nodes interconnected by communication paths. The Internet is a common example of a network. See also *Internet*, *Extranet*, *Intranet*, and *Wide Area Network (WAN)*.

Operator. A symbol or mnemonic used to perform calculations or data comparisons—for example, =, <, AND, OR, and XOR.

Platform. An underlying computer system on which application programs run. Historically, most application programs had to be written to run on a particular platform. Products written in Java, however, are *cross-platform*, meaning they can be run anywhere the Java runtime environment is installed.

Profile. In Web security, a set of MFG/PRO programs grouped together to simplify security setup. Profiles are assigned to Web security groups. For example, a group consisting of salespeople might be assigned a profile consisting of only sales programs. See also *Web Security Group*.

Rule. In Web security, rules define conditions under which specific database records can be accessed by MFG/PRO programs. Types of rules include field rules, logical rules, and dual rules. Rules are associated with individual programs as part of Web security setup.

Script. A program or sequence of instructions that is interpreted or carried out by another program.

Security Group. See *Web Security Group*.

Security Profile. See *Profile*.

State-Aware. Describes the condition of a browse when a WebSpeed Agent is in use during the entire time it is open. This can happen when the user sorts browse data by a non-indexed field, the WebSpeed Agent returns a group of data that ends with a non-unique key, or the browse takes an unusually long time to begin returning data to the Web server.

TCP/IP. See *Transmission Control Protocol/Internet Protocol (TCP/IP)*.

Telnet. A user command and underlying TCP/IP protocol that lets you access applications and data on remote, or *host*, computers. See also *Transmission Control Protocol/Internet Protocol (TCP/IP)*.

Terminal Emulation. Use of a personal computer to interact with a computer with a different operating system. The terminal emulation program runs as a separate task with its own window. The application interface presented in this window is character-based or text-only.

Thin-Client. In a thin-client model, the client machine takes on only the user interface role. No business logic processing is accomplished on the client.

Tool Tips. Context-specific descriptions that display whenever your cursor is positioned over a tool button in NetUI.

Transmission Control Protocol/Internet Protocol (TCP/IP). The basic communication language or protocol of the Internet. It can also be used as a communications protocol for intranets and extranets.

UI. See *User Interface (UI)*.

User Interface (UI). The portion of an application that is visible to the user and the mechanism by which the end user interacts with the application, enters information into the application, and sees the results of the interaction.

Uniform Resource Locator (URL). A text string that indicates the location of an intranet or Internet resource.

WAN. See *Wide Area Network (WAN)*.

Web Browser. See *Browser*.

Web-Enabled. Refers to an MFG/PRO program that has code added to it so that it can be accessed from the NetUI. User interface actions in the PROGRESS code are bypassed and rerouted to the Java client.

Web Security Group. A category of users who typically access the same programs in NetUI. Using Web security, you can apply standard security settings to groups of users, then define exceptions for particular individuals within these groups as needed. See also *Profile*.

Web Site. A related collection of Web files that includes an introductory file called a home page. From the home page, you can get to all the other pages at that site.

WebSpeed. A product from PROGRESS Software consisting of two parts: a set of Web-centric development tools and a transaction Web server. The server manages high-volume database transactions across multiple servers.

Wide Area Network (WAN). Generally a corporate private network that connects computers between remote company sites.

Wildcards. Characters or symbols used in search or command functions in place of one or more letters or numbers.

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