

Action Request System™ User's Guide for OSF/Motif

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Part Number: UGO-210-001

Contents

Preface.....	xviii
1. Overview of the Action Request System	1
AR System Users	1
AR System Tools.....	2
User Tool.....	2
Notification Tool	3
Administrator Tool	3
Import Tool.....	4
Action Request System Activities	4
2. Getting Started with the User Tool	7
Using the Mouse with the AR System.....	8
Controlling Window Size and Position.....	8
OSF/Motif User Conventions in the AR System.....	8
Starting the User Tool	9
User Name and Password	9

The AR System Windows	14
Circulating Through all Open Windows.	15
Making Menu Selections.	16
Changing the Current Login Information.	20
Exiting the User Tool	21
Working with Action Requests.	22
Using Schemas	22
Selecting a Schema.	24
Server Information.	26
Setting User Preferences	27
Displaying Help	31
Displaying Help on Help	31
Displaying Help for the Current Field or Active Link	32
Displaying Help for the Current Window	32
Displaying Version and Environment Information	32
Displaying the AR System Man Pages	33
Setting an Alternate Configuration Directory	33
Sharing Macros, User Commands and Custom Reports.	34
Copying Files	35
Defining your ARPATH environment variable	35
Defining your ARDATE Environmental Variable	37
What is ARDATE?	37
When to Use ARDATE?	37
Customizing Date/time Formats.	38

3. Submitting an Action Request	42
General Steps for Submitting an Action Request.	43
When You Can Access Fields	45
Filling in Fields.	45
Field Data Types.	47
Field Data Entry Operations.	49
Using Keywords.	50
Special Data Entry Operations	51
Using the Text Edit Window.	52
Using the Diary Entry Window	53
Using Active Links	55
Setting Submit Window Preferences	59
4. Reviewing and Modifying Action Requests	60
General Steps for Querying the Database.	61
Defining Query Criteria	62
Query-by-Example	63
Query Bar	65
Using Relational Operators in the Query Window	65
Using Wild Card Symbols.	67
Using the Query Bar	69
Query Bar Format and Syntax	72
Using Operators in the Query Bar	72
Query Bar Statement Conventions	75
Examples of Query Statements	76

Query Operations	77
Sorting Query Operation Results.....	79
Specifying a Maximum Number of ARs.....	84
Listing Action Requests	84
Displaying Action Requests	87
Modifying Action Requests	92
Deleting Action Requests	96
Using Full Text Search.....	97
What is Full Text Search?	98
Who Can Perform a Full Text Search?.....	98
How Do I Use FTS?	99
Limits in Doing an FTS	101
Ignore Words List.....	102
Before Importing Data.....	102
Efficient Full Text Searching.....	102
Setting Query Window Preferences.....	103
5. Reports	104
Generating Reports	104
Designing Reports	106
Selecting Fields.....	107
Specifying the Report Layout.....	108
Defining Report Preferences.....	112
Sorting and Grouping Records in a Report	115
Generating Statistics	119

Specifying Statistics	120
Exporting Statistics	123
Using Custom Reports	123
Saving a Custom Report	124
Using a Custom Report	126
Modifying a Custom Report	126
Deleting a Custom Report	129
Generating Report Output	129
6. Using Macros	134
Recording Macros	134
Recording Macros with Variables	139
Executing Macros	142
Changing the Macro Name or Description	144
Deleting Macros	146
Sharing Macros with Other Users	146
7. Customizing the Environment	147
Defining Default Field Values	147
Customizing Your Schema View	149
Changing the Layout	150
Customizing View Properties	152
Selecting an Alignment Method	153
Changing Field and Active Link Properties	154
Restoring Views	156
Exporting Views	159

Selecting an Administrator View	160
User Commands	162
Administrator Commands	167
8. Using the Notification Tool	168
Starting the Notification Tool	169
Changing the Current Login Information	170
Exiting the Notification Tool	170
Receiving a Notification	171
Reviewing the Notification Log	172
Setting Notification Tool Properties	173
Setting an Alternate Configuration Directory	175
Displaying Version and Environment Information	176
9. Using Electronic Mail	178
Overview of the AR System's Use of Electronic Mail	178
The Email Template	179
Querying or Submitting via Electronic Mail	182
Querying via Electronic Mail	182
Formatting a Query via Electronic Mail	183
Submitting Email	183
Responses to Email Submissions	185
Receiving Email Notifications	185
A. Command Line Options	186
User Tool (aruser)	186
Syntax Options	187

Using a Null Value in a Query	189
B. Changing Colors and Fonts.....	192
Customizing with Color	192
AR System Resources	193
aruser (User Tool) Resources	194
NT System (Notification Tool) Resources.....	195
arimport Resources	196
Miscellaneous Resources	196
C. AR System File Locations	198
AR System User Tool Files	199
AR System Notification Tool Files	199
AR System Import Tool Files	200
D. Procedures	202
Glossary	206
Index.....	218

Figures

Figure 1-1	Flow of AR System Activities	5
Figure 2-1	Login Window	11
Figure 2-2	User Tool Query Window	13
Figure 2-3	Exiting the Tool	22
Figure 2-4	Sample Trouble Ticket Schema	24
Figure 2-5	Selecting a Schema.	25
Figure 2-6	Server Information window.	26
Figure 2-7	Preferences	27
Figure 2-8	About Box.	33
Figure 3-1	Schema List Window	43
Figure 3-2	Submit Window	44
Figure 3-3	Example of the Submit Window	46
Figure 3-4	Entering Data into Fields	49
Figure 3-5	Text Edit Window	52
Figure 3-6	Diary Entry Window.	54
Figure 3-7	Active Link Example.	57

Figure 3-8	Selection List Window	59
Figure 4-1	Query Menu	62
Figure 4-2	Specifying Query Criteria.	63
Figure 4-3	Using a Relational Operator.	67
Figure 4-4	The Query Bar	70
Figure 4-5	Query Menu	77
Figure 4-6	Results of Multiple Query Operations	79
Figure 4-7	Query List Results in Descending Order	81
Figure 4-8	Sorted Results.	82
Figure 4-9	Field Sort Order Window	83
Figure 4-10	Query List Window.	84
Figure 4-11	Action Request Display Window	88
Figure 4-12	Viewing Status History.	90
Figure 4-13	Viewing Diary Entries.	91
Figure 4-14	Action Request Modify Window	92
Figure 4-15	Diary Entry Window.	95
Figure 4-16	Delete Window	97
Figure 4-17	Context-Sensitive Help Showing Full Text Options.	99
Figure 5-1	Report Window	105
Figure 5-2	Report Selected Fields Window	107
Figure 5-3	Report Formatted by Record	109
Figure 5-4	Report Formatted in Columns.	110
Figure 5-5	Report Formatted in Comma Separated Format	111
Figure 5-6	Report Window with Prototype of Formatted Report.	112
Figure 5-7	Report Preferences Window	113

Figure 5-8	Grouping Query Results in a Report	117
Figure 5-9	Report Field Sort Order Window	118
Figure 5-10	Statistics Options Command	119
Figure 5-11	Specifying Statistics.	121
Figure 5-12	Save Custom Report Format Window	124
Figure 5-13	Report Window	125
Figure 5-14	Edit Custom Report Formats Window.	128
Figure 5-15	Report to Screen Window	130
Figure 5-16	Report to File Window	131
Figure 5-17	Report Print Window	132
Figure 6-1	Recording in Progress.	136
Figure 6-2	Stop Recording Window	137
Figure 6-3	Specifying a Variable.	140
Figure 6-4	Prompt to Enter Example Value	141
Figure 6-5	Select Macro Window	143
Figure 6-6	Entering Variables for a Macro	144
Figure 6-7	Edit Macros Window	145
Figure 7-1	Customize User Defaults Window	148
Figure 7-2	Dragging a Field to a New Location.	151
Figure 7-3	Custom View Properties Dialog Box	152
Figure 7-4	Schema Item Properties Window	154
Figure 7-5	Previous View Menu.	157
Figure 7-6	Reset View Menu.	158
Figure 7-7	Export View Menu Command.	159
Figure 7-8	Export View Dialog Box	160

Figure 7-9	Selecting a Different Administrator View	161
Figure 7-10	User Commands Window	163
Figure 7-11	Select User Command Window	166
Figure 7-12	Select Admin Command Window	167
Figure 8-1	Notice Window	171
Figure 8-2	Notification Log Window.	172
Figure 8-3	Notification Tool - Properties Window	174
Figure 8-4	Getting Version Information	177
Figure 9-1	Sample Email Template	179
Figure 9-2	Completed Email Template	182

Tables

Table 2-1	Starting the User Tool	11
Table 2-2	Logging in to the User Tool	12
Table 2-3	User Tool Menu Items.	16
Table 2-4	ARDATE Field Descriptors	39
Table 3-1	Keywords	50
Table 4-1	Relational Operators Used in the Query Window	66
Table 4-2	Wild Card Symbols	67
Table 4-3	Operators Used in the Query Bar	72
Table 4-4	Query Operations	77
Table 9-1	Email Queries.	183

Preface

Audience

Anyone who uses the Action Request System (AR System) client tools will be interested in the information in this manual. It describes the operations that are performed regularly by those using:

- The User Tool.
- The Notification Tool.

It assumes familiarity with UNIX and Motif environments and mouse and menu-driven applications on UNIX workstations.

Overview of this Document

Chapter 1, Overview of the Action Request System, provides a general description of Action Request System Tools and how they are used.

Chapter 2, Getting Started with the User Tool, tells you how to start and be productive with the User Tool. (See Chapter 8, Using the Notification Tool, for information on using the Notification Tool.)

Chapter 3, Submitting an Action Request, tells you how to submit a new action request (AR) to the Action Request System database.

Chapter 4, Reviewing and Modifying Action Requests, tells you how to perform queries to retrieve specific ARs and list, review, modify, or delete them.

Chapter 5, Reports, describes how you can generate reports and statistics from the AR System database. The chapter also includes a discussion of full text search (FTS).

Chapter 6, Using Macros, tells you how to use the macro facility to automate operations.

Chapter 7, Customizing the Environment, tells you how to personalize your view of AR System schemas and how to set field properties and defaults.

Chapter 8, Using the Notification Tool, tells you how to start and use the Action Request System Notification Tool.

Chapter 9, Using Electronic Mail, tells you how to use electronic mail to submit action requests and receive notifications.

Appendix A, Command Line Options, tells you how to use command line options to start the User Tool.

Appendix B, Changing Colors and Fonts, describes how to change the colors, fonts, and other behaviors of the User Tool and Notification Tool.

Appendix C, AR System File Locations, describes how to change the colors, fonts, and other behaviors of the User Tool and Notification Tool.

Appendix D, Procedures, describes a list of procedures.

Glossary, lists and describes terms that you will need to be familiar with as you use the AR System.

Action Request System Documents

The *Action Request System Installation Guide* is a guide to installing the AR System software for all operating environments. There are separate installation chapters in the guide for the UNIX and Windows NT environments.

The *Action Request System User's Guide* (this guide) is a how-to description of the operations performed by all users of the AR System. There are separate User's Guides for environments supporting the Motif, Macintosh, and Windows graphical user interfaces (GUIs) and for ASCII terminals.

The *Action Request System Getting Started Guide and Sample*

Schemas provides an online demonstration showing the use of the AR System in a sample help desk environment and describes how you can use the sample schemas provided with the AR System.

The *Action Request System Administrator's Guide* describes how the AR System Administrator can use the Administrator Tool to set up the AR System and define its local operations. This manual is also a reference of advanced AR System concepts. There are separate Administrator's Guides for the UNIX and Windows environments.

The *Action Request System Programmer's Guide* is a reference guide for programming with the application programming interfaces (APIs) that come with the AR System.

The *Action Request System Troubleshooting and Error Messages Guide* provides information to help you identify and solve problems with the AR System.

The *Action Request System Distributed Server Option Administrator's Guide* provides information about operating the AR System in a distributed, multi-server environment. Included are instructions for creating all of the necessary mappings and filters that you use along with the Distributed Server Option to keep AR System entries synchronized across multiple servers.

The *Action Request System Help Desk Template Guide* describes the Helpdesk application that runs in conjunction with the AR System to help you manage your internal help desk organization. The template takes full advantage of the rich feature set of the AR System and implements workflow and reporting mechanisms to simplify the task of working in or managing a help desk.

The *ARWeb Administrator's Guide* provides details about installing, using, and customizing the ARWeb application, so that you can provide access to your company's AR System applications through the World-Wide Web.

The *Action Request System Workflow Demonstration and Guide to Sample Schemas* leads you through an online demonstration showing the use of the AR System in a sample help desk environment and describes how you can use the sample schemas supplied with the AR System.

The *Action Request System Help Desk Template Guide* describes the Help Desk application that runs in conjunction with the AR System to help you manage your internal help desk organization.

The *Action Request System Accessories* binder provides a place to keep documentation for utilities and peripheral add-ons to the AR System. As shipped, the Accessories binder includes the documentation for the Network Management Platforms Integration Accessory.

Conventions Used in this Manual

bold font

Indicates that a word is a new or important term.

Example: **filters**.

Initial Caps

Button and menu names and items have the first letter capitalized.

Example: File.

computer font

Indicates computer output, including UNIX prompts, an explicit directory, or a file name.

Example: *prompt%*.

Indicates data to be entered by the user.

Example: `aruser &`.

<small italic font>

Indicates a variable directory, file name, or string that you replace with an appropriate directory, file name, or string.

Example: `<ar_config_dir>`.

italics

Indicates a reference to another manual or to a different section within the current manual.

Example: see *Action Request System Documents*.

Italic type is also used for emphasis.

Example: *All* users will be affected.

Overview of the Action Request System



The **Action Request System** (AR System) provides you with all of the tools you need to quickly and easily manage support requests and problems. Using the AR System, your AR administrator can create a flexible, customizable workflow process for you. As you make entries into the AR System, you are automatically capturing a database of problem solving experience. You can efficiently track and report a variety of issues, information, and problems. Both end users and support staff can take advantage of the interactive access to the AR System database.

This chapter introduces all users to the concepts and features of the AR System. It provides an overview of:

- The roles that various people play in the operation of the AR System.
- The tools provided by the AR System.
- The activities that users of the AR System are involved in.

AR System Users

There are four types of users who are involved with the operations of the AR System:

- AR System administrators.
- AR System subadministrators.
- Support staff.

- End users.

AR System administrators are responsible for the management of the AR System. They set up database schemas (the definitions of AR System databases), set access rights for users, and design the workflow process.

AR System Subadministrators are responsible for the set up, design, and access rights of a given set of schemas as permitted by the AR System Administrator.

Members of the **support staff** resolve **action requests (ARs)** using the AR System as set up by the AR System administrator. They assign and are assigned ARs, and log their progress in the appropriate fields. Support staff members are able to use information stored in previous ARs to avoid redundant effort and to expedite the resolution of current ARs.

End users are individuals with problems and support requests who initiate ARs. End users ideally have direct access to the AR System, although it is not a requirement. End users with direct access submit ARs using the User Tool. Users without direct access may use electronic mail templates generated by their AR administrator to submit ARs or they may simply place a trouble call to a support staff member who initiates the AR.

AR System Tools

The Action Request System provides four tools that help administrators, support staff, and end users perform their jobs: the **User Tool**, the **Notification Tool**, the **Administrator Tool**, and the **Import Tool**.

User Tool

The User Tool is generally used by everyone involved in the workflow process. It allows you to:

- Submit ARs describing problems or support requests.
- Query AR databases either for information or to keep track of previously submitted ARs.
- Modify one or multiple previously submitted ARs.
- Report on and calculate statistical information on ARs that share similar query criteria (information).

- Delete ARs (if you are an AR System administrator or subadministrator).
- Create user commands.
- Run user and administrator commands.
- Create macros.
- Run user macros to help automate the steps involved in complex queries and other operations.
- Customize schema view.
- Define field values.

The User Tool is described in this document.

Notification Tool

Like the User Tool, the Notification Tool can be used by anyone involved in the workflow process. The Notification Tool provides a means of alerting users of progress being made in the resolution of an action request. Through filters built into the AR System schemas by the administrator, users may be notified of any change of state of an AR. For example, the administrator may have defined a filter that sends a notification to the support staff when new ARs are assigned and another filter that notifies end users when an AR is closed. (In a user environment that does not run the Notification Tool, users can be notified of progress through electronic mail. See Chapter 9, for more information.) The Notification Tool is described in Chapter 8, of this document.

Administrator Tool

The Administrator Tool is used exclusively by AR System administrators to set up the AR System for use by support staff and end users. This includes:

- Setting up **schemas** (the definitions of AR System databases).
- Setting **access permissions** on the fields within the schemas.
- Setting up access on schemas themselves.
- Creating both dynamic and static **menus**.
- Setting up AR System **filters, escalations, and active links** that define the workflow processes.

- Creating **administrator commands**. (Administrator commands only work on UNIX workstations.)

The Administrator Tool is available on UNIX workstations or PCs running Windows and is described in the *Action Request System Administrator's Guide*.

Import Tool

The Import Tool allows users to transfer data from databases on other servers to the AR System database on the local server.

If the data you want to import already exists in a AR Export file, you can use the AR System Import Tool to import data into your server. The Import Tool can handle files in CSV or ASCII format.

The Import Tool is described in the *Action Request System Administrator's Guide*.

Action Request System Activities

AR System activities include setting up schemas, submitting ARs, querying the database to find similar ARs or to check on the progress being made on a specific AR, and resolving ARs. Figure 1-1 shows the flow of these activities through the AR System.

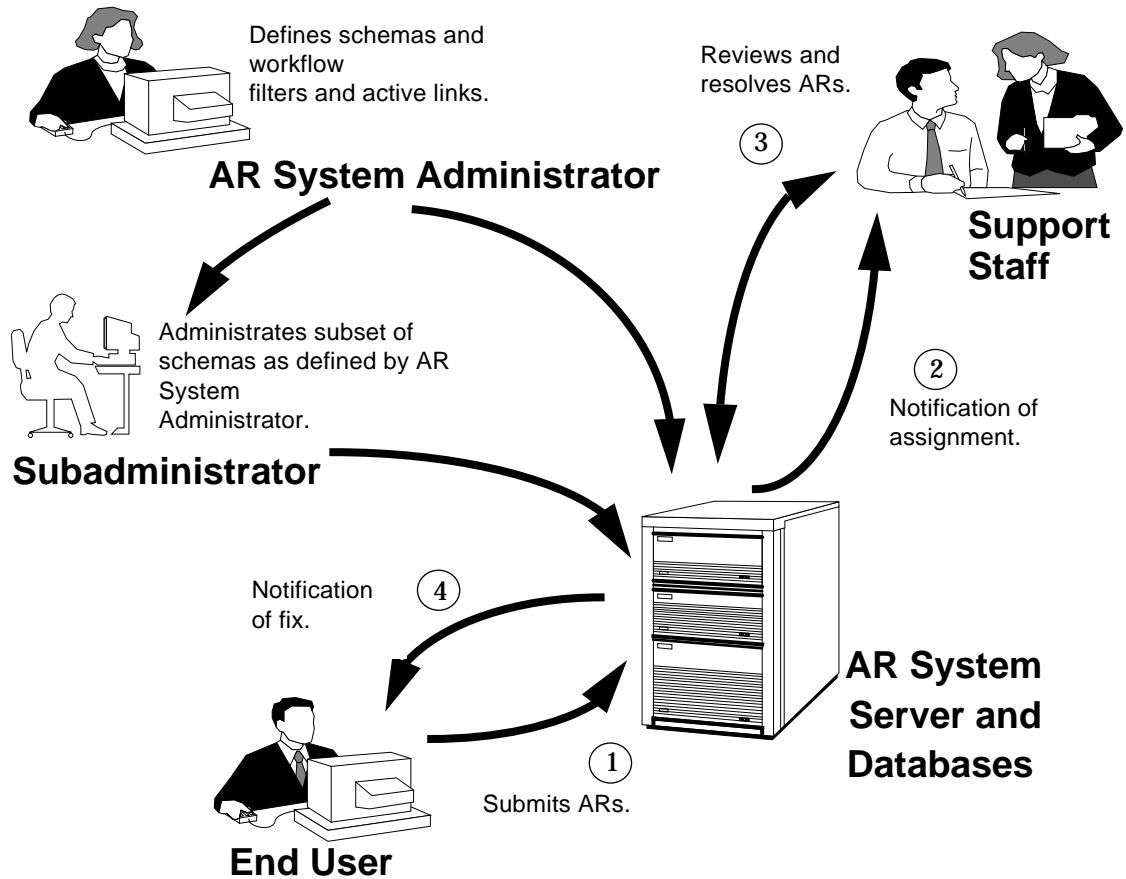


Figure 1-1 Flow of AR System Activities

The AR System administrator is responsible for setting up schemas. Subadministrators are users that have been granted administrator permission to a subset of schemas by the AR System administrator. Once a schema is established, end users and support staff can submit ARs and query the database as needed, within their allowed permissions.

ARs can enter the system in several ways:

- Through support staff when end users call on the telephone.

-
- Directly from the end user's desktop through the Submit window of the User Tool.
 - Through electronic mail. For more information, see Chapter 9.
 - Through APIs that allow integration with other processes (like network management platforms). APIs are only available as UNIX clients.

Typically end users notify support staff of problems and service requests by submitting ARs. Submitters can be notified of actions taken on their request and can also query the database for the status of their request. Support staff can be alerted at their workstation (or any workstation where they are logged in) of the arrival of new ARs. Incoming ARs are assigned by the manager, or they can be automatically assigned based on field values in the AR. The assignment of ARs can be changed if necessary.

ARs can be automatically submitted by other programs, such as network management systems like HP OpenView, IBM NetView/6000, and SunNet Manager, or programs that periodically submit preventative maintenance reports using the provided API.

The query facility assists support staff in resolving ARs by providing a versatile tap into a growing knowledge and experience base. As problems are resolved, the staff can keep a history in diary fields. This history can help provide answers to future problems.

The AR System macro facility lets the support staff automate frequently performed operations, such as creating daily reports or performing a query that produces a list of high priority problems.

When an AR is resolved, the end user can be notified through either the Notification Tool, electronic mail, or the telephone. The AR is now part of an experience base to be drawn upon in the future.

Getting Started with the User Tool



The Action Request System (AR System) User Tool is the tool you use to perform most of the day-to-day AR System functions. You use the tool to submit information to the AR System in the form of **action requests (ARs)** and to find specific ARs so that you can view or modify them. You also use the tool to create and run reports as your needs require. Given the proper permissions, you may use the tool to customize what you see when you look at a particular schema (that is, customize your **view** of the schema).

This chapter helps you get started in the daily operations of the User Tool. It covers the following topics:

- Starting and exiting the User Tool.
- Working in the User Tool Windows (includes information on making menu selections).
- Changing current login information.
- Using Schemas.
- Displaying help.
- Displaying server information.
- Setting preferences that determine how the User Tool looks and acts.
- Displaying version information.
- Setting an alternate configuration directory for the User Tool.
- Sharing macros, user commands and custom reports.

- Defining your ARDATE environment variable.

See Chapter 8 for information on the Notification Tool.

Using the Mouse with the AR System

Mouse operations in the AR System tools are much like those in other OSF/Motif applications you are familiar with. The following terminology is used in this manual to describe the operations you perform using the mouse.

Select means to click once on an item with the left mouse button.

Double-click means to click the left mouse button twice in quick succession.

Drag means while pointing on an object, hold down the left mouse button and move the mouse.

Press means hold down the left mouse button without moving the mouse.

Pull-right means to click and hold the left mouse button on the character menu symbol (to the right of a field) to display the menu items. Continue to hold the left mouse button as you move the pointer over the menu items. (An arrow to the right of a selection means that there are sub-menu items for that selection. To display and select the items from a sub-menu, move the mouse to the right with that choice highlighted.) When your choice is highlighted, release the mouse button and your selection is made. (If you release the button outside of the menu, the menu closes and nothing is selected.)

Controlling Window Size and Position

You can manipulate windows in the AR System in the same way that you can for most OSF/Motif applications. You can control the size of a window by clicking on the Resize Border (the outer edge of the screen) and dragging with the mouse.

OSF/Motif User Conventions in the AR System

Remember the rules below as you work with the Action Request System client tools:

- The AR System is *case-sensitive*. The only exceptions where the AR System is *not* case-sensitive is if you are using the Sybase database configured to be case insensitive or if you are using the full text search (FTS) option configured case-insensitive.
- The window that is active (selected) is the one whose title bar is highlighted.
- In some windows with selection buttons, pressing the Return or Enter key performs the default action. The default action is the action performed by the button that has the focus rectangle (a heavy black border) around it.

Starting the User Tool

You can start the User Tool from any machine (or machines) on the network with access to the AR System server. Before you start the User Tool, make sure you have the following information from your AR System administrator:

- The directory that contains the executables for the User Tool (by default, this directory is `/usr/ar/bin`). We refer to this directory as `<ar_run_dir>` in this document.
- Your registered AR System user name and password.

If you install the AR System on a client running OpenWindows, your keyboard mapping is updated automatically during the installation process. The `XKeysymDB` file is copied from the `<ar_run_dir>/bin` directory to your `/usr/ar/X11` and `$OPENWINHOME/lib` directories. If you don't have the correct privileges to these directories, see your System Administrator for help.

Copying the `XKeysymDB` file prevents a substantial amount of text from appearing in the `shelltool` window each time you start the AR System, and enables you to use the Del and Backspace keys in a field.

User Name and Password

Your user name and password identify you to the AR System and give you the appropriate access permissions. Whenever you use the AR System, you should make sure you are logged in with the correct user name and password to assure that you have access to the fields, schemas, and functions required to help you do your job.

Users are set up in the AR System by the AR System administrator. If you do not know the login you should be using for the AR System, see your AR System administrator before you continue.

Note – If you are not a registered user, and unregistered users are allowed at your site, the User Tool starts with a “guest” set of capabilities. A guest user can retrieve any public information in the system. In addition, a guest user may be allowed to submit ARs, record a macro, generate a report, specify user defaults, and review ARs.

To start the User Tool:

- Enter the following command line at any UNIX prompt:

```
% <ar_run_dir>/aruser &
```

Note – If you are running OpenWindows 3.0 on a Sun SPARCstation and you are remotely displaying the User Tool from an HP system, it may take awhile for the User Tool to display. If this happens, add the following line to your `.Xdefaults` file.

```
ARSystem*useColorObj: false
```

Table 2-1 lists the possible actions when you attempt to start the User Tool.

Table 2-1 Starting the User Tool

When you...	and...	Then...
Start the User Tool for the first time		The login window appears as shown in Figure 2-1. * Enter your registered user name and password then select the Apply button.
Start the User Tool	You selected Prompt in the Always prompt for Login preferences setting	The login window appears as shown in Figure 2-1. * Enter your registered user name and password then select the Apply button.
Start the User Tool	You selected Don't prompt in the Always prompt for Login preferences setting	Your user name and password are saved in your <code>.config</code> file and you are automatically logged in when you start the User Tool.

For more information about preferences, see “Setting User Preferences” on page 27.

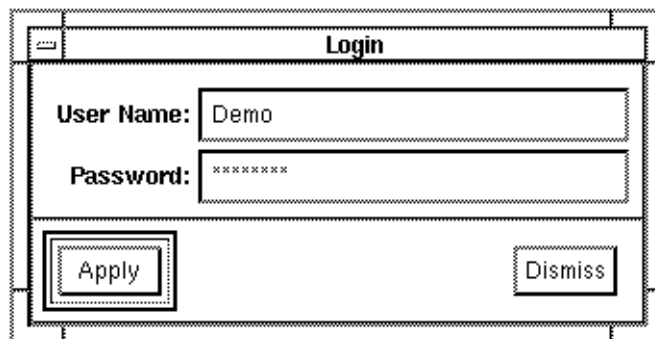


Figure 2-1 Login Window

Table 2-2 lists the possible actions when you attempt to log in to the User Tool.

Table 2-2 Logging in to the User Tool

If you entered...	and	Then...
A valid user name	A valid password	* The Login window is removed. * The query window is displayed. * You are ready to begin working.
	An <i>invalid</i> password	You receive an error message and are not logged in.
An unknown or invalid user name	Guests are allowed to use your AR System	You are successfully logged in with a warning telling you that you only have guest privileges.
	Guests are <i>not</i> allowed to use your AR System	You receive an error message and are not logged in.

The kind of license that your user name is allowed determines what you can do in the User Tool. If you have a **Read** license, you can read and submit ARs within the limitations specified by your AR System administrator, but will not be allowed to update existing entries.

If you have a **Fixed** license, you can read, submit and update existing ARs within the limitations specified by your AR System administrator. Fixed licenses are permanently associated with a single user name. With this type of license, you can always access the User Tool.

If you have a **Floating** license, you have the same privileges as with the Fixed license. Floating licenses are not attached to any single user name. With Floating licenses, there are only a certain number of licenses available for use. If no license is available when you try to log in, you will receive a warning telling you that no license token is currently available and you are being allowed access to the system with Read Only permission. If a token becomes available, it will be allocated to you. You will receive a note indicating you have been allocated a token when it becomes available. (The default “timeout” value for Floating licenses is two hours. For information on specifying timeouts, see the *Action Request System Administrator’s Guide*.)

You may also be assigned a Fixed or Floating **Full Text** license. A Full Text License grants you the ability to use the full Text Search capacity supported by the AR System. If you are assigned a Floating license, you will grab one of the tokens available in the license pool. If no license is available, you will receive a warning and be allowed to access the system without using the full text search capability (the system will use the default database search capability). When a token becomes available, it will be allocated to you; you will receive a note, and will then be able to perform full text searches. (The default “timeout” value for Floating Full Text licenses is two hours. For information on specifying timeouts, see the *Action Request System Administrator’s Guide*.)

The first time you log in, the Query window appears, as shown in Figure 2-2, and a message tells you to select a schema (See “Using Schemas” on page 22.)

Note – If you are using the AR System on an RS/6000 running AIX 3.2.0 with a monochromatic monitor, and the Query window appears black, you can change the default colors using the information provided in Appendix B, Changing Colors and Fonts.

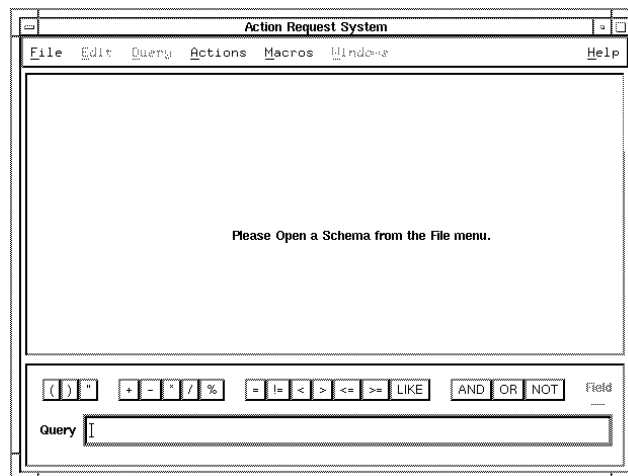


Figure 2-2 User Tool Query Window

The AR System Windows

The Action Request System User Tool windows are the Query, Submit, Query List, Display, Modify Individual, Modify All Selected, and Report windows.

Query Window

The Query window is the main window of the AR System User Tool. You use the menus and menu items available from the menu bar on the Query window to select and control the operations you need to perform. From the Query window, you can open and close the other windows that let you display, modify, and submit action requests, or generate reports on action requests that match specific query criteria.

The Query window includes a title bar at the top, a menu bar, and an optional query bar. The menu bar provides access to the User Tool menus that allow you to select the operations you want to perform. The query bar allows you to easily “build” complex query criteria. In addition, messages are displayed at the bottom of the window that let you know the status of the operation in progress. You can specify whether or not to display the query bar by setting the appropriate preferences for the Query window. See “Setting User Preferences” on page 27 for information.

Submit Window

The Submit window allows you to enter information into input fields to describe a problem or request. Using the Open Submit menu item from the File menu, you can open more than one Submit window at any one time. You can open multiple Submit windows for one schema, or you can open a Submit window for more than one schema. This is useful if you need to submit more than one AR at the same time, or if you get interrupted and need to stop working on one task to begin working on another before finishing the first submit task.

Query List Window

The Query List window displays a one-line summary of every AR that matches the query criteria. By default, the list displays the contents of the Entry ID and Short Description fields, but your AR System administrator may have chosen other fields for display on the schemas you are using. Displaying a Query List

window is a convenient way to determine if the query criteria you have specified produces too many irrelevant ARs. From the Query List window, you can return to the Query window to change your query criteria to narrow down the list of matching ARs. You can also open Display, Modify Individual, Modify All Selected, and Report windows related to all ARs or only for the ARs selected in the Query List window.

Display and Modify Windows

The Display window displays a read-only view of ARs while the Modify Individual and Modify All Selected windows allow you to edit ARs provided you have the appropriate access. The Modify Individual window displays one AR at a time allowing you to make changes to a single AR. The Modify All Selected window displays a blank schema template allowing you to make changes to multiple ARs at one time.

Report Window

The Report window allows you to generate a formatted report of all ARs that match the specified query criteria. From the Report window's Define menu, you can choose how to format the report, which fields to include in the report, and what statistics to include.

Circulating Through all Open Windows

Like the Submit window, you can open multiple Query List, Display, Modify Individual, Modify All Selected, and Report windows. Since you can have many windows open at the same time, the Submit, Query List, Display, Modify Individual, Modify All Selected, and Report windows can all be iconized. This way, you can keep open only the windows you are currently working on while keeping other windows (job tasks) available to you without cluttering your work area.

You can circulate through all open windows using the Windows menu on the Query window. When just the Query window is open, the Windows menu is grayed out. When more than just the Query window is open, the Windows menu is available and lists all open windows. You can make a window active by selecting it from the Windows menu. If the window is iconized, it is opened and made active.

Making Menu Selections

You can choose items from the menu bar at the top of the Query window in any of four ways:

- Display the menu and select the desired menu item using the mouse.
- Type the shortcut key sequences that are shown beside many of the items in the menus. These key sequences are also called accelerator keys. For example, type `Ctrl+S` to open a Submit window.
- Type `F10` and then type the letter that is underscored in the menu and menu item. For example, type `F10`, `F`, and then `S` to open a Submit window.
- Hold down the `Alt` key (on Sun systems running Motif, use the `Meta` key. On HP 300/400/700 series keyboards use Extend Char key) and then type the letter that is underscored in the menu and menu item. For example, type `Alt+F`, and `S` to open a Submit window.

Table 2-3 shows the menu items available from each menu along with their corresponding accelerator key sequences.

Table 2-3 User Tool Menu Items (1 of 5)

Menu	Item	Function	Key Sequence
File	Login	Opens a Login window.	
	Open Schema	Displays the Open Schema window allowing you to display a particular schema.	Ctrl+O
	Open Submit	Opens a Submit window of the current schema allowing you to enter a new action request (AR) into the system.	Ctrl+S

Table 2-3 User Tool Menu Items (2 of 5)

Menu	Item	Function	Key Sequence
	Server Information	Displays licensing information about the servers you are currently connected to. This means the servers listed in your <code>/etc/ar</code> file unless you use the <code>-x</code> option, then it is the ones identified there. The Server Information window shows the server names and versions. It also shows what type of license is available from each server (assigned and current).	
	Preferences	Set options that control the appearance and behavior of the User Tool for your user login. These options affect query and submit operations, among other things.	Ctrl+P
	Exit	Exits the User Tool.	Alt+F4
	'Active Schema List'	Lists your most recently used schemas allowing you to quickly return to a schema by selecting its name displayed at the bottom of the File menu. You can specify the maximum number of schemas that are displayed in this list using the Max in active schema list preference on the Preferences window.	
Edit	Clear All	Clears the contents of all fields in the Query window.	Ctrl+E
	Set to Defaults	Sets the value of the fields in the Query window to the default values.	Ctrl+U

Table 2-3 User Tool Menu Items (3 of 5)

Menu	Item	Function	Key Sequence
Query	List	Opens a Query List window containing a one-line summary of ARs meeting current query criteria.	Ctrl+L
	Display	Opens a Display window to show the ARs that meet current query criteria. ARs are displayed one at a time. Use the Next and Previous buttons to move from one AR to another.	Ctrl+D
	Modify Individual	Opens a Modify Individual window to make changes to each AR that meets current query criteria. ARs are displayed for modification one at a time. Use the Next and Previous buttons to move from one AR to another.	Ctrl+M
	Modify All	Opens a Modify All Selected window that contains a blank copy of the current schema so that you can make bulk changes that affect every AR that meets current query criteria.	
	Report	Generates a report for the entries that meet current query criteria. You can also calculate statistical data for the entries, display the report to the screen, send it to a printer, or save it to a file.	Ctrl+R
	Delete	Deletes all ARs that meet current query criteria. This function is available only to users with Administrator permission or Subadministrator permission.	

Table 2-3 User Tool Menu Items (4 of 5)

Menu	Item	Function	Key Sequence
Actions	Customize Defaults	Set default values for the fields of a schema.	
	Customize View	Customize the appearance of a schema viewed on this User Tool.	
	Sort Options	Specify sorting for the results of all Query menu operations. Sorting can include up to five fields and you can specify whether each field is sorted in ascending or descending order. You can specify a different sort order for each schema.	Ctrl+A
	Create Command	Create a user command to perform a function outside of the User Tool.	
	Run Command	Execute an existing user command.	
	Run Admin Command	Execute an administrator command.	
	Copy to Submit	Opens a Submit window that contains the same field values as the Query window.	Ctrl+T
Macros	Start Recording	Begins recording a macro for later execution. Actions you perform after selecting Start Recording and before selecting Stop Recording from the Macros menu are recorded as part of the macro.	
	Stop Recording	Stops recording a macro that you are recording for later use. The Stop Recording window appears so that you can name and save the macro you have just recorded.	
	Edit Macros	Opens the Edit Macro window. You can then select an existing macro to modify its name or help text or to delete the macro.	
	Run Macro	Execute an existing macro. The Execute Macro window appears.	Ctrl+I

Table 2-3 User Tool Menu Items (5 of 5)

Menu	Item	Function	Key Sequence
Windows		Lists all open windows. The selected window becomes active.	
Help	Index	Opens a window that contains a list of help topics for selection. Each help topic may have one or more levels of subtopics available.	F1
	Using Help	Displays help information on using the application level help accessed from the Index choice.	
	On Context	Displays context-sensitive help. When the pointer is on a field or active link, this help includes the characteristics and any administrator defined help text for that field or active link. When the pointer is on the schema and not on any field or active link, this help displays any help provided by your AR System administrator for the active schema.	
	On Window	Displays help provided by your AR System administrator for the active schema.	
	On Version	Displays information about the AR System User Tool. This information includes the tool name, version number, copyright information, and the host name of the machine where the tool is running.	Ctrl+V

Changing the Current Login Information

If the User Tool was previously started by another user, you can change the user information and log in as yourself. You can log in at any machine on the network that has access to the AR server.

Note – If you log into the User Tool on a system where someone else is logged into the UNIX operating system, before you change the user information and log in as yourself in the User Tool you might want to change the `ARHOME` environment variable to point to your `arHome` directory. If you don't, any files that are normally saved in the directory specified by your `ARHOME` environment variable (custom reports, macros, user commands, changes made to your configuration file, etc.) are saved in the directory specified by the `ARHOME` environment variable of the user who is logged in at the UNIX operating system level. For more information about changing the `ARHOME` environment variable, see “Setting an Alternate Configuration Directory” on page 33

To change the current login:

- 1. Select Login from the File menu.**
A Login window (shown in Figure 2-1) appears.
- 2. Type the name and password for the new login.**
- 3. Select the Apply button to complete the login. (The Query window is reopened for the new login with the appropriate permissions. Any other previously opened windows are closed.)**

Exiting the User Tool

To exit the User Tool, select Exit from the File menu, as shown in Figure 2-3. You can also exit the tool by selecting the Quit item from the window menu box in the upper left hand corner of the Query window, typing `Alt+F4`, or double-clicking on the window menu.

If you select Confirm for the Confirm to exit AR System preference on the Preferences window, you are asked to verify that you really want to exit each time you exit the User Tool. For more information about preferences, see “Setting User Preferences” on page 27.

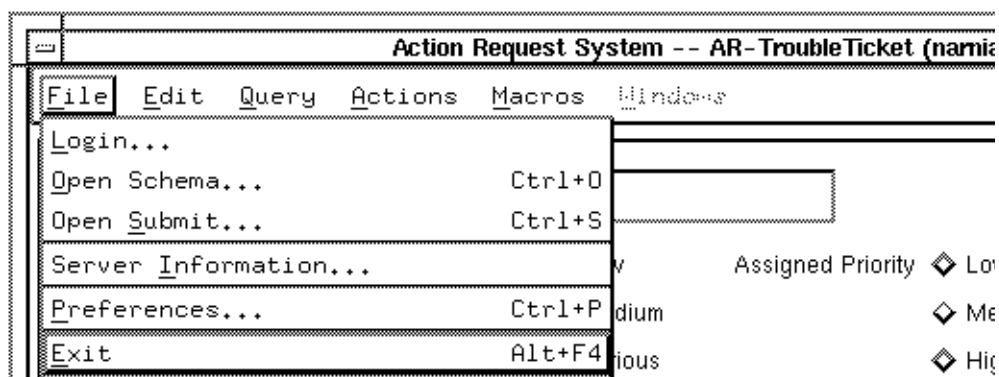


Figure 2-3 Exiting the Tool

Working with Action Requests

An **action request (AR)** is a collection of information that describes a single event or incident, such as a problem or a service request. Each AR represents a single entry in an AR System database.

As a user of the Action Request System, you are involved in two primary activities:

- Creating and submitting new action requests.
- Looking at or modifying existing action requests.

You create ARs by opening a Submit window. See Chapter 3, Submitting an Action Request, for detailed instructions on using the Submit window.

You look at or modify ARs by selecting the schema that holds the information you want to view. See Chapter 4, Reviewing and Modifying Action Requests, for detailed instructions on using the Query window.

Using Schemas

A **schema** is the definition of an AR System database. Each schema is designed to help you perform a different type of activity. The schemas from which you can select were implemented by your AR System administrator to help manage the work flow of your daily operations.

For example, your AR System administrator may have implemented one schema to help keep track of calls coming in to the help desk. The administrator may have also implemented a schema that contains a record of the equipment that each user has. You may need one or both of these schemas to perform your job tasks.

The administrator can implement as many (or as few) schemas as needed. The administrator can also control whether or not a specific user has full, limited, or no access to a schema and to the information it contains. If you don't have access to the schema at all, it does not appear in your list of available schemas.

Each schema contains a set of fields. Each field contains a certain type of information and has its own set of rules about who can look at or modify the information in the field.

Note – Since it is possible for you to have access to a schema but not to any of its fields, you could display a schema that appears to not have any fields.

For more information on fields see Chapter 3, Submitting an Action Request.

Figure 2-4 shows the fields that you might see in a typical schema designed to track trouble reports. The schema shown is one of the schemas that is supplied as a sample schema with the AR System. Your AR System administrator may have implemented this schema for use at your job site. (Each sample schema may be used as it exists or modified to fit local requirements.)

The screenshot shows a window titled "Action Request System -- AR-TroubleTicket (chelgar)". The menu bar includes File, Edit, Query, Actions, Macros, Windows, and Help. The main area contains a form with the following elements:

- Entry-Id:
- Create-date:
- Status: New, Assigned, Fixed, Rejected, Closed
- Requestor:
- Impact: Low, Medium, Serious, Critical
- Assigned: Low, Medium, High
- Priority: Low, Medium, High
- Submitter:
- Phone:
- Submitter Location:
- Submitter Email:
- Submitter-notify-method:
- Get Submitter Email:
- Get Similar:
- Submitted Problem Type:
- Buttons:
- Query field:

Figure 2-4 Sample Trouble Ticket Schema

Selecting a Schema

When you start the User Tool, you need to select the schema that you want to use.

To select a schema:

1. Select **Open Schema** from the **File** menu (or type `Ctrl+O`). The **Open Schema** window appears as shown in Figure 2-5.

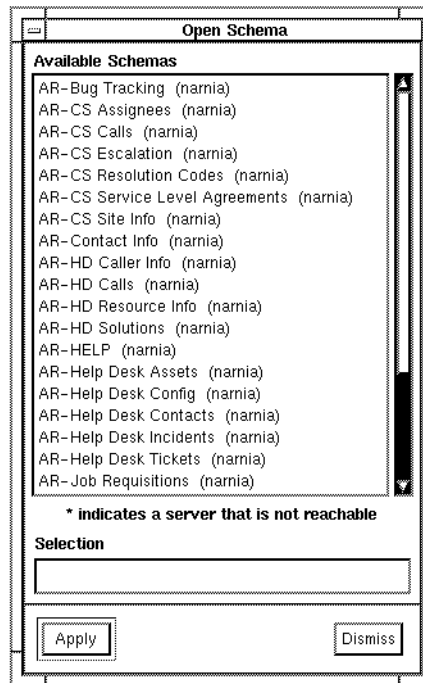


Figure 2-5 Selecting a Schema

- In the Open Schema window, select the schema you want from the Available Schemas list. Then, select the Apply button. Alternatively, you can enter the name of the schema and server in the Selection box. Make sure you include the two spaces between the schema name and the server name if you do. (You can also select the schema by simply double-clicking on the schema name.)**

3. fcufc

Each schema is uniquely identified by a name and the server where it resides. (The same schema name may appear on more than one server.) If a schema was available to you at one time, and for some reason the schema is not available to you now (for example, the server is down), the schema name will be followed by an asterisk.

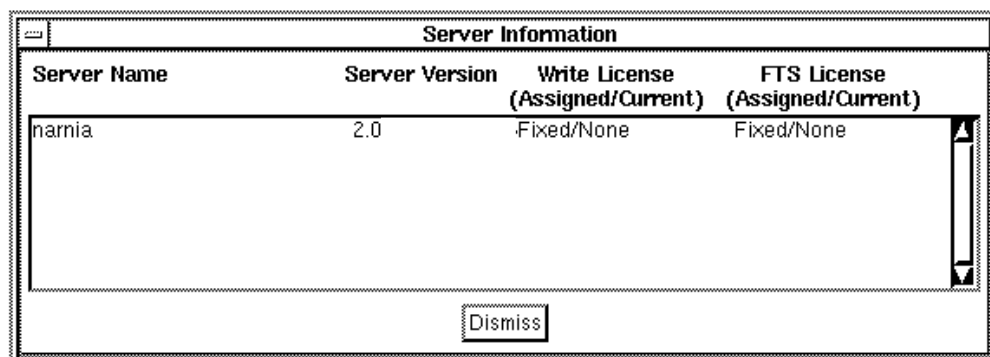
If you log in on someone else's machine, any schema you don't have access to from the previous user's list will be followed by an asterisk.

The Query window displays the selected schema and the title bar displays the schema name. Any actions you perform when this window is active affect the schema you have selected.

Note – If a schema is larger than the window, you can use the **scroll bars** to view the portions of the form that are not displayed or you can resize the window.

Server Information

The Server Information menu item from the File menu displays licensing information about the servers listed in your `/etc/ar` file or, if using the `-x` command line option, the servers you listed when you logged on. The Server Information window shows the server names and versions (see Figure 2-6). It also shows what type of license is available from each server (assigned and current).



Server Name	Server Version	Write License (Assigned/Current)	FTS License (Assigned/Current)
narnia	2.0	Fixed/None	Fixed/None

Dismiss

Figure 2-6 Server Information window

Setting User Preferences

The Preferences menu item from the File menu sets options that control the appearance and behavior of various aspects of the User Tool. The next time you open the User Tool, the AR System remembers the preferences you set.

You can select preference settings for the Query, Query List, and Submit windows. Instructions for setting preferences are provided in this section.

To set user preferences:

1. **Select Preferences from the File menu (or type Ctrl+P).**

The Preferences window appears, as shown in Figure 2-7.

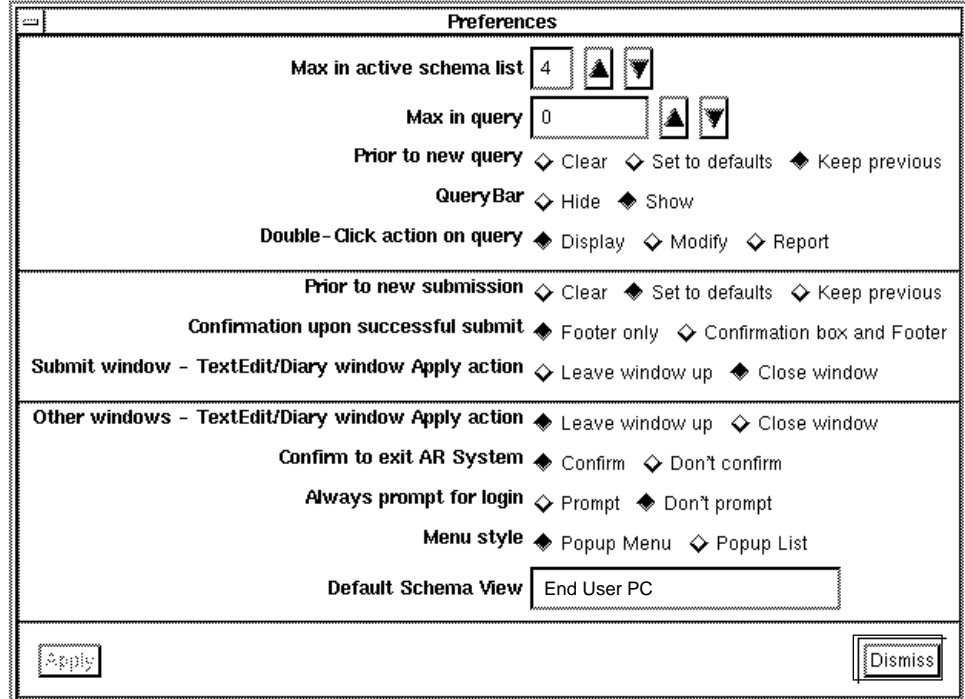


Figure 2-7 Preferences

2. Select or request an option by either clicking in the field and entering a numeric value or clicking on the radio button to the left of the option. You can increment or decrement the numeric values by clicking on the up and down arrow to the right of the fields.

You can set any of the following options:

Max in active schema list		Specifies the maximum number of schemas kept in the active schema list displayed at the bottom of the File menu. The default value is 4. The minimum accepted value is 0 and the maximum accepted value is 9.
Max in query		Specifies the maximum number of ARs that can be returned when doing one of the query menu operations. If your query matches more than this number, only the number specified here are displayed and you receive a warning message that there are more ARs that match but are not returned in your results. If you want to have all matching results returned, you would have to increment this Max in query value and then reissue your query operation. The default value is 1,000. To specify an unlimited number of ARs, enter 0. (You should be aware that returning large numbers of ARs in query requests can impact the performance of the AR System.)
Prior to new Query	Clear	Select to clear all information from the fields on the schema. This is the default.
	Set to Defaults	Select to load the schema fields with any existing default information. If no administrator or user default is defined for a field, the field is cleared.
	Keep Previous	Select to retain information from the last query.

Note – Any default values defined for hidden fields are also loaded when you select Set to Defaults. This can cause unexpected query results since the query attempts to match the value in the hidden field as well as the query criteria you define. For more information about default values, see Chapter 7, Customizing the Environment.

Query Bar	Show	Select to make the query bar visible. This is the default.
	Hide	Select to hide the query bar. You may want to hide the query bar if you rarely perform complex queries.
Double-click action on query	Display	Select to cause a Display window to open after double-clicking a Query List item. This is the default.
	Modify	Select to cause a Modify Individual window to open after double-clicking a Query List item.
	Report	Select to cause a Report window to open after double-clicking a Query List item.
Prior to new submission	Clear	Select to clear all information from the fields on the schema. This is the default.
	Set to Defaults	Select to load the schema fields with any existing default information. If no administrator or user default is defined for a field, the field is cleared.
	Keep Previous	Select to retain information from the last submitted AR.
Confirmation upon successful submit	Footer only	Select to display only a footer message after a successful AR submission. This is the default.
	Confirmation box and Footer	Select to display both a footer message and a confirmation box after a successful AR submission.

Submit window - Text Edit/Diary entry window Apply action	Leave window up	Select if you want to leave the window displayed after you select Apply on a Text Edit or Diary window opened from a Submit window.
	Close window	Select if you want to close the window after you select Apply on a Text Edit or Diary window opened from a Submit window. This is the default.
Other windows - Text Edit/Diary Entry window Apply action	Leave window up	Select if you want to leave the window displayed after you select Apply on a Text Edit or Diary Entry window opened from a Query, Modify Individual, or Modify All Selected window. This is the default.
	Close window	Select if you want to close the window after you select Apply on a Text Edit or Diary Entry window opened from a Query, Modify Individual, or Modify All Selected window.
Confirm to exit AR System	Confirm	Select if you want to be prompted to confirm that you want to exit the User Tool after you select the Exit command on the File menu. This is the default.
	Don't confirm	Select if you don't want to be prompted to confirm that you really want to exit the User Tool after you select the Exit command on the File menu.
Always prompt for Login	Prompt	This means that your user name and password will <i>not</i> be saved in your <code>config</code> file. Select to be prompted to supply your user name and password each time you run the User, Admin and Notification Tools.
	Don't prompt	This means that your user name and password will be saved in your <code>config</code> file. Select to <i>not</i> be prompted to supply your user name and password each time you run the User, Admin and Notification Tools. This is the default value.

Menu Style	Popup Menu	Select if you want to display popup menus when displaying menus.
	Popup List	Select if you want to display popup lists. You should choose this option if you want to display large menus.
Default Schema View		The name of the view to use as the default view for each schema selected. See your AR System administrator for information on whether or not a customized view exists that would be appropriate for your use.

3. Select the Apply button to accept the options as set.

Displaying Help

Help information is available on the context of the current field in the window, on the window (schema) itself, on using the AR System application, and on the software version information. To get access to the online help Index for the AR System application help, add the following line to your `.cshrc` file:

```
setenv ARHELP <ar_install_dir>/help
```

We also provide you with UNIX manual pages that you can access from the UNIX command line.

Displaying Help on Help

To display help on using the help function, select Using Help from the Help menu. doing so brings up a window that includes the Index to Using HyperHelp. Topics covered include:

- HyperHelp Basics.
- HyperHelp Buttons.
- HyperHelp Commands.
- HyperHelp Keys.
- HyperHelp Procedures.

Displaying Help for the Current Field or Active Link

To display help on the current field or active link, select **On Context** from the **Help** menu. The cursor changes to a question mark. Then, select the field or active link button that you want help on. You can also display help by placing the cursor (keyboard focus) on the field or active link button and then pressing the **F1** key. (If you are using a Sun SPARCstation, you may need to use the **Help** key instead of the **F1** key.) This help contains such information as the name of the field, the field ID, the data type, the maximum length of the field as well as any help text supplied by your AR System administrator. To display help on an active link tied to a field, select the field. To display help on an active link tied to the schema (an active link that triggers when you submit an AR or when you issue a query), select anywhere within the schema.

Displaying Help for the Current Window

If your AR System administrator created help for your schemas, you can display this help for the currently displayed schema. Select **On Window** from the **Help** menu. You can also select **On Context** from the **Help** menu. The cursor changes to a question mark. Then, place the pointer anywhere on the schema not on a field or active link and click the mouse button.

Displaying Version and Environment Information

To display information about the product, select **On Version** from the **Help** menu (or type **Ctrl+v**). Figure 2-8 illustrates the **About** box which includes the tool name, version number, and copyright information.

You should be prepared to provide this information whenever you call Customer Support.

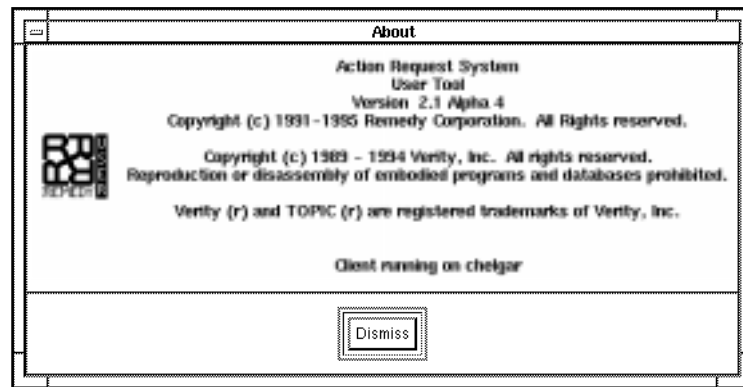


Figure 2-8 About Box

Displaying the AR System Man Pages

We provide you with UNIX manual pages for all AR System user commands. The UNIX manual pages are placed in a directory (`man`) under the AR System installation directory (`<ar_install_dir>`) when the AR System is installed. In order to be able to display our manual pages from any directory, you need to add this directory to your `MANPATH` environment variable. For more information about the UNIX manual pages that we provide, see Chapter 5 in the *Action Request System Programmer's Guide*.

To get access to the UNIX manual pages add the following line to your `.login` file:

```
setenv MANPATH <ar_install_dir>/man
```

Setting an Alternate Configuration Directory

The AR System uses a directory to hold your personalized configuration information for the User Tool. By default, this directory is named `arHome` and is stored under your home directory. If you do not want to use the default directory, you can set an alternate configuration directory either during installation or at a later time. Follow the instructions below to set an alternate configuration directory at any time after installation.

To set an alternate configuration directory:

1. Create the new directory where you want your AR System-related information stored. For example, to create the directory `myhome`, enter the following command:

```
% mkdir /user/myhome
```

2. Change the variable `ARHOME` to reference the new directory. For example, enter the following command:

```
% setenv ARHOME /user/myhome
```

The `ARHOME` variable tells the User Tool where its local configuration information is stored. The `NTHOME` variable tells the Notification Tool where its configuration information resides. You may set the `ARHOME` and `NTHOME` variables to point to separate directories; however, they are usually set to the same directory for simplicity. (See Chapter 8, Using the Notification Tool, for more information on setting an alternate configuration directory for the Notification Tool.)

Note – If the environment variables are not set, the configuration information is stored in the directory `arHome` under your home directory.

3. You must restart the User Tool in order for the change to take effect.

Note – Throughout this document, the configuration directory is referred to as `<ar_config_dir>`.

Sharing Macros, User Commands and Custom Reports

There are two ways that you can share macros, user commands, and custom reports. The first way is for you to copy the macro, user command, or custom report files and place them in your `<ar_config_dir>/arcmds` directory. The second way is to give the appropriate access to the directory where the macro, user command, and custom report files are located. This directory can be any directory. It doesn't have to be `<ar_config_dir>/arcmds`. Then, any user can add this directory to their `ARPATH` environment variable. Using this second way allows many users access to the same macros, user commands, and custom reports without having to always copy files.

Note – In general, you can share macros with users running on different platforms. The one exception is that macros that include report printing cannot be used on hardware platforms other than the one they were created on.

Copying Files

By default, the AR System creates macros, user commands and custom reports in your `<ar_config_dir>/arcmds` directory. Their default file names are:

Macros	<code><macro_name>.arq</code>
User Commands	<code><user_command_name>.arc</code>
Custom Reports	<code><custom_report_name>.arr</code>

Note – The name you give a macro, user command, or custom report is used to construct the name of the file holding the macro, user command, or custom report respectively. The file name can be up to eight characters long and is appended with the appropriate suffix (`.arq` for macros, `.arc` for user commands, and `.arr` for custom reports).

If the name is identical to an existing file, the last three characters are replaced with numbers. Also, all blanks and special characters are replaced with a lower case `x`. For example, if you already have a custom report named Daily Income Totals (`DailyxIn.arr`) and you create another custom report named Daily Income Summary, this second custom report's file name will be `Daily001.arr`.

Once you copy the files and place them into your `<ar_config_dir>/arcmds` directory, you can access them after restarting your User Tool.

Defining your `ARPATH` environment variable

The second way you can share macros, user commands, and custom reports is to first change the file protections at the UNIX system level to the directory where the files are located (`<ar_config_dir>/arcmds` or any directory containing the files) and to the existing files (macros, user commands, and custom

reports). Using the `ARPATH` environment variable, you can place macros, user commands, and custom reports in directories other than `<ar_config_dir>/arcmds`.

The UNIX file protections needed to allow specific access are as follows:

To allow other users to...	Give them...
Access your directory	Execute and Read access to all directories in the path name.
Read and execute your files	Read access to your files.
Create a new file in your directory	Write access to your directory.
Modify any of your files	Read and Write access to your files.
Delete your files	Write access to your directory.

Note – If you try to modify a macro that you only have Read and Execute access to, but not Write access, you will receive an AR System error message.

Once the file protections are set appropriately, you need to include the directory in your `ARPATH` environment variable definition. If you don't define this environment variable, your personal `<ar_config_dir>/arcmds` directory is the only directory where you can create and execute macros, user commands, and custom reports. You define the `ARPATH` environment variable like other UNIX environment variables specifying directory path names separated by colons (:). You don't have to add your own `<ar_config_dir>/arcmds` directory to your `ARPATH` environment variable since it is automatically included. The following example gives you access to all files in both Sue's and Jay's default `<ar_config_dir>/arcmds` directory, provided the file protections were set appropriately:

```
%setenv ARPATH /home/sue/arHome/arcmds:/home/jay/arHome/arcmds
```

After changing the file protections and specifying your `ARPATH` environment variable, you need to re-start your User Tool to be able to access these macros, user commands, and custom reports.

Defining your ARDATE Environmental Variable

What is ARDATE?

ARDATE is an AR System environment variable that allows you to customize the display of dates and times. ARDATE is set on a per-user basis. The format you specify using ARDATE is used by the AR System during displays and reads of date/time fields.

To set ARDATE, use the following syntax:

```
%setenv ARDATE "<your_format>"
```

When to Use ARDATE?

The ARDATE environment variable is useful when you:

- Need a particular date format.
- Need a local date format, and there is no systemwide locale setting available.
- Would like to create reports which contain a different date format than the format you usually see on the screen.

ARDATE affects dates in date/time fields, diary fields, and Change History fields. ARDATE does *not* affect dates displayed in the query list.

Note – If you want to change date and time format sitewide, instead of per-user, your administrator will need to change your operating-specific locale settings.

Customizing Date/time Formats

Field Descriptors

You may create whatever date formats you want by combining **field descriptors**. Field descriptors represent different components of dates and times. Available field descriptors may differ depending on your UNIX machine type. By default, the AR System uses the format "%x %X".

Table 2-4 lists the field descriptors that you can use with `ARDATE`.

Table 2-4 ARDATE Field Descriptors

Field Descriptor	Function
%%	Same as %.
%a	Day of week, using locale's abbreviated weekday names.
%A	Day of week, using locale's full weekday names.
%b or %h	Month, using locale's abbreviated month names.
%B	Month using locale's full month names.
%d	Day of month (01-31).
%D	Date as %m/%d/%y.
%e	Day of month (1-31; single digits are preceded by a blank).
%H	Hour (00-23).
%I	Hour (00-12).
%k	Hour (0-23; single digits are preceded by a blank). (Sun only)
%m	Month number (01-12).
%M	Minute (00-59).
%p	Locale's equivalent of AM or PM, whichever is appropriate.
%r	Time as %I:%M:%S %p.
%R	Time as %H:%M.
%S	Seconds (00-59).
%T	Time as %H:%M:%S.
%w	Day of week; Sunday is day 0.
%x	Date, using locale's date format.
%X	Time, using locale's time format.
%y	Year within century (00-99).
%Y	Year, including century (for example, 1995).

The format you specify can contain any characters (including the field descriptors in Table 2-4.), in any combination that you choose. So, if you want to put a comma in your date, include the comma in the appropriate place in the format.

You are not required to type dates using the format given in `ARDATE`. For example, if you set `ARDATE` to display dates in the format "11 Sep 1995, 1:00:00 P.M." you could still type "9/11/95 13:00"

Examples

The following are examples of `ARDATE` settings:

To Display the Format...	Set <code>ARDATE</code> to...
01/31/95	<code>setenv ARDATE "%m/%d/%Y"</code>
11 January 1995 16:30:00	<code>setenv ARDATE "%d %B %Y %X"</code>

Note – The wording of the second example may differ according to the `LANG` environment variable or your system's default language. For example, the `%B` descriptor, meaning full month name, may differ according to the language defined by the `LANG` environment variable or according to the system's default language (also known as the `locale`).

Errors in Formatting `ARDATE`

If you set up an incorrectly formatted `ARDATE` environment variable, the AR System will parse the correctly formatted parts and return the invalid parts as a literal string in the date/time.

Check Table 2-4 on page -39 for a list of valid field descriptors.

It is possible to write an `ARDATE` environment variable that is correctly formatted but doesn't make sense. For example, repeating a valid descriptor excessively (`%B %B %B %B %B`) is something to be avoided. If a format like this is chosen, dates will be formatted correctly on output, but the system will not be able to interpret any date you specify as input.

Submitting an Action Request



An **action request** (AR) is a collection of information that describes an incident, such as a problem or a service request.

You submit an AR by entering the appropriate information in the Submit window of the User Tool. The AR is added to the database and, normally, a member of the support staff is assigned the AR. After the AR is resolved, it remains in the database where other users managing similar ARs are able to reference it.

You can open more than one Submit window at any time. You can open multiple Submit windows for the same schema, or you can open Submit windows for multiple schemas.

This chapter describes the features of the Submit window and tells you how to use the Submit window to submit an AR. It covers the following topics:

- Submitting an AR.
- Filling in fields of different data types.
- Using keywords when filling in fields.
- Using Text Edit and Diary Entry windows.
- Using active links.

General Steps for Submitting an Action Request

The steps below describe the process of submitting an action request to the AR System using the User Tool. (To review or modify information in an AR once it is submitted, you must use the Query window, as described in *Chapter 4, Reviewing and Modifying Action Requests*.)

To submit an action request:

1. Select the schema you want to work with by selecting **Open Schema** from the File menu. The **Open Schema** window opens, as shown in Figure 3-1.
2. Select the schema name, and then select the **Apply** button, or double-click on the schema name (or type **Ctrl+O**).

For more information, see *Selecting a Schema* in Chapter 2.

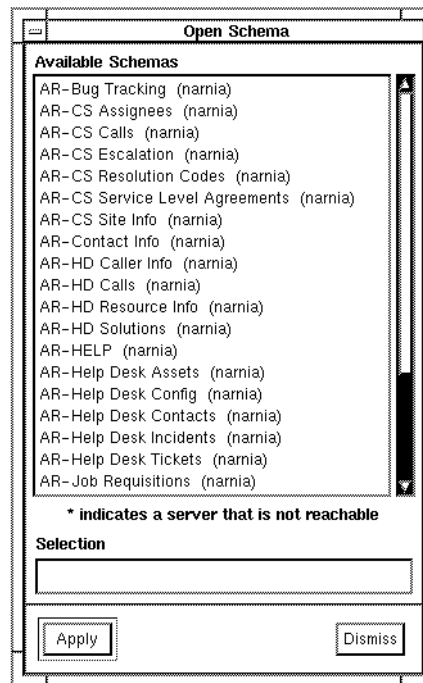


Figure 3-1 Schema List Window

3. Open a Submit window by selecting Open Submit from the File menu (or typing Ctrl+S).
The Submit window opens displaying the selected schema, as shown in Figure 3-2.

The screenshot shows a window titled "Submit -- AR-HD Calls (namia)". The interface is organized into several sections:

- Call Information:** Fields for Call ID, Date, Status, Source, and Caller Impact.
- Caller Information:** Fields for Last Name, First Name, and Phone #.
- Navigation Buttons:** SHOW ALL CALLS, LOOK UP CALLER, CREATE CALLER, SHOW MY ACTIVE CALLS.
- Problem Summary:** A text area for the problem summary and a Search Keyword field.
- Solution Candidates:** A field for solution candidates, a Call Type dropdown (Original, Copy), and an Original Call ID field.
- Lookup Buttons:** LOOK UP CALL(S), LOOK UP SOLUTION(S), CREATE SOLUTION.
- Resource Information:** Fields for Resource Type, Resource ID, Resource Name, Resource Location, Hardware, Operating System, GUI, and LAN.
- Lookup Buttons:** LOOK UP RESOURCE.
- Problem Details:** Fields for Problem Details and Disposition Notes.
- Assignment and Priority:** Assigned To field, Assigned Priority dropdown (High, Med, Low), and Submitted by field.
- Call Log:** Call Log field, Last-modified-by field, and Modified-date field.
- Footer Buttons:** Apply, Clear, Set To Defaults, Dismiss.

Figure 3-2 Submit Window

- Select and fill in fields as appropriate to describe the problem or request. For details, see *"Filling in Fields" on page 45*.
- Select the Clear button to clear all fields.
- Select the Set to Defaults button to fill in fields with pre-set default information. For information on how to specify default values, see Chapter 7, Customizing the Environment.

4. Select the Apply button to submit the completed AR.

The system checks to ensure that all required information has been entered and all values are valid. If any required information is missing or an error is found, an error message appears in a window and the AR is not submitted. Make the necessary corrections and resubmit the AR.

If there are no errors, the AR is added to the database. You receive a confirmation message either in the footer area at the bottom of the window or in both the footer area and in a confirmation box, depending on how you set the Confirmation upon successful submit preference. For more information about preferences, see Chapter 2, Getting Started with the User Tool.

Note – If a schema is larger than the window, use the **scroll bars** to view the undisplayed portions or resize the window.

When You Can Access Fields

Your schema view shows only fields to which you have *complete* or *conditional* access. The AR System Administrator determines which fields you can access and when access is allowed. If you do not have permission to a field, the field is not visible, or it is read only (you cannot change the value).

If a field is protected, you *must* be a member of a group with write access to that field and have a fixed or floating write license. If you want users to be able to set the field at Submit time without write access, you must set the Create Mode to Open. Refer to *Create Mode* in Chapter 4 of the *AR System Administrator's Guide* for more information.

Filling in Fields

Figure 3-3 on page -46 shows an example of a Submit window with a typical schema view. Field labels may appear either to the left of or on top of the field. You can move from field to field by selecting a field with the mouse or by pressing the Tab key. Note the different font styles used for the field labels. The font style provides you with some information about the field:

- **Bold** text means the field is required. You must enter appropriate data in required fields.

- Plain text means the field is optional. You may enter data or leave the field empty.
- *Italic* text means the field is managed automatically by the system and cannot be filled in during AR submission. It is a read-only field.

Note – If you have permission to do so, you can change the field labels that appear on your view of the schema by customizing your view of the schema. (See Chapter 7, Customizing the Environment.)

System maintained fields are shown in *italic* typeface.

Required fields are shown in **bold** typeface.

Optional fields are shown in regular typeface.

The screenshot shows a window titled "Submit -- AR-HD Calls (narnia)". It contains several sections of fields and buttons:

- Call Information:** Call ID, Date, Status, Source, Caller Impact (all in regular typeface).
- Caller Information:** Last Name + (italic), First Name, Phone # (all in regular typeface).
- Buttons:** SHOW ALL CALLS, LOOK UP CALLER, CREATE CALLER, SHOW MY ACTIVE CALLS.
- Problem Summary:** Problem Summary (italic), Search Keyword (regular).
- Solution Candidates:** Solution Candidates (bold), Call Type + (italic), Original Call ID (regular).
- Buttons:** LOOK UP CALL(S), LOOK UP SOLUTION(S), CREATE SOLUTION.
- Resource Information:** Resource Type, Resource ID, Resource Name, Resource Location (all in regular typeface); Hardware, Operating System, GUI, LAN (all in regular typeface).
- Buttons:** LOOK UP RESOURCE.
- Problem Details:** Problem Details (italic), Disposition Notes (italic).
- Assigned To:** Assigned To (regular), Assigned Priority (italic) with radio buttons for High, Med, Low.
- Submitted by:** Submitted by (regular).
- Call Log:** Call Log (regular), Last-modified-by (italic), Modified-date (italic).
- Buttons:** Apply, Clear, Set To Defaults, Dismiss.

Figure 3-3 Example of the Submit Window

Field Data Types

A field is characterized by its data type, which determines the kind of information you can enter in the field. The following list describes the field data types.

Data Type
Character

Description

Character fields can contain any characters that you can type or copy. The AR System administrator sets the maximum length of each field and (optionally) a pattern defining allowable characters. A character field can be set to a maximum of 65,000 characters. A character field can include a pull-right menu that serves as a fill-in aid. Depending on how your AR System administrator defines this menu, selecting an item from the menu may either overwrite or append to any existing field contents. Character menus can be created from a static list of items, from the contents of a file, or from the result of a query on another schema. Since changes to the file or to the other schema might change the items contained in the menu, your AR System administrator can choose whether to update the menu when the schema is first read, when the menu is first displayed, or after a specific period of time. Therefore, the contents of a character menu might change from time to time. A good use of this type of menu is one that contains a list of all of your employees which may change over time.

If a character field is 70 characters or more, you can open a Text Edit window by either clicking in the field with the MENU button, displaying a menu and then selecting the Text Edit Window option, or by selecting the text edit pop-up symbol to the right of the field. For more information, see “Using the Text Edit Window” on page 52.

Diary	Diary fields contain multiple character entries that are automatically stamped with the date, time, and the name of the user who entered the item. Each diary item can contain any characters that can be typed or copied. You can open a Diary Entry window for the field by either clicking in the field with the MENU button, displaying a menu and then selecting the Open Diary option, or selecting the diary pop-up symbol to the right of the field. A diary field can be set to a maximum of 65,000 characters. For more information, see “ <i>Using the Diary Entry Window</i> ” on page 54.
Integer	Integer fields contain a number between -2147483648 and 2147483647, though their range may be limited by the AR System administrator. For integer fields with a display property field type of numeric text, up and down arrows appear to the right of the field to allow you to increment and decrement the value in the field.
Real	Real fields contain a floating-point number. You can enter numbers either with a decimal point or in scientific notation (for example, 1.43 or 2.9e-9). The AR System administrator sets the range of real fields. If your AR System administrator set up a real field to be a precision field, the number that is displayed is rounded off. The number stored in the database is not changed, only the number that you see is either rounded up or down.
Selection	Selection fields provide a list of exclusive, named choices. The possible choices are displayed as radio buttons or as a menu.
Date/Time	Date/time fields contain numerics, characters for months, time/date punctuation, and AM/PM designations. You must enter the date <i>first</i> when entering both date and time.
Note:	If the date is <i>not</i> entered, the current date is assumed. If the time is <i>not</i> entered, 0:0:0 (12:00 midnight) is assumed. You can enter the <i>month</i> as text as a full word or as an abbreviation (February or Feb) or numerically with or without leading zero (02 or 2). You can enter the <i>day</i> with or without a comma or leading zero: October 4, 1994; Oct 04 94; 10/04/94 The year is optional. You can enter it as two digits (94) or four digits (1994). If you do not enter the year, the current year is assumed.

Note: If your hardware platform allows for the localization of the date format, your date format might be day, month, year as opposed to month, day, year. For information about what date format your platform uses, see your system administrator.

You can enter the *time* in either 24 or 12 hour format, using a colon to separate hours, minutes, and seconds (minutes and seconds are optional):
13:30:28 or 1:30:28 PM

Field Data Entry Operations

The following summarizes the ways in which you enter data and select choices in schemas. Refer also to the illustration in Figure 3-4.

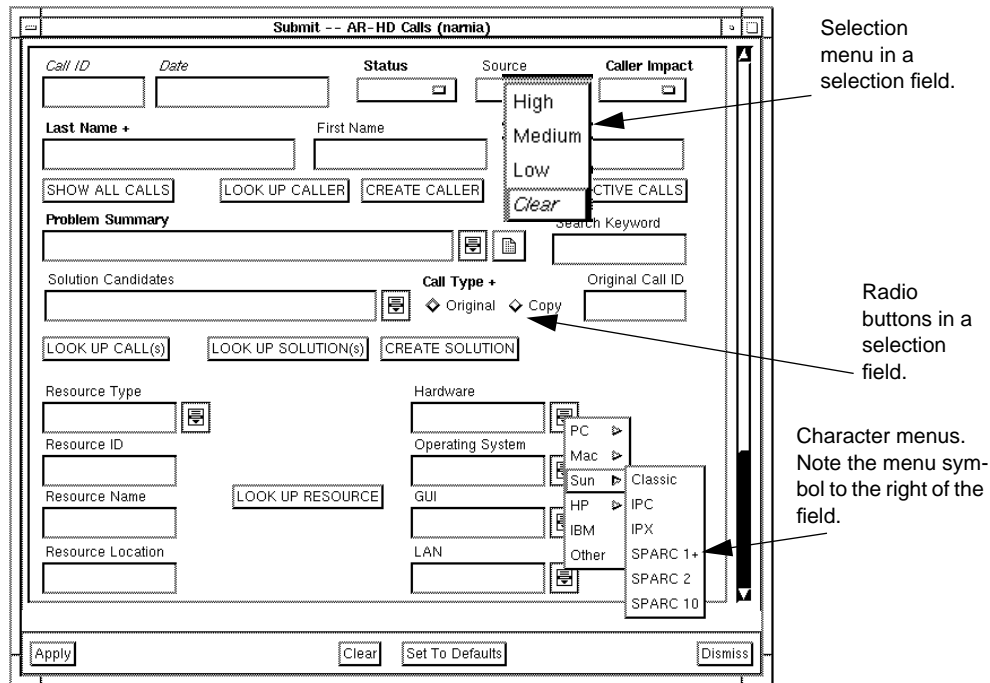


Figure 3-4 Entering Data into Fields

To type and edit information in a field:

- Select the field and begin typing.
The type of information you can enter in a field depends on that field's data type, as described previously. For example, in date/time fields information must be entered in a specific format. You can continue typing up to the maximum length allowed for the field. In diary fields and character fields of 70 characters or more, you can open a Text Edit or Diary Entry window that lets you enter more information by selecting the pop-up symbol to the right of the field. Some fields may have a character menu associated with them providing suggestions. Press the menu pop-up symbol to the right of the field and then drag the pointer over the item you want and release the mouse. Your selection either replaces or appends to any existing text depending on how your AR System administrator defines this field.

To use selection menus:

- Press the selection menu symbol to the right of the field and then drag the pointer over the item you want and release the mouse. Your selection replaces any text already in the field.
You can also display a selection menu by placing the pointer on the selection menu field and pressing the right mouse button or by placing the cursor (keyboard focus) in the selection menu field and pressing F4.

To use selection radio buttons:

- Select the radio button you want (you can select only one button at a time). To de-select a button, simply select it again. To change your selection, select another button.

Using Keywords

You can enter keywords any place that you can enter character values. Keywords used to fill in fields on an AR are replaced with their corresponding values when you submit the AR. The available keywords are shown in Table 3-1:

Table 3-1 Keywords (1 of 2)

Keyword	Substituted Value
\$DATE\$	Current date. In a date/time field, the time defaults to midnight (0:0:0).
\$DEFAULT\$	Default value for the associated field (only used when assigning a value to a field).
\$GROUP\$	The group of which the current user is a member.
\$HARDWARE\$	Hardware platform the current process is running on. The information that is included is the same value that is returned by the UNIX <code>uname -m</code> command string.
\$NULL\$	A null value (mainly used during modify operations or when selecting the Set to Default button on a Query or Submit window to remove a value). For more information on how to remove a value when selecting the Set to Default button, see Chapter 7, Customizing the Environment.
\$OPERATION\$	Current operation being performed. One of the following values is returned: * CREATE is returned for a Submit operation. * DELETE is returned for a Delete operation. * GET is returned for a Display operation. * GETLIST is returned for a Query List operation. * SET is returned for a Modify operation. * QUERY is returned for a Query operation.
\$OSS\$	Operating system that the current process is running under.
\$SCHEMA\$	Schema currently operating on.
\$SERVER\$	Server currently operating on.
\$TIME\$	Current time. In a date/time field, the date defaults to the current date.

Table 3-1 Keywords (2 of 2)

Keyword	Substituted Value
\$TIMESTAMP\$	Current date/time stamp.
\$USER\$	Name of the user who is currently logged in.
\$WEEKDAY\$	Current day of the week.

Note – These keywords are especially useful for specifying default values (see Chapter 7, Customizing the Environment), in query definitions (see Chapter 4, Reviewing and Modifying Action Requests), and in macro definitions (see Chapter 6, Using Macros).

Special Data Entry Operations

The Text Edit and Diary Entry windows provide the means for compiling narrative information about the condition described in an AR.

Using the Text Edit Window

If a character field has a maximum length of 70 characters or more, you are able to open a Text Edit window in which you can enter up to a maximum of 65,000 characters. Simply select the text edit pop-up symbol to display the Text Edit window, as described as follows and shown in Figure 3-6 on page 54.

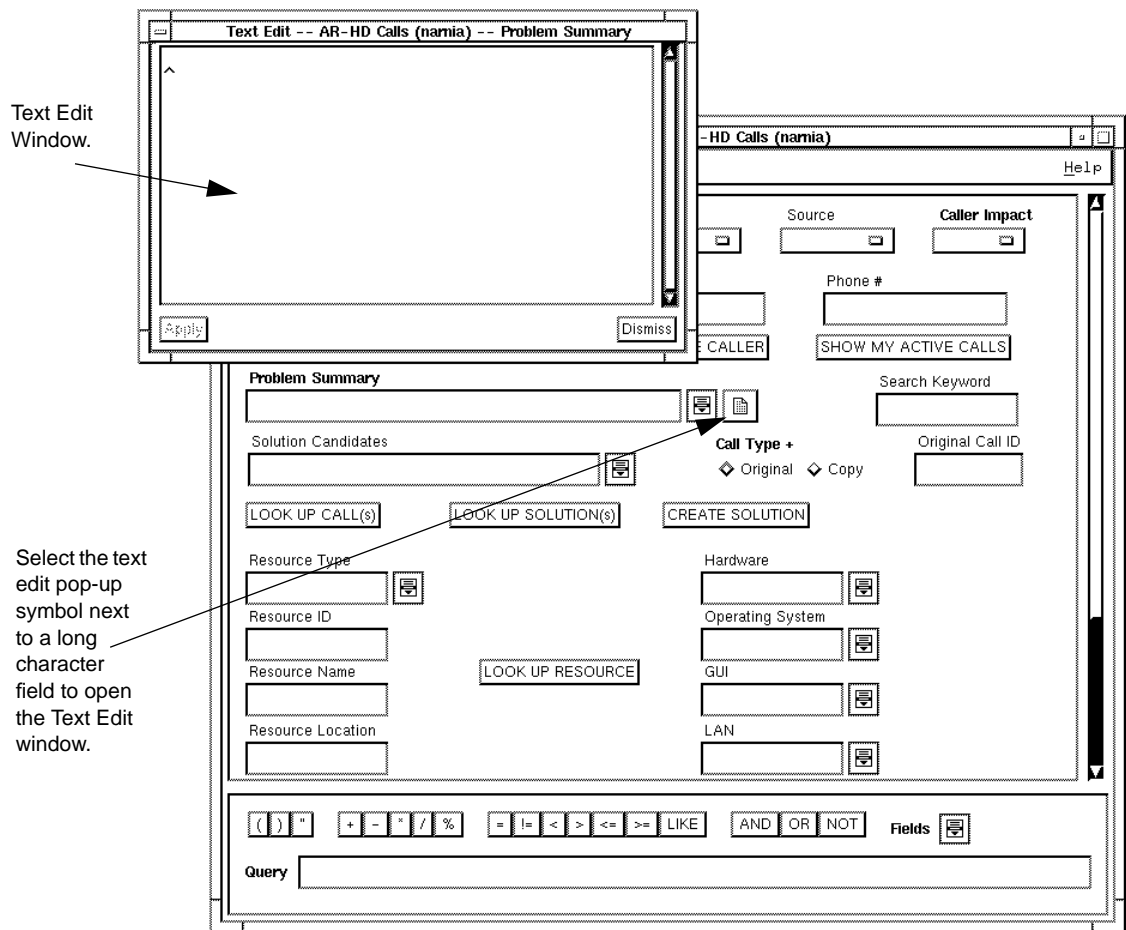


Figure 3-5 Text Edit Window

To use the Text Edit window:

If your text entry is short enough to be visible in the field, simply type into the field. Otherwise, do the following:

1. **Select the text edit pop-up symbol to the right of the field to open the Text Edit window. A Text Edit window appears (Figure 3-5).**

Note – If there is no text edit pop-up symbol beside the field it is because the field is shorter than 70 characters.

2. Select anywhere in the Text Edit window and begin typing or copying from other windows.

3. When you have finished, select the Apply button.

If you selected Leave window up for the Submit window - Text Edit/Diary window Apply action preference on the Preferences window, the Text Edit window remains up until you select the Dismiss button. If you selected Close window for the Submit window - Text Edit/Diary window Apply action preference, the Text Edit window closes. For more information about preferences, see Chapter 2, Getting Started with the User Tool.

Selecting the Dismiss button before selecting the Apply button removes the Text Edit window without saving any edits.

Using the Diary Entry Window

Diary type fields are where you keep a narrative history of actions taken on an AR. They allow you to open a Diary Entry window where you can add a comment about actions taken on the AR. Each addition to the diary is name, date, and time stamped. A diary field can be set to a maximum of 65,000 characters. Select the diary pop-up symbol as described as follows and shown in Figure 3-6 on page 54.

Typically, you would update a diary field any time a notable change has occurred that is not automatically captured in the Status History or in another field. See *Adding a New Diary Entry* in Chapter 4 for information on how to update the diary field on an existing AR.

On the Display and Modify Individual windows, the diary pop-up symbol appears different when the diary entry field contains information. The pages in the diary pop-up symbol appear to contain text. This way, you can tell at a glance if the field contains any information.

Note – You can make additional diary entries after an AR is submitted. Previous entries cannot be edited; they can only be reviewed.

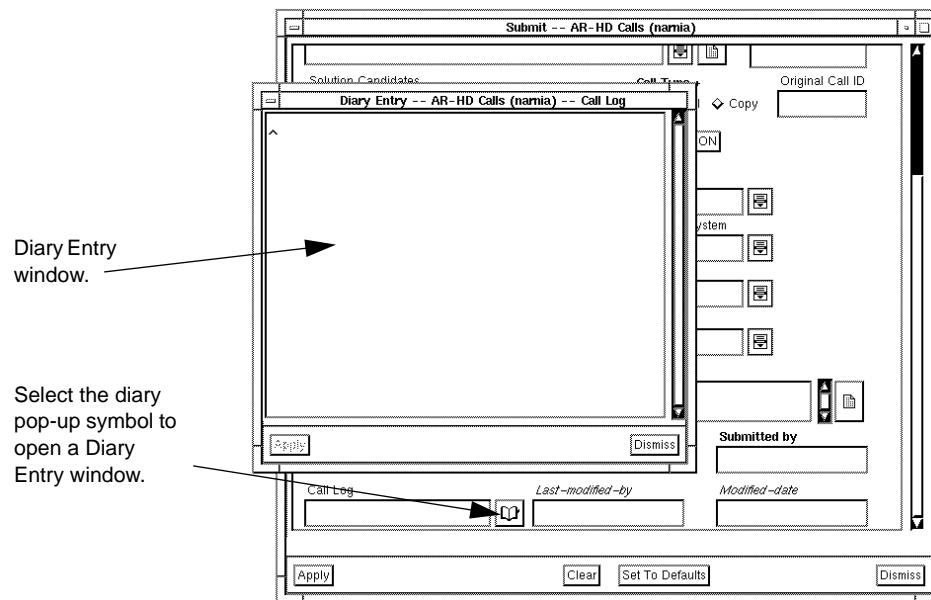


Figure 3-6 Diary Entry Window

To use the Diary Entry window:

If your text entry is short enough to be visible in the field, simply type into the field. Otherwise:

1. **Select the diary pop-up symbol to open a Diary Entry window (Figure 3-6).**
2. **Select in the Diary Entry window to enter text and begin typing or copying from other windows.**
3. **When you are finished, select the Apply button.**
 If you selected Leave window up for the Submit window - Text Edit/Diary window Apply action on the Preferences window, the Diary Entry window remains up until you select the Dismiss button. If you

selected Close window for the Submit window - Text Edit/Diary window Apply action preference, the Text Edit window closes. For more information about preferences, see Chapter 2, Getting Started with the User Tool.

Selecting the Dismiss button before selecting the Apply button removes the Diary Entry window without saving any edits.

Using Active Links

An **active link** is an operation that the AR System administrator has set up to execute automatically when you perform certain actions while filling in, viewing or modifying an AR. Since your AR System administrator can set up an active link to execute only when certain conditions are met, an active link may not always execute. An active link may cause one of the following actions:

- Execute a macro.
- Open a Submit window.
- Fill in fields automatically.
- Run another program.
- Move the focus to a different field.
- Change the type of field. (Read, Write, or Disabled).
- Display a Note, Warning, or Error message.
- Change the items on a menu.

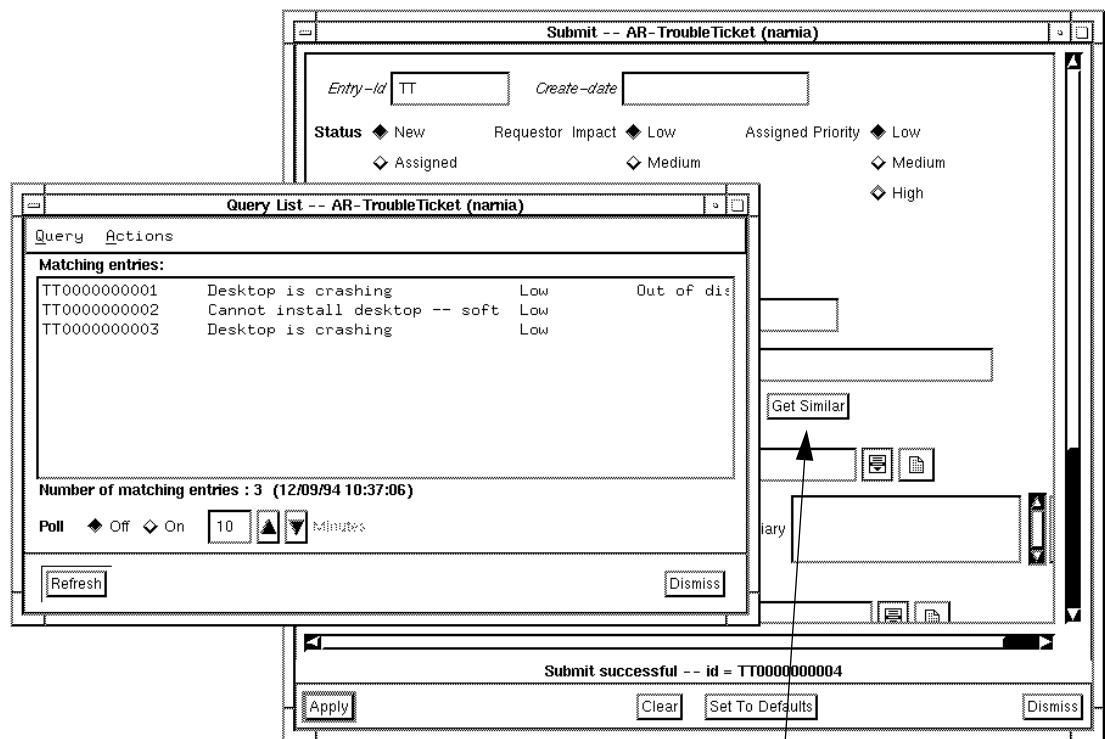
Depending on how the AR System administrator has set up the active link, you may trigger the operation by one of the following actions:

- Selecting a button.
- Selecting a radio button.
- Selecting an item on a character menu.
- Submitting, displaying or modifying an AR.
- Setting default field values on either the Submit or Query window.
- Pressing Return in a field.

Note – In a multi-line text field, you need to press Shift+Return to activate this type of active link.

Your AR System administrator may have attached more than one active link to any of these actions. In this case, performing an action can trigger more than one operation.

In the example shown in Figure 3-7, selecting the active link button called “Get Similar” caused a macro to be executed that produced a Query List window containing entries that were similar to the problem being entered using the TroubleTicket schema. For more information about Query List windows, see Chapter 4, Reviewing and Modifying Action Requests.



Active Link button.

Figure 3-7 Active Link Example

Note – Active links designed to execute on a different platform may generate unexpected results. Contact your AR System administrator if you experience problems while using a schema that includes an active link that was designed for a different platform.

Selection Lists

If you activate an active link that does a query and then fills a field with the value it finds as a result of the query, and if the query returns more than one possible result, a **Selection List** window (pick list) is displayed letting you select which value you want entered into the field. The Selection List window contains the query list description of all of the ARs that match the query criteria.

Note – Your AR System administrator can specify which fields are displayed in a query list description for each schema and the order they are displayed. Also any sorting options that you specify affect your Query List and Selection List windows. So, if you activate an active link that returns a query list on two different schemas, the selection list in the two Selection List windows might not display the same field contents. For more information about Query List windows and how your AR System administrator can customize them, see Chapter 4, *Reviewing and Modifying Action Requests and the Action Request System Administrator's Guide*.

A good example of where you might see a Selection List window is if you have an active link on your Job Requisition schema that queries your Recruiting schema for all names of those candidates who interviewed for a particular job. Suppose you have already interviewed three people for a secretarial position entered in the Job Requisition schema. An AR has been entered in the Recruiting schema for each of the three candidates.

When displaying the secretarial position in the Job Requisition schema in a Modify Individual window, you can select the active link that queries the Recruiting schema searching for all ARs listing people who interviewed for this secretarial position. A Selection List window is displayed, as shown in Figure 3-8, listing the three people previously interviewed and you can now select the name you want entered into the Hired field on the Job Requisition AR.

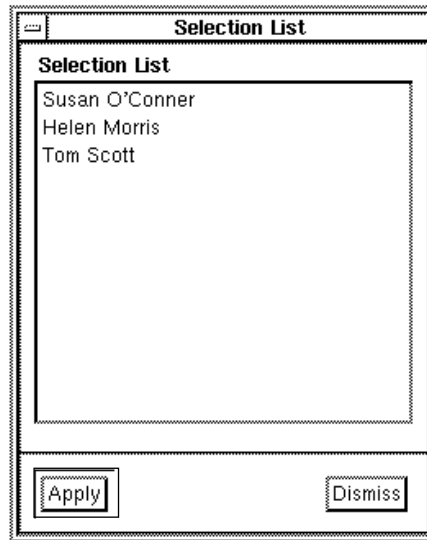


Figure 3-8 Selection List Window

To use a Selection List window:

1. Select the value you want in the selection list and then select the **Apply** button.
2. Selecting the **Dismiss** button removes the Selection List window without filling a value in the field.

Setting Submit Window Preferences

You can control several aspects of how the Submit window looks and acts by selecting Preferences from the File menu in the Query window. You can set fields to be cleared, loaded with your defaults, or retained with their previous contents after each successful submission. You can also specify whether you receive a confirmation box and a footer or only a footer when you successfully submit an AR. For more information on how to set Submit window preferences, see *Setting User Preferences* in Chapter 2.

Reviewing and Modifying Action Requests



You can use the Query window of the User Tool to look at or modify any AR or set of ARs that your AR System administrator has given you permission to look at or modify. For example, you might want to look at all the ARs that were submitted during the last month for a particular piece of equipment. You can do so by defining a query that locates the ARs you are interested in and performing an operation to display those ARs.

To find specific ARs, you **query** the database; that is, you specify a set of search criteria that define the set of ARs in which you are interested. You specify query criteria in one of two ways: by using a simple query-by-example method, or, for more complex search conditions, by using the query bar. You can also combine the two query methods to search for results that match both.

Once you have found an AR or a set of ARs, you can perform many different operations on them, including listing, displaying, modifying, deleting, and generating reports or statistics based on their contents.

This chapter describes the Query window and tells you how to use it to review and modify ARs. It covers the following topics:

- Defining query criteria using query-by-example (QBE).
- Defining query criteria using the query bar.
- Listing ARs in a one-line summary.
- Displaying ARs one by one.
- Modifying one or more existing ARs.

- Deleting ARs.
- Using full text search.

Chapter 5, Reports describes how to create reports based on the contents of the ARs.

General Steps for Querying the Database

When you query the database, you are searching for ARs that meet a specific set of criteria. The following describes the general steps you use to query the database.

To query the database:

1. In the Query window, select the schema you want to work with.

You select a schema by selecting Open Schema from the File menu, then selecting the schema and the Apply button or double-clicking on the schema you want in the list box (or typing `Ctrl+O`).

2. Define the query criteria to be applied to the search by filling in fields in the Query window or by using the query bar. (The query bar is an area at the bottom of the Query window that allows you to easily “build” complex query criteria.) See “Defining Query Criteria” on page 62 for more detailed information.

3. Select the operation that you want to perform on the ARs from the Query menu. See “Using a Null Value in a Query” on page 189 for more detailed information.

The Query menu is shown in Figure 4-1.

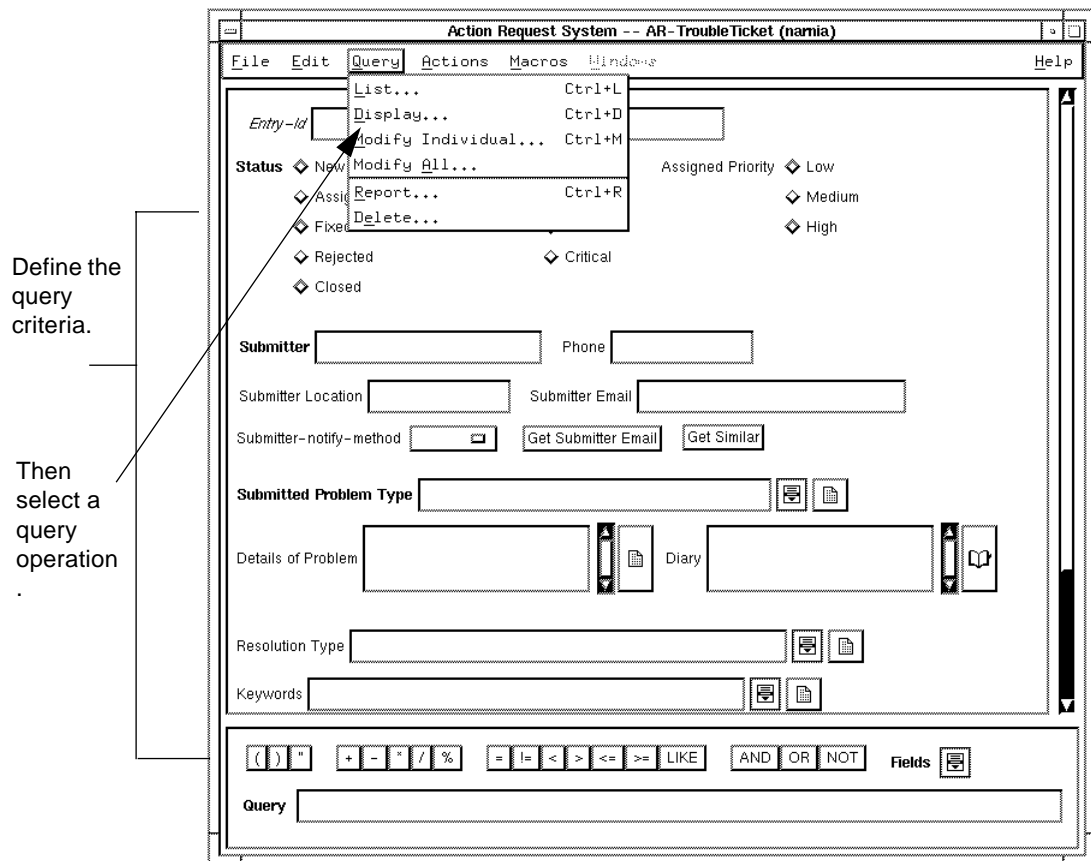


Figure 4-1 Query Menu

Defining Query Criteria

The query criteria you specify determine which AR or set of ARs the system selects for a query operation. There are two ways that you can specify query criteria, creating a **query-by-example** and using the **query bar**, as shown in Figure 4-2.

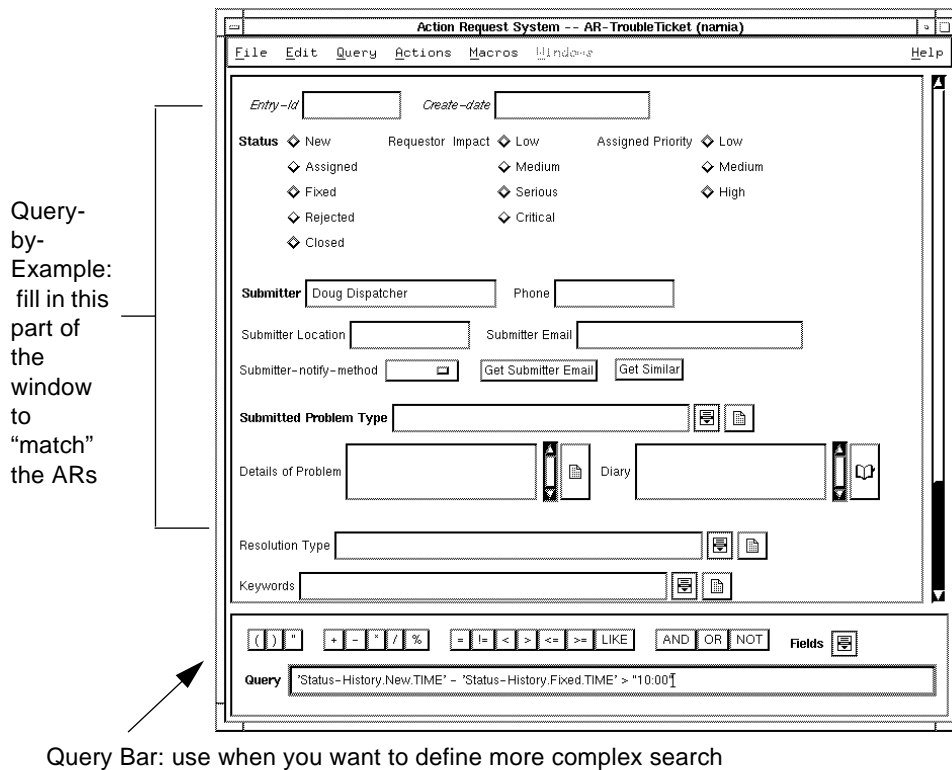


Figure 4-2 Specifying Query Criteria

Query-by-Example

The simplest way to specify query criteria is to fill in fields and select choices and radio buttons in the Query window that match the ARs you want to find. This is called creating a **query-by-example**.

When filling in character fields, you need to be aware of the default search style that your AR System administrator specified for the field. The three different search styles are: Equal, Leading, and Anywhere.

The **Equal** search style means that whatever you enter into the field is searched for exactly. For example, if you enter Bob Smith in the Submitter field you only find all ARs submitted by Bob Smith, but not any submitted by Bob Smithe.

The **Leading** search style means that whatever you enter into the field is searched for at the beginning of the field with any number of trailing characters. This means that the query will return every AR with this field that contains the first characters exactly as you entered plus any characters that may follow. For example, if you enter `Bob` in the Submitter field you will find all ARs submitted by Bob Smith, as well as those submitted by Bobby Jones.

The **Anywhere** search style means that whatever you enter into the field is searched for anywhere within the field. For example, if you enter `Bob` in the Submitter field you find all ARs submitted by Bob Smith, as well as those submitted by Bobby Jones and Jill Bobbington.

Equal and Leading searches are faster than Anywhere searches since Anywhere searches have to compare each character in the field while Equal and Leading searches do not.

You can override your administrator's default search style by entering exactly what you are searching for using relational operators and wild card characters. However, doing this you lose any performance gains that would result from using the Equal or Leading search styles. For more information, see "Using Relational Operators in the Query Window" on page 65 and "Using Wild Card Symbols" on page 67.

To find out what search style your AR System administrator specified for a particular character field, display the context sensitive help for that particular field. For more information on context sensitive help, see "Displaying Help" on page 31 in Chapter 2, Getting Started with the User Tool.

You can perform an unqualified query by first clearing all fields and then querying for all ARs that match anything in every field. This type of query returns all ARs submitted using this schema. While this is useful for some schemas, if the schema contains a large number of ARs, this type of query could *overload* your server. In this case, your AR System administrator might specify that you can't perform an unqualified query for all schemas on a particular server. If you try to perform an unqualified query on a protected server, you receive an error message informing you that this is not allowed and that you need to specify some query criteria.

For a more precise query, you can specify values for more than one field. The system searches for ARs that meet all of the criteria (logical AND), so the more fields you fill in the more specific your query becomes.

Query Bar

The second method for specifying query criteria is to use the **query bar** at the bottom of the window. The query bar lets you define a more complex set of criteria. It also allows you to use a Status History field item in a query, which is not possible in a query-by-example. For more information, see *“Using the Query Bar” on page 69*.

You can use both the query-by-example style and the query bar at the same time. However, it is important to remember that any criteria you enter in the query bar is used in *addition* to the criteria you have defined in the query-by-example section of the window. That is, the two sets of criteria are logically ANDed.

Note – You can record and save frequently used and complex queries as macros that can be run automatically at any time. For more information, see Chapter 6.

To define query criteria:

- 1. Fill in fields in the query-by-example section of the Query window or use the query bar to define a query statement.**

You can use relational operators (<, >, !=, <=, >=, =) and wild card symbols to further define query criteria. For more information, see *“Using Relational Operators in the Query Window” on page 65* and *“Using Wild Card Symbols” on page 67*.

Select Clear All from the Edit menu (or type `Ctrl-E`) to clear all fields.

Select Set to Defaults from the Edit menu (or type `Ctrl-U`) to fill in fields with pre-set default information. For information on specifying default values, see Chapter 7.

- 2. After you have finished defining query criteria, select a query operation. For more information, see *“Using a Null Value in a Query” on page 189*.**

Using Relational Operators in the Query Window

You can use the relational operators shown in Table 4-1 anywhere in the Query window. Relational operators are especially useful in non-text fields (such as date and time fields) when you want to query for a value within a numerical

range. (See Table 4-3 on page -72 in the section titled “Using Operators in the Query Bar for the list of additional operators you can use only in the query bar.)

Table 4-1 Relational Operators Used in the Query Window

Operator	Action
<	Match contents that are <i>less than</i> the value.
>	Match contents that are <i>greater than</i> the value.
!=	Match contents that are <i>not equal to</i> the value.
<=	Match contents that are <i>less than or equal to</i> the value.
>=	Match contents that are <i>greater than or equal to</i> the value.
=	Match contents that are <i>exactly equal to</i> the value.

Note – You can override the search style specified by your AR System administrator using relational operators. For example, you can use = (an equals sign) to search for an exact match even if your AR System administrator specified the search style to be Anywhere. For more information about the different search styles, see “Query-by-Example” on page 63.

The example shown in Figure 4-3 uses the “=” (exactly equal to) relational operator. In the example, Open Ticket Status is selected and =Bob is entered in the Submitter field. The resulting search finds all open ARs with an exact match for “Bob” in the Submitter field.

Note – By entering =Bob into the Submitter field you override the default search method specified by your AR System administrator for that field. Entering =Bob into the Submitter field means that an Equal search method is done in that field.

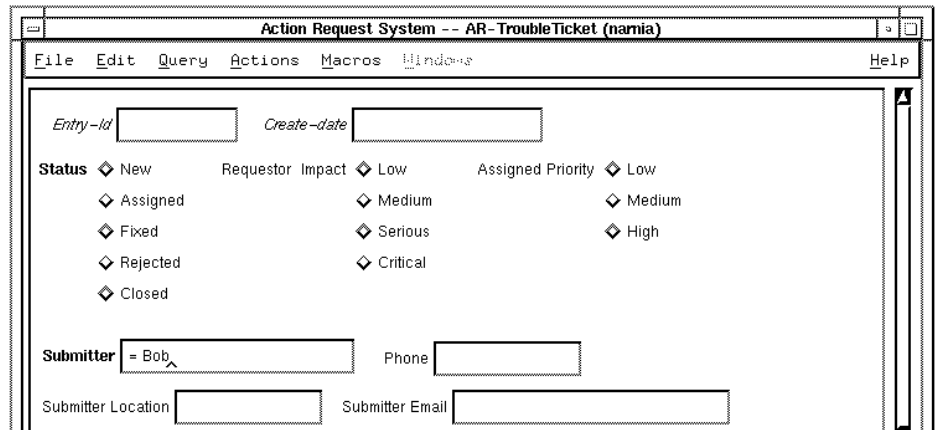


Figure 4-3 Using a Relational Operator

To search for all ARs created after a date or time, simply use the “>” (greater than) relational operator and one of the date and time formats discussed in “Filling in Fields” on page 45 in Chapter 3. For example, set Modified Date to > June 5, 1992 to select all ARs modified after June 5, 1992 12 am.

Using Wild Card Symbols

You can use wild card symbols when you are defining query criteria in character and diary fields. The available wild card symbols and their meanings are shown in Table 4-2.

Table 4-2 Wild Card Symbols (1 of 2)

Wild Card	Meaning
%	Use to match any string of 0 or more characters. For example: J%son matches Jackson, Johnson, Jason, and Json.
_	(Underbar). Use to match any single character. For example: B_b matches Bab, Bob, and Bub.

Table 4-2 Wild Card Symbols (2 of 2)

Wild Card	Meaning
-	(Hyphen). Use to indicate a range. Always use within brackets ([]). See next example.
[]	Use to match any single character within a specified range or set. For example: [a-f] matches the range of characters a through f while [abcf] matches the set of characters a, b, c, or f. Note, using square brackets and the LIKE operator works for flat files, Sybase, and Ingress. Using square brackets and the LIKE operator does not work with Oracle or Informix. Refer to <i>Database Considerations</i> in Chapter 4 of the <i>Action Request System Installation Guide</i> for more information.
[^]	Use to match any single character <i>not</i> within a specified range or set. For example: [^a-f] matches all characters <i>except</i> the range a through f while [^abcf] matches all characters <i>except</i> a, b, c, or f.

You can force interpretation of wild card characters as explicit characters. To use the percent symbol (%), underbar (_) or open bracket ([) as an explicit text character, you must enclose the character in brackets. For example, [%] matches the % character, and does *not* find 0 or more characters.

The close bracket (]) functions as a wild card only when it is accompanied by an open bracket ([). The hyphen functions as a wild card character only when preceded by an open bracket ([) or ([^).

In the query-by-example section, the %, underbar (_), and open bracket ([) symbols always function as wild card symbols except in the following scenarios where they function as explicit characters:

- When you specify one of the relational operators (for example: >, =).
- When your AR System administrator specified a default search style of Equal and you do not use any leading or trailing % (percent signs).

Note – You can override the search style specified by your AR System administrator by using a leading %. For example, if your AR System administrator specified the search style to be Equal, and you enter %Rob into the Submitter field, your search finds Robert Smith as well as Jim Robertson and not only any exact or equal matches to %Rob. However, if you use a leading %, you lose any performance gains that would result from using the Equal or Leading search styles. For more information about the different search styles, “Query-by-Example” on page 63.

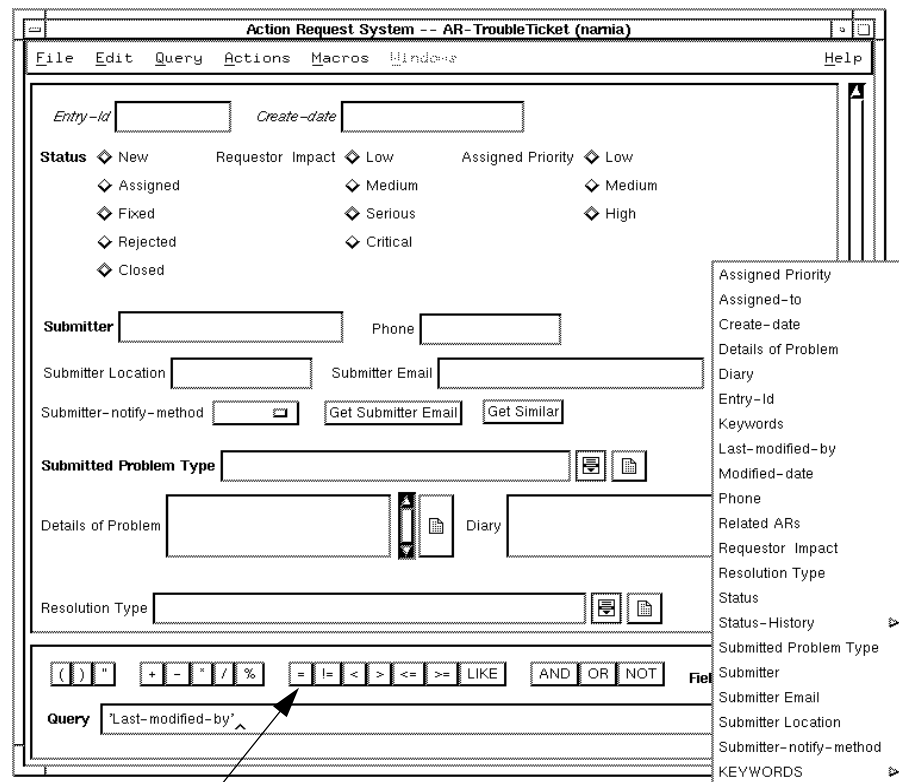
In the query bar, wild card symbols are only interpreted as wild cards when used with the LIKE operator; otherwise they are interpreted as explicit characters. The query bar also requires that you use the % symbol when you want to include leading or trailing characters in your query. For example, if you want to find Jill Bobbington, Bobby Fenton, and Bob Compton, you would enter the following in the query bar:

```
'Submitter' LIKE '%Bob%ton%'
```

To execute this same query in the query-by-example section when the search style for the field is “Anywhere”, you would simply enter Bob%ton in the Submitter field, taking advantage of the fact that the system assumes you want to allow for leading and/or trailing characters.

Using the Query Bar

Use the query bar, as shown in Figure 4-4 on page -70, when you want to define a query that does more than simply find ARs with fields that match an example. The query bar lets you define more complex logical statements. For example, you may want to match one field *or* another. You also use the query bar whenever you want to use a Status History field item in your query. Remember that the criteria you enter in the query bar are used in conjunction with any criteria defined in the query-by-example section of the window.



Add operators by selecting from the palette.

Add field names from the Fields menu.

Figure 4-4 The Query Bar

You can define a query statement in the query bar by using any of the following techniques:

- Type information in the Query field.
- Click on a field label in the query-by-example area to add a field.
- Select a field label or a keyword from the Fields menu to add a field, a status history item, or a keyword.
- Select an operator from the query bar palette to add an operator.

Note – You can hide the query bar from view if it is not used. To hide (or display) the query bar, select Preferences from the File menu. See “Setting User Preferences” on page 27 in Chapter 2.

You must follow certain formatting conventions in constructing the query statement. The sections that follow describe these conventions as well as the logical and arithmetic operators that you can use.

To enter information in the query bar:

1. Add a field name to the query bar using any of the following methods:

- Select the Fields pop-up symbol to the right of the Fields label to display the menu that contains a list of all the fields on the schema. You can then select any listed field name. You can also select a Status History field item or keyword from the list.
- Click on a field label in the query-by-example area to add it to the query bar within single quotes.
- Type the field name, enclosed in single quotes, in the query bar. (Field labels that use spaces or special characters *must* be enclosed in single quotes. You may want to establish the habit of using single quotes even when they are not specifically required for the field specification.)

For example, if you select the field name ‘Ticket Status’, you see:

```
'Ticket Status'
```

2. Type an operator or select the appropriate operator from the palette in the query bar.

The operator is added to the query bar.

For example, if you select (or type) the equals sign (=), you see:

```
'Ticket Status' =
```

3. Select another field or type a field value.

When typing in a field value, non-numeric values must be enclosed in *double* quotes. These values are case and space-sensitive.

For example, you could type “Open” in the query bar.

```
'Ticket Status' = 'Open'
```

4. Continue adding operators, field names and field values until you have completed the search statement. You can put spaces between operators, field names and field values, but you don't have to.

For example:

```
'Ticket Status' = 'Open' OR 'Ticket Status' = 'Escalated'
```

5. When you are ready to perform the query, select the query operation you want from the Query menu. The menu selections are described in “Using a Null Value in a Query” on page 189.

Query Bar Format and Syntax

You must follow a set of formatting conventions when you build a query in the query bar. You can use the relational operators and wild card symbols shown in Table 4-1 on page 66 and Table 4-2 on page 67 in the query bar. You can also use the operators shown in Table 4-3 on page 72.

The preceding example, 'Ticket Status'="Open", finds only the ARs with a status of “Open”. By itself, this may be the lowest common denominator in your search but it may also provide you with far too many matches. To avoid the frustration of going through all of them, you can refine your search by using the query bar operators. Refining your query criteria helps you narrow down the number of ARs you need to deal with when searching for a specific answer.

Using Operators in the Query Bar

You can use the operators shown in Table 4-3 in the query bar in addition to the wild card characters described earlier in *Using Wild Card Symbols*

Table 4-3 Operators Used in the Query Bar (1 of 3)

Operator	Action
AND &&	Logical AND of the result of two conditions (the result is true only if <i>both</i> conditions are true). For example, 'Status'='New' AND 'Assigned-to'='Andy' would find all new ARs assigned to Andy. You can use the symbol && or the word AND.

Table 4-3 Operators Used in the Query Bar (2 of 3)

Operator	Action
OR 	Logical OR of the result of two conditions (the result is true if <i>either</i> condition is true). For example, 'Status'='New' OR 'Assigned-to'='Andy' would find all new ARs or all ARs assigned to Andy (no matter what their status). You can use the symbol (two vertical lines) or the word OR.
NOT !	Negates the condition that follows (if the condition is false, the result is true). For example, NOT 'Status'='New' would find all ARs that are not new. You can use the symbol ! or the word NOT.
LIKE	Performs a pattern search. For example, 'Submitter' LIKE 'Bob*ton' would find all ARs with a submitter name that begins with the letters "Bob" and ends with the letters "ton" — such as Bob Compton and Bobby Fenton. The LIKE operator is useful only with character and diary type fields. Note, using square brackets and the LIKE operator works for flat files, Sybase, and Ingress. Using square brackets and the LIKE operator does not work with Oracle or Informix. Refer to <i>Database Considerations</i> in Chapter 4 of the <i>Action Request System Installation Guide</i> for more information.
+	* Adds two integer or real values. * Adds an integer interval to a time value. * Concatenates two character strings. For example, 'Create-date' > \$DATE\$ + 28800 would find all ARs that were created after 8:00 am today. (28800 is the number of seconds in 8 hours.)
-	* Subtracts two integer or real values. * Subtracts two time values (resulting in an integer). * Subtracts an integer interval from a time value. For example, 'Create-date' > \$DATE\$ - 604800 would find all ARs that were created within the past week. (604800 is the number of seconds in one week.) This is useful in a weekly custom report of all ARs created in the past week.
*	Multiplies two integer or real values. For example, 'Quantity' * 'Price' > 50 finds all ARs where the contents of the Quantity field times the contents of the Price field is over 50.
/	Divides two integer or real values. For example, 'Total Expenses' / 'Total Income' = 1 would find all ARs where the total amount spent for expenses equaled the total amount brought in as income.

Table 4-3 Operators Used in the Query Bar (3 of 3)

Operator	Action
%	Modulo of two integer values (the remainder of a divide of the values). Since a percent sign is also a valid wild card symbol, the context when using a percent sign determines how it is interpreted. For example, 'ID' % 2 = 1 finds all ARs with an odd number in the ID field.
<	Matches contents that are <i>less than</i> the value. For example, 'Create-date' < (\$DATE\$ - 86400) would find all ARs created more than 24 hours ago. (86400 is the number of seconds in 24 hours.)
>	Matches contents that are <i>greater than</i> the value. For example, 'Create-date' > "06/10/93 00:00:00" would find all ARs with Create-dates that are newer than June 10, 1993 at midnight.
!=	Matches contents that are <i>not equal to</i> the value. For example, 'Status' != "Closed" finds all ARs that aren't closed.
<=	Matches contents that are <i>less than or equal to</i> the value. For example, 'Salary' <= 10000 would find all ARs where the contents of the Salary field is less than or equal to 10000.
>=	Matches contents that are <i>greater than or equal to</i> the value. For example, 'Create-date' >= "10/31/94" would find all ARs with Create-dates equal to or more recent than October 31, 1994.
=	Matches contents that are <i>exactly equal to</i> the value. For example, 'Status' = 0 would find all ARs with a status value equal to the first selection value.

Operator Precedence

When you use multiple operators in constructing qualification criteria, they are executed in the following order of precedence (in the following order that they appear within the qualification):

1. ()
2. !, NOT, - (unary minus)
3. *, /, %
4. +, -
5. <, <=, >, >=, =, !=
6. && (AND)

7. || (OR)

If the same operator is included more than once in the same qualification (or two operators of the same precedence are used in the same qualification), the first time each operator is found going from left to right it is performed.

Query Bar Statement Conventions

Use the following conventions to construct a query statement in the query bar.

Fields

Enclose field labels in single quotes. Single quotes are automatically added when you select fields from the Fields menu or when you select fields by clicking on them in the query-by-example part of the window. For example:

```
'Short Description'
```

You can also reference fields by using their internal field ID. If you use the ID, you must enclose it in single quotes. For more information about the field ID, see the *Action Request System Administrator's Guide*.

Note – If a field name contains a single quote, you must double the embedded single quote (that is, use two single quotes). For example, if the field is named “Submitter’s Phone Number” you need to enter it as 'Submitter's Phone Number'. This is done for you automatically if you select the field name from the Fields menu or by selecting the label in the query-by-example section.

Values

Enclose non-numeric values (including time and selection values) in double quotes. For example: '07/01/92'

You can use the special value \$NULL\$ (without quotes) to query for ARs that have *no* value in a field. For example, to query for ARs that have not been assigned (fields with no value in the Assigned-to field), you would enter:

```
'Assigned-to' = $NULL$
```

Selection field values can either be specified as the text value in quotes or the numeric value not in quotes. For instance, if you have a Status field with the following radio buttons: Open, Fixed, and Verified, to specify the value of Open you can either enter `Open` or `0`, since Open is the first selection value in the selection field.

Status History

Status History field items must have the following information and format enclosed within single quotes:

- The name or ID of the Status History field (followed by a period).

- The name or index of the status value you want to match (followed by a period).
- The keyword `USER` (for the user who changed the AR to that status) or `TIME` (for the time last changed to that status).
- For example: `'Status-History.Fixed.TIME' < ''07/01/92''`
or using field IDs: `'15.3.1' < ''07/01/92''`

The correct syntax is entered for you automatically if you choose the status history reference from the Fields menu.

Examples of Query Statements

- Find all ARs that were submitted by someone other than the current user. The example uses the not equal to operator (`!=`) to find instances where the value in the Submitter field is not equal to the currently logged in user. Note the use of the `$USER$` keyword.
`'Submitter' != $USER$`
- Find all ARs that were submitted after 10:00 am on the current day. The example uses the greater than operator (`>`) to find ARs where the value of the Create-date field is greater than the current day at 10:00.
`'Create-date' > ''10:00:00''`
- Find all ARs that have been submitted for any problem having to do with printing. The example uses the `LIKE` operator to perform a pattern search that finds ARs with the word “Print” or “print” anywhere in the Submitted Problem Type field.
`'Submitted Problem Type' LIKE ''*[Pp]rint%''`
- Find all ARs with a Status of Released. Notice the spaces after the word “Status” in the field specification. In this case, the spaces exist in the field label as defined on the schema being used. Because the AR System recognizes any spaces that exist, the spaces must also be included in any qualification statement for that field. If you use the Fields menu, by selecting the Fields menu on the qualification bar, the spaces (and single quotation marks) are added for you automatically.
`'Status' = ''Released''`

Query Operations

Once you specify the query criteria to select the ARs on which you want to perform an operation, you use the Query menu to select the operation. The Query menu is shown in Figure 4-5.

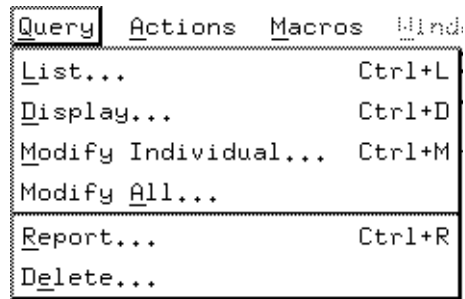


Figure 4-5 Query Menu

You can select any of the following operations:

Table 4-4 Query Operations

Operation	Action
List	Displays a one-line summary of each AR.
Display	Displays a read-only view of each AR.
Modify Individual	Displays an editable view of each AR.
Modify All	Displays a blank schema that allows you to make modifications to all ARs that match the query criteria or were selected.
Report	Opens a Report window that allows you to generate a formatted report on the ARs that match the query criteria or were selected.
Delete	Deletes ARs (administrator and subadministrator only).

When you select an operation, the system executes the search according to the criteria you specified and opens a window that relates to the operation you selected. Depending on the operation, you may need to perform additional tasks. For example, if you select Report, you need to specify the report format. (See Chapter 5, Reports, for more information on report formats.)

You can specify how your query operation results are sorted by selecting the Sort Options menu item on the Actions menu. You can also specify the maximum number of ARs to return in your query operation using the Max in query preference on the Preference window which you can display by selecting the Preferences menu item on the File menu.

After performing an operation, you can return to the Query window and select another operation (changing the criteria if you wish).

The results of each new query appear in a separate window, as illustrated in Figure 4-6 on page -79. All windows remain open until you dismiss them or log in as a different user. You can also iconify any window.

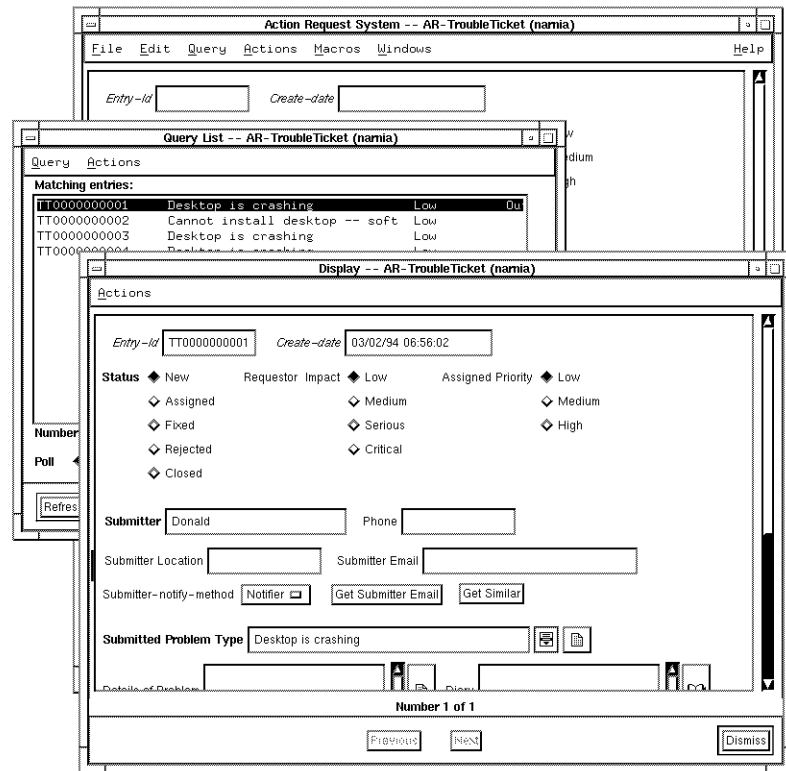


Figure 4-6 Results of Multiple Query Operations

The following sections describe how to sort your query operation results as well as how to specify the maximum number of ARs to return in your query operation. They also describe the List, Display, Modify Individual, Modify All, and Delete operations in detail. For more information about the Report operation, see Chapter 5, Reports.

Sorting Query Operation Results

You can specify a sorting order that affects how the results of your query operations are displayed. You can specify up to five fields with each field ordered either in ascending or descending order and you can define a different sort order for each schema. Once you specify a sorting order, it remains in

effect until you change it. You can sort by any field with the exception of Status History, Diary Entry fields, or Text Edit fields (fields with a maximum length of over 255 bytes).

Once you specify a sorting order, the next time any open Query List window with the Polling field set to On automatically reissues the query, the Query List window changes to reflect the new sorting order. The next time you manually reissue a query from a Query List window by selecting Refresh on the Query menu, the Query List window changes to reflect the new sorting order. Also, any Query List windows that you open after you specify or change the sorting order reflect this new sorting order. For more information about opening new Query List windows, or about automatically and manually reissuing a query from a Query List window, see “Listing Action Requests” on page 84.

By default, all ARs are sorted by entry ID in ascending order, thereby listing all ARs in ascending order by create date (oldest AR first with the newest AR last). One example where you might want to sort the results of your query operation is if you want the most recently entered AR at the top of your query list, or to be the first AR in the Display or Modify window. To do this, you can list all ARs in descending order by entry ID or create date. Figure 4-7 on page - 81 illustrates a Query List window with this type of sorting.

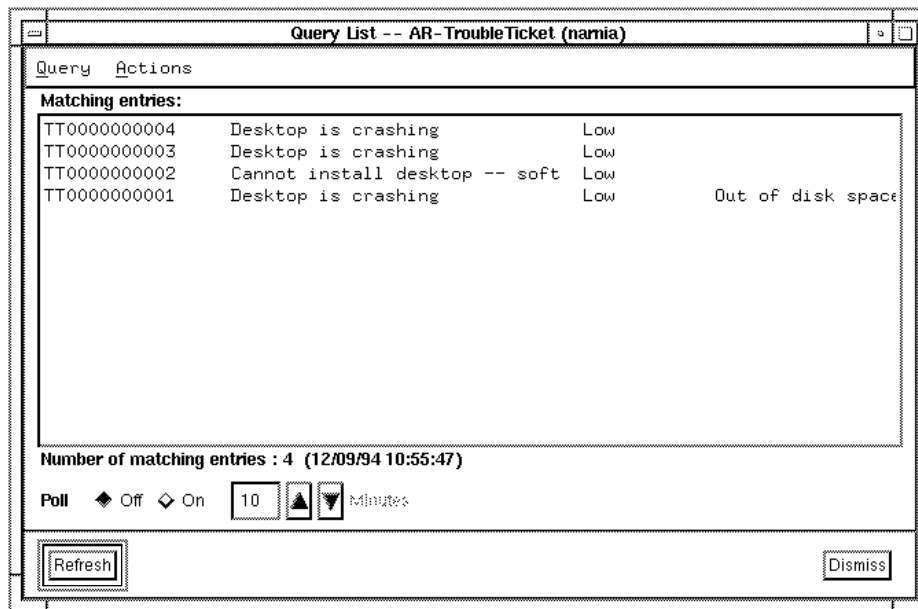


Figure 4-7 Query List Results in Descending Order

Another example would be if you were an Engineering Manager and you needed to produce a report that sorted all bug report ARs first by product, then under each product by the responsible engineer, then by the priority, and finally under each engineer by the status of the AR (whether it is still open or closed) and then sort them in descending order by date (most recent AR first). To accomplish this, first sort by the Product field, then by the Responsible Engineer field, then by priority, then by the Status field, and finally by the Date field in descending order. (To see all of these fields in your Query List window, see your AR System administrator.) Sorting like this allows you to see quickly how the engineers for each of your products are doing, how many ARs they have in each priority setting and how many of them are still open or have been closed. Figure 4-8 on page -82 illustrates this type of sorting.

Query	Actions
Matching entries:	
0000000018	6 Server Hardware is Crashing Reboot Server
0000000021	13 Print Services: Printer is Not Remove Jammed Paper
0000000020	22 Print Services: Printer is Not Check Network Connecti
0000000019	9 Print Services: Printer is Not Examine Configuration
0000000016	13 Print Services: Printer is Not Inspect Printer Queue
0000000015	3 Print Services: Printer is Not Turn Printer Online
0000000022	9 Desktop Hardware is Crashing Upgrade to latest rele
0000000017	5 Desktop Hardware is Crashing Replace Memory SIMMs
0000000014	18 Desktop Hardware is Crashing Contact Application Ve
0000000013	12 Desktop Hardware is Crashing Replace Hard Disk
0000000012	7 Desktop Hardware is Crashing Add More Memory

Number of matching entries : 11 (12/09/94 13:48:47)

Poll Off On 10 Minutes

Refresh Dismiss

Figure 4-8 Sorted Results

As a slight variation, you could check on the overall status of a particular product by first sorting by the Product field, then by the Priority field, and finally on the Status field.

If you needed to produce this report on a regular basis, you could create a custom report and specify these sorting options to go into effect only when the custom report is run. This way you can specify one sorting order for your normal query operations and a separate sorting order for each of your custom reports. For more information about specifying sorting options when creating custom reports, see Chapter 5, Reports.

To specify query operations sorting order:

1. Select Sort Options from the Actions menu to display the Field Sort Order window (or type `Ctrl+A`), as shown in Figure 4-9.

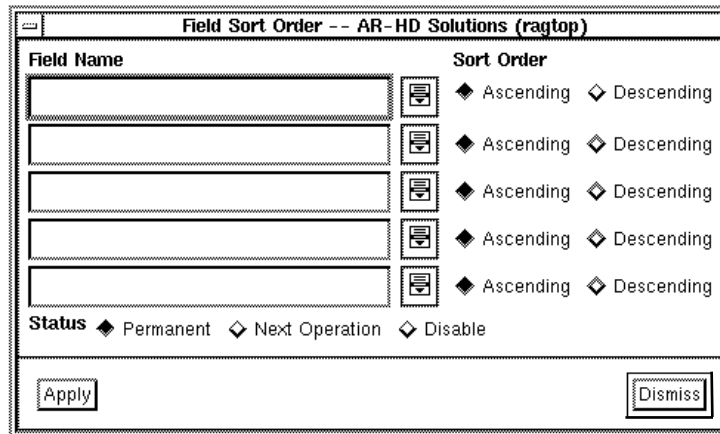


Figure 4-9 Field Sort Order Window

2. **Select the menu symbol to the right of the Field Name field.**
All of the fields on the current schema that you can sort by are displayed.
3. **Select the field you want to sort by.**
4. **Select either the Ascending or Descending Sort Order radio button next to the Field Name field you just edited.**
5. **Continue specifying up to five fields with their sort order.**
The first field you select to sort by is the first criteria used for sorting, the second field is the second criteria, the third field is the third criteria, the fourth field is the fourth criteria, and the fifth field is the fifth criteria used for sorting.
6. **Select Permanent in the Status field to apply this sorting order to all operations.**
Select Next Operation to apply this sorting order to the next query operation only, and then return to the current sort order.

Select Disable to return to the default sort order. If no sort options are specified or if Disabled is selected, the items in the query operations are sorted in ascending order by entry ID.
7. **Once you are finished specifying your field sort order, select the Apply button.**

8. Select the **Dismiss** button to remove the **Field Sort Order** window and return to the **Query** window.

Specifying a Maximum Number of ARs

You can specify a maximum number of ARs that you want displayed when doing one of the query operations. By doing this, you can control the number of ARs that match your query criteria that are displayed at any one time. Should you perform a query operation that matches more than this specified maximum value, you receive a warning message letting you know that there are more ARs that match your specified query criteria that are not being returned in your results. Specifying a maximum number of ARs is useful if issuing an unqualified query would return too many ARs and impact the performance of your AR System by slowing down the server. For more information about specifying a maximum number of ARs, see the section entitled “Setting User Preferences” on page 27 in Chapter 2.

Listing Action Requests

Select **List** from the **Query** menu (or type **Ctrl+L**) to display each AR that matches the query criteria you have defined, as shown in Figure 4-10 on page - 84.

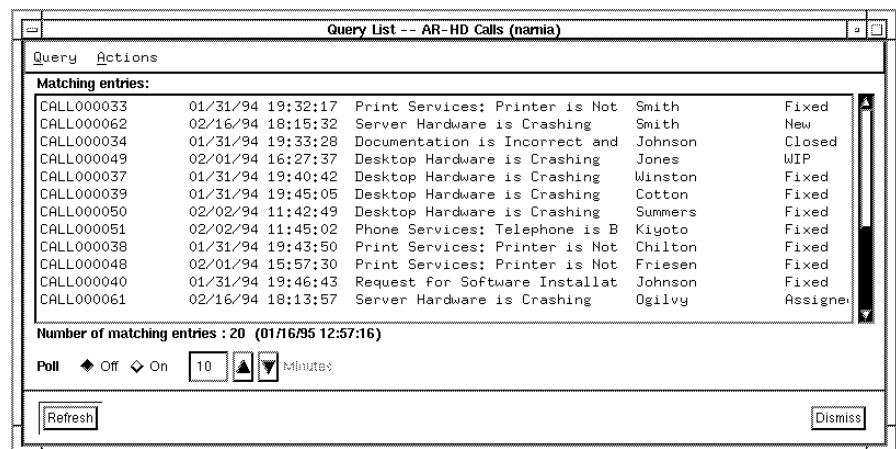


Figure 4-10 Query List Window

Your AR System administrator can specify which fields are displayed in the Query List window for each schema and the order in which they are displayed. Also any sorting options that you specify affect your Query List window. So, if you perform a query list on two different schemas, they might not display the same field contents. If aurora System administrator has not specified different fields for display, and you haven't specified any sorting options, you will see the contents of the Entry ID and Short Description fields. (The Entry ID and the Short Description are required fields and therefore exist on all schemas. Your AR System administrator may have changed the name of the Short Description field, but its contents still appear in the results of the list operation when the default list fields appear.)

The number of matching ARs appears below the list of matching entries in the Query List window along with the time at which the list was retrieved.

Selecting List is a convenient way to determine if the query criteria you have specified produces too many ARs. If the number of ARs shown in the list is unmanageable, you can return to the Query window to refine the query criteria and re-display the query list until the list contains only the ARs you want to work with.

You can manually or automatically update the list of ARs in a Query List window to indicate any changes to the ARs that match the query criteria. You can automatically update the list by selecting On in the Poll field and then specifying after how many minutes you want the Query re-issued and a new Query List displayed. You can manually update the list by selecting the Refresh button. This is useful if you use the list of matching ARs in a Query List window as your list of things to do. For instance, by updating this list on a regular basis, it will always contain all new ARs that are assigned to you. Also, by updating this list, you remove any ARs that have been assigned to someone else and are now no longer your responsibility.

Note – Since updating your query list *affects the performance of your server*, we recommend that under normal circumstances you automatically update your query list at five minutes or greater intervals. If you find that you need to update your query list more frequently, you can manually update it at any time.

You cannot update a query list if the Query List window was opened by selecting the To Query List command from a Display, Modify, Report, or Delete window when those windows were opened by selecting a subset of items on a previous Query List window. In other words, you cannot update a Query List window when the window is not a direct result of a query.

You can select specific ARs from the list and perform further Query operations (Display, Modify Individual, Modify All, Report, or Delete) on just those selected.

Note – You cannot edit information in the Query List window.

To use the Query List window:

- To select an item in the list, click on the item. Selected items are highlighted.
- To de-select an item, click on the item again.
- To select more than one item, just move the pointer onto the items you want to select and click on the items.
- To perform another operation on selected items (or the entire list of items if no specific items are selected), select the operation you want from the Query menu with the items highlighted. You can also open a Display, Modify Individual, or Report window for an item by double-clicking on the item. The item you double-click on is the first item displayed in the Display, Modify Individual, or Report window. (Whether the double-click action opens a Display, Modify Individual, or Report window is determined by your Double-click action on query preference setting. See “Setting User Preferences” on page 27 in Chapter 2.)
- To re-display the query criteria for this list, select Show Query from the Actions menu (or type `CTRL+B`). This reloads the query criteria into the Query window.
You may want to further refine the query criteria if you found the list included too many irrelevant ARs.
- To manually update the query list to reflect any changes made to the ARs that match the query criteria, select the Refresh button.
- To automatically update the query list to reflect any changes made to the list of ARs that match the query criteria, select the Poll On radio button and then specify in the Minutes field the number of minutes after which you

want the query re-issued and the list updated. You can change the value in the Minutes field either by first selecting the field and then typing, or by using the up and down arrow keys to increment or decrement the field value. The query list is automatically updated at the specified time interval as long as the Query List window is displayed. Since you cannot update a Query List window when the window is not a direct result of a query the Poll field is grayed out in these Query List windows. The minimum number of minutes you can specify in the Minutes field is 1 while the maximum number of minutes is 59. The default number of minutes is 10.

- To dismiss the Query List window, select the Dismiss button.

Displaying Action Requests

Select Display from the Query menu (or type `Ctrl+D`) to view ARs that match the query criteria defined in the active Query window or that are selected in an active Query List window, as shown in Figure 4-11 on page -88.

In a Query List window, you can display a subset of the listed items by selecting only the items you want to display.

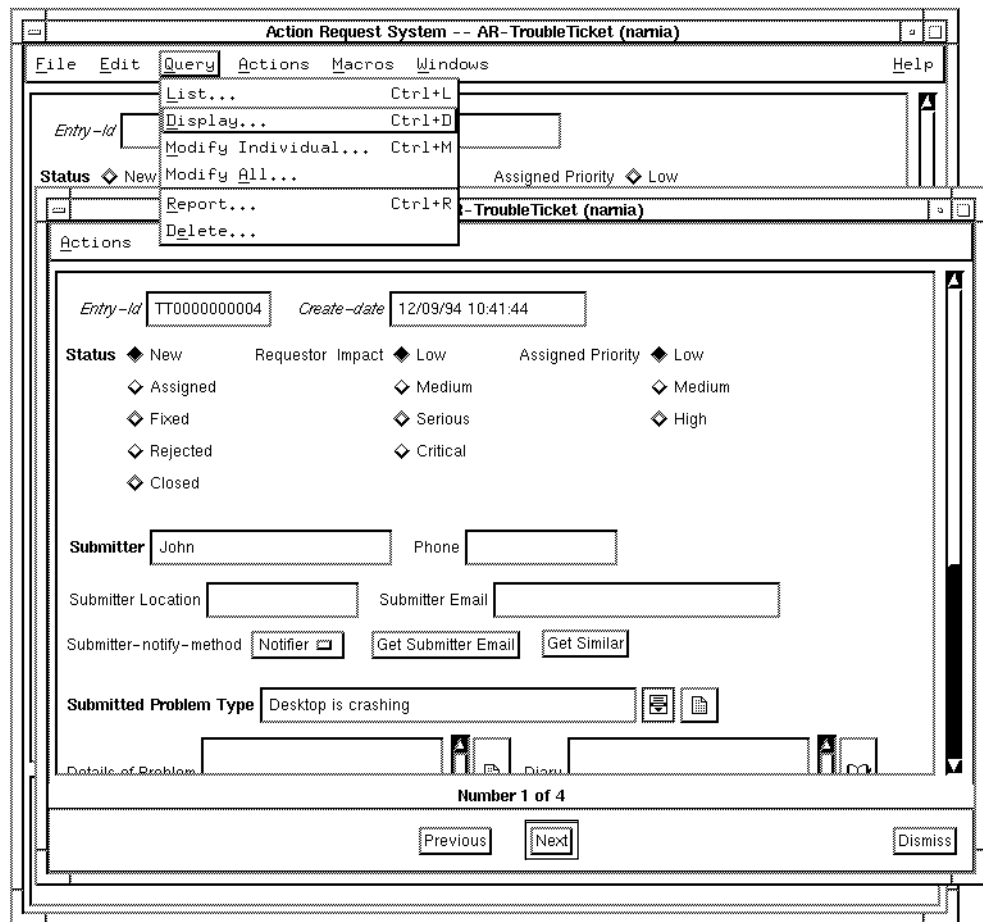


Figure 4-11 Action Request Display Window

The Display window shows one AR at a time. Use the Previous and Next buttons to page through the list of ARs. The total number of ARs to be displayed appears at the bottom of the window. If the number of ARs ready for display is too large to be manageable, you can return to the Query window to refine the query criteria and then re-display the ARs.

The Display window allows you to view the status history for each AR. The status history shows the progress that has been made since the AR was submitted. Select Show Status History from the Actions menu (or type `Ctrl+H`) to view the status history.

You can trigger active links set up by the AR System administrator from within the Display window. However, since the screen is read-only, the Set Fields operation of active links will not be performed. For more information, see “Using Active Links” on page 55 in Chapter 3.

Note – You cannot change information in the Display window. To modify an AR, you must use the Modify Individual or Modify All operation (see “Modifying Action Requests” on page 92).

To use the Display Window:

- To display the previous or next AR, select the Previous or Next button. If there is only one AR, these buttons are not available (grayed out).
- To re-display the query criteria in the Query window, select Show Query from the Actions menu (or type `Ctrl+B`). This reloads the query criteria into the Query window.
You may want to further refine the query criteria if you found the list included too many irrelevant ARs.
- To display the Query List window, select Goto Query List from the Actions menu (or type `Ctrl+L`). The Display window is dismissed and a Query List window is opened containing all of the ARs from the Display window.
- To review the history of status changes for the AR, select Show Status History from the Actions menu (or type `Ctrl+H`).
- To copy the contents of the Display window to a Submit window to submit a new entry just like the current one, select Copy to Submit from the Actions menu (or type `Ctrl+T`). A Submit window is opened and all field contents except any Diary fields are copied from the Display window to the Submit window.

Viewing the Status History

You can select Show Status History from the Actions menu to see what progress has been made on the AR. The Status History window opens, as shown in Figure 4-12 on page -90, showing the time the AR was last changed to each of the states defined by the Status field and the name of the user who made the change. You can leave the Status History window open and use Previous and Next to view the status history of additional ARs.

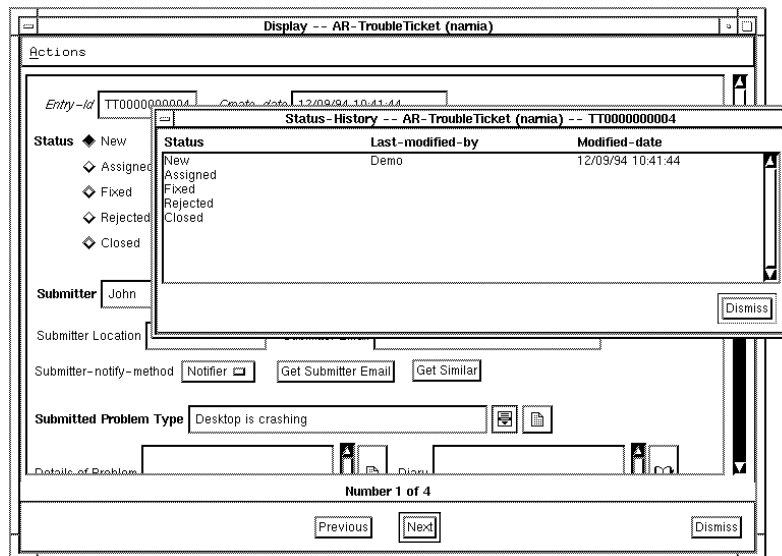


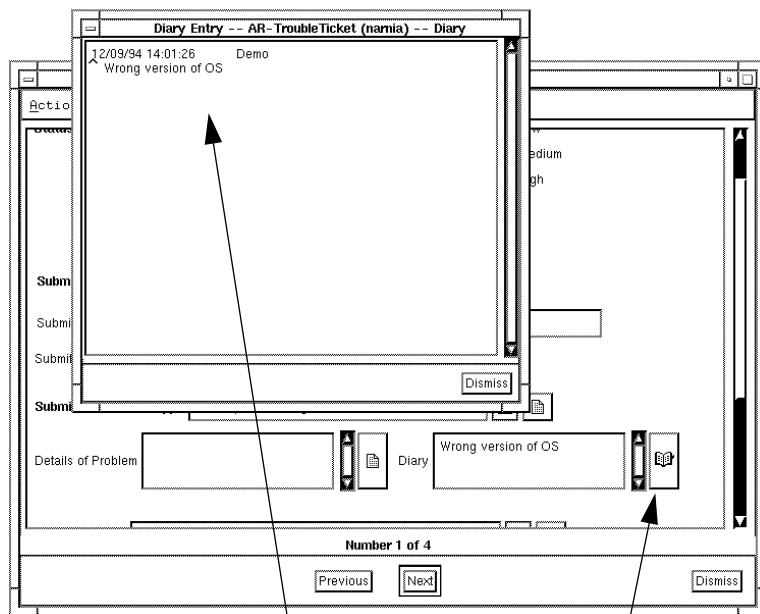
Figure 4-12 Viewing Status History

To view the status history of an AR:

1. Display the AR in a Modify Individual or a Display window.
2. Select Show Status History from the Actions menu (or type `Ctrl+H`). The Status History window appears, as shown in Figure 4-12.
3. To view the status history for other ARs, select the Previous and Next buttons on the Display window while the Status History window is still open. The Status History window changes to reflect the status of the currently displayed AR.

Reviewing Diary Entries

The Display window also lets you review all existing entries for a Diary field, as shown in Figure 4-13 on page -91. Diary type fields are used to keep a history of actions taken on an AR. Typically, you might want to update a diary field any time a notable change has occurred that is not automatically captured in the Status History or in another field.



The Diary Entry window on Display windows provides a view-only display of previously entered diary

Select the Diary Entry pop-up symbol.

Figure 4-13 Viewing Diary Entries

If the Diary field contains existing entries the diary pop-up symbol looks like there is writing on the pages of the icon. If the Diary field is empty the pages of the diary pop-up symbol are blank. To display existing diary entries for a Diary field, select the diary pop-up symbol to the right of the field.

Modifying Action Requests

Select **Modify Individual** (or type **Ctrl+M**) or **Modify All** from the **Query** menu to modify the contents of ARs that match the criteria defined in an active **Query** window or that are selected in an active **Query List** window, as shown in **Figure 4-14**.

In the **Query List** window, you can select a subset of the listed items for modification by highlighting only the items you want.

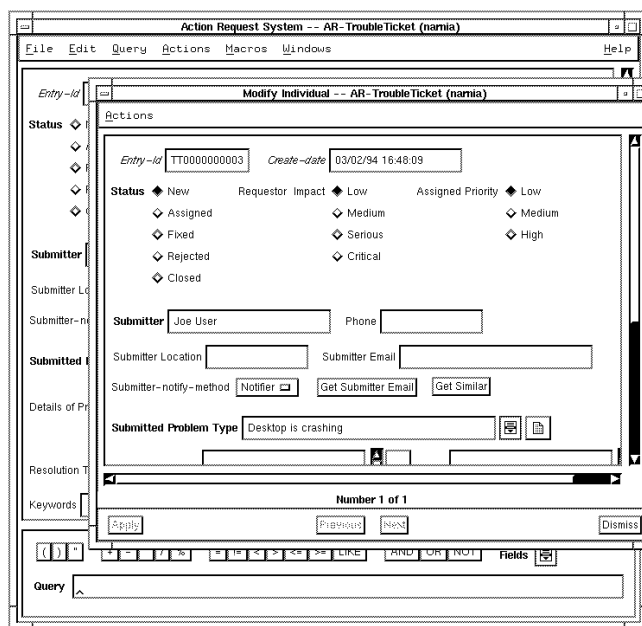


Figure 4-14 Action Request Modify Window

You can choose to modify individual ARs or the entire group of ARs that match the query criteria. The techniques used to modify information in an AR are the same as the techniques for entering information in the **Submit** window. For a detailed description, see “Filling in Fields” on page 45 in Chapter 3.

If you choose to modify individual ARs, the **Modify Individual** window shows one AR at a time. Use the **Previous** and **Next** buttons to page through the list of ARs to display the ones you want to edit.

If you choose to modify all selected ARs, a blank AR template is displayed in the Modify All Selected window. Fill in only the fields that you want updated on every AR that meets the specified query criteria. For example, you may want to change the status of all the selected ARs to “Fixed”.

Note – Most active links set up by the AR System administrator may be triggered from within either Modify window. However, active links that are triggered when an AR is modified do not trigger from Modify All windows. For more information, see “Using Active Links” on page 55 in Chapter 3.

To modify individual ARs:

- 1. After defining the query criteria or selecting ARs from the Query List, select Modify Individual from the Query menu (or type `Ctrl+M`). The Modify Individual window appears (Figure 4-14).**
- 2. Use the Previous or Next buttons to display the AR you want.**
- 3. Edit the AR as necessary.**
- 4. When you have finished editing the AR, select the Apply button to save your changes.**

Note – If you try to look at another AR by using the Previous or Next buttons without first saving your changes, the system warns that your changes will be lost.

If you have not made any changes, the error message does not appear and the Apply button is grayed (not available).

- 5. After applying changes to an AR, you can use the Previous and Next buttons to display another AR to edit.**

To show the status history of an AR:

- To show the status history of the ARs in the Modify Individual window, select Show Status History from the Actions menu (or type `Ctrl+H`).

To modify all selected ARs:

1. **After defining the query criteria or selecting ARs from the Query List, select Modify All from the Query menu.**
The Modify All Selected window appears showing a blank AR template. The number of entries being modified appears at the bottom of the window.
2. **Fill in the fields you want changed on every AR that meets the query criteria or that is selected on the Query List.**
3. **When you have finished filling in the fields you want changed, select the Apply button.**
4. **A message box appears warning that you are about to update multiple entries. To complete the operation, select the Continue button. To exit without changing the ARs, select the Cancel Modify button.**

Note – The values you entered *replace* the currently defined values for *every* AR that meets the query criteria or that is selected on the Query List.

To re-display query criteria:

- To re-display the query criteria in the Query window, select Show Query from the Actions menu (or type `Ctrl+B`) on either the Modify Individual or Modify All window. This reloads the query criteria into the Query window.

You may want to further refine the query criteria if you found the list included too many irrelevant ARs.

To display query list:

- To display the ARs in a Query List window, select Goto Query List from the Actions menu (or type `Ctrl+L`). The Modify Individual or Modify All windows is dismissed and a Query List window is opened containing all of the ARs from the respective Modify window.

To submit a similar AR:

- To copy the contents of the Modify window to a Submit window to submit a new entry just like the current one, select Copy to Submit from the Actions menu (or type `Ctrl+T`). A Submit window is opened and all field contents except any Diary fields are copied from the respective Modify window to the Submit window.

Adding a New Diary Entry

Diary type fields are used to keep a history of actions taken on an AR. Typically, you might want to update a diary field any time a notable change has occurred that is not automatically captured in the Status History or in another field.

Note – Diary entries from previous modifications of the AR cannot be edited; they may only be viewed. If a diary field contains information, the diary pop-up symbol looks like there is text written on the pages. If a diary field is empty, the pages in the diary pop-up symbol look blank.

You can add new diary entries when you are modifying an AR using the Diary Entry window shown in Figure 4-15.

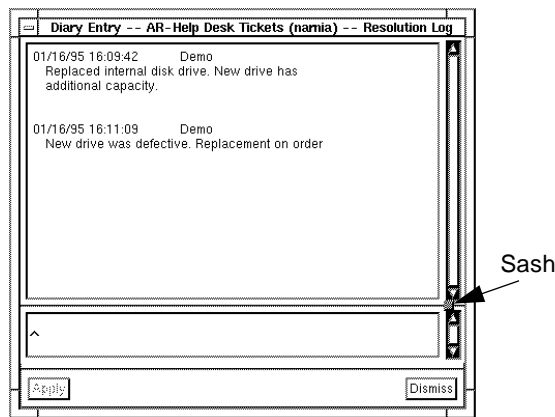


Figure 4-15 Diary Entry Window

To add a new diary entry:

If your text entry is short enough to be visible in the field, simply type into the field. Otherwise:

1. **Select the diary pop-up symbol to the right of a field.**
A Diary Entry window appears (Figure 4-15).
2. **To enter text, click in the Edit portion (bottom panel in the window) of the Diary Entry window and begin typing.**

Note – The diary text portion displays existing Diary entries and cannot be edited.

3. If you need to resize either the bottom or top panel of the window, place the pointer on the sash (the small square that is between the upper and lower vertical scroll bars). Then, drag the box either up or down to enlarge the lower or upper panel of the window respectively.
4. When you have finished, select the Apply button to save the new diary entry.

Deleting Action Requests

Select Delete from the Query menu to remove ARs from the database that match the query criteria defined in an active Query window or that are selected in an active Query List window. To specify the query criteria, see “*Defining Query Criteria*” on page 62.

Note – Only the system administrator or a subadministrator for a schema can delete ARs. The Delete menu item is not available to you unless you have administrator permission.

The Delete operation *permanently* removes ARs from the database. Deleted ARs cannot be recovered unless a backup copy of the database is restored. This is why we *strongly* recommend that your network or database administrator backs up your database on a regular basis in case, among other things, an AR is accidentally deleted from the database.

To delete ARs:

1. After defining the query criteria, select Delete from the Query menu. The Delete confirmation box appears, as shown in Figure 4-16, showing you how many ARs will be deleted.

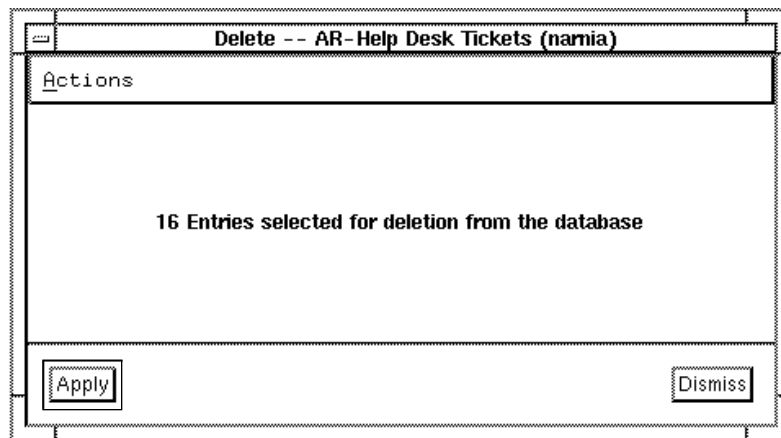


Figure 4-16 Delete Window

You can re-display the query criteria by selecting Show Query from the Actions menu (or typing `Ctrl+B`). The Query window displays the query criteria.

You can dismiss the Delete confirmation box and display the Query List window containing all ARs that match the query criteria by selecting Goto Query List from the Actions menu (or type `Ctrl+L`).

2. Select the Apply button to permanently remove the selected ARs from the database.

Selecting the Dismiss button cancels the Delete operation and removes the Delete confirmation box. If you select the Dismiss button, no records are removed from the database.

Using Full Text Search

This section discusses capabilities, performance, and administration issues of the full text search (FTS) option. The topics covered include the following:

- Introduction to FTS.
- Who can perform a full text search.
- How to use FTS to retrieve records, especially using the accrue operator (the `LIKE` operator and comma separators) to search for matches.

Note – If your site has not purchased the full text search option, or if you do not currently have a full text search fixed or floating license, you will not be able to take advantage of the full text search feature.

What is Full Text Search?

Full text search (FTS) is an important and extremely useful feature of the AR System. The FTS option lets the AR System administrator index character and diary fields for faster searches. During a search operation, FTS matches entries from FTS-indexed fields against the search criteria you specify. Like database indexes, an FTS index can greatly decrease the time required for a database search.

Having FTS capability allows you to search for specific words regardless of the underlying database, whether flat-file or relational. In contrast to only searching fields in schemas that contain numeric data (for example, ID numbers) or names (for example, submitters of tickets), indexing character and diary fields for FTS lets you do searches of work diaries and long descriptions of problems which some databases do not allow you to do directly.

Who Can Perform a Full Text Search?

Users must have a floating or fixed FTS license to do searches in fields indexed for FTS. Full text licenses are separate from AR System write licenses.

If you have a fixed FTS license, you can perform a search in an FTS-indexed field without worrying about licenses not being available or license time-outs.

If you have a floating FTS license but no floating FTS licenses are currently available, you will get a warning the first time they perform a database operation in the User Tool. The system will then use the search capabilities of the underlying database (if available). When a floating license becomes available, users will be alerted with a note and they will then be able to perform a full text search.

Note – Users can tell if a field is indexed for FTS by looking in context-sensitive help. See Figure 4-17 on page -99.

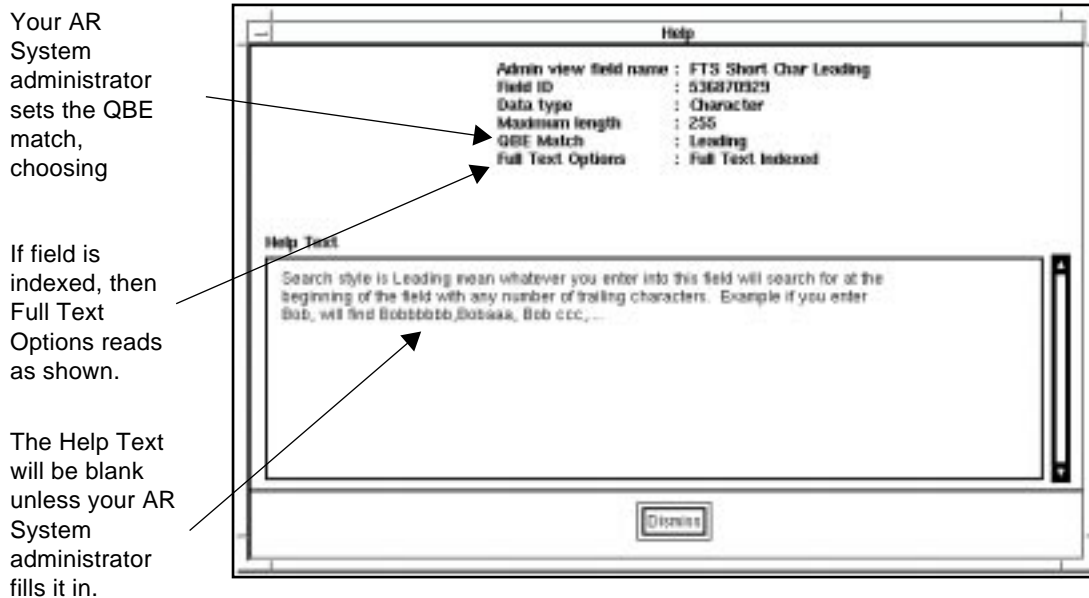


Figure 4-17 Context-Sensitive Help Showing Full Text Options

How Do I Use FTS?

To use FTS to retrieve records, enter the search term in any field indexed for FTS, just like an ordinary query. The big difference you will immediately notice is how quickly the FTS operation retrieves records that match the search term.

Accruing and Weighting Results in an FTS

As mentioned earlier, accruing results of a search is a powerful FTS feature. FTS does not limit you to searches for key words in FTS-indexed fields. You also can use a special **accrue operator** (the `LIKE` operator with comma separated words) to cause the AR System to “accrue” and retrieve from the database all the ARs that contain any or all of the comma separated words. For more information, see “Using the Accrue Operator.”

Records that are retrieved in an FTS are assigned a “weight” by the FTS engine. `WEIGHT` is a number that varies from 0 to 100. With `WEIGHT`, the AR System sorts the ARs in a query list using a “the more, the better” approach: if you set the

Field Sort Order in the User Tool to include `WEIGHT` in descending order, the more search terms found in an AR, the earlier in the list it appears in the set of retrieved ARs. The closer the weight number is to 100, the better it matched the search criteria.

Sorting Records by Weight

Users can sort records retrieved in an FTS by weight, in descending or ascending order, by selecting `WEIGHT` and the sort order in the Field Sort Order window. For more information on setting the sort order, “Sorting Query Operation Results” on page 79.

Using the Accrue Operator

You can use the accrue operator (the `LIKE` operator with comma separators) to search either in the Query bar or in any field indexed for FTS, as in the following examples.

Note – You can use the accrue operator only with FTS-indexed fields.

Query Bar Method

Use the accrue operator in the Query bar, according to the following syntax:

```
<field> LIKE "ntclientd, notifier, ntserverd"
```

The accrue operator causes the AR System to retrieve ARs that contain one or more of the search terms, `ntclientd` or `notifier` or `ntserverd`. Remember that an FTS also returns weight information that is a function of the number of occurrences found.

You can also use the `%` wildcard for an FTS with the accrue operator, according to the following syntax:

```
<field> LIKE "ntcli%, notifier, ntserve%"
```

You can include FTS and non-FTS fields in a query, as in the following:

```
<field> LIKE "ntclientd, notifier, ntserverd" AND 'Create-date' >
"01/01/95"
```

This query would retrieve all ARs that contained any of the search terms `ntclientd` or `notifier` or `ntserverd` and that were created after January 1, 1995.

Note – Remember that some queries work better than others. If you receive unexpected results or an RPC time-out, try reformulating your query.

For more information, see *Efficient Full Text Searching* on page -102.

Query-by-Example Method

Enter a QBE in any field indexed for FTS, according to the following syntax:
ntclientd, notifier, ntserverd

Be aware that if the QBE Match property is set to Equal in the Field Properties window, you must do one of the following to use the accrue operator:

- Add a wildcard to the value, for example, ntclientd%, notifier%, ntserverd%.
- Use the Query bar to enter the accrue operator.

Limits in Doing an FTS

There are certain limits in doing an FTS, including the following:

- You cannot do an FTS search on periods, exclamation marks, question marks, or double quotes.
- Your search phrase cannot use words from the Ignore Words List. For example, if the word `the` is in the Ignore Words List, searching on the phrase `the database` in the Short-Description field would not return any records. For more information, see *Ignore Words List* on page -102.
- If searching for punctuation like commas or dashes, you must use double-quotes to include them in the search string. For example, if you are searching for the phrase `"database, remedy"` from the Short-Description field, you would enter the following in the Query bar:

```
'Short-Description' LIKE "% "database, remedy" "%"
```

Using Query By Example, you would enter the following:

```
"database, remedy"
```

An FTS treats any phrase in double quotes, including commas or dashes, as a literal string and retrieves them accordingly.

- In queries that use FTS, be aware that newly submitted or modified ARs might not appear immediately in the query list. There are sometimes brief delays from the time the AR is submitted or modified to the time that the AR is available to access.

Ignore Words List

The AR System administrator can tell the FTS engine to ignore frequently-used words (such as *and*, *the*, *because*, and so on) or words that you do not want indexed. Adding entries to the Ignore Words List saves space in the index directory as well as speeds up full text searches. The FTS option comes with a default set of ignore words that you can modify as needed.

Be aware that searching for phrases that contain words from the Ignore Words List will not find any matching entries. For restrictions on full text search, refer to the *Action Request System Administrator's Guide*.

Before Importing Data

Because sizeable performance impacts can occur if you are importing a lot of data into a schema with Full Text Search (FTS) fields, the AR System administrator should shut down FTS from the AR Admin Tool before you import the data. Refer to the *Action Request System Administrator's Guide* for instructions.

Efficient Full Text Searching

When searches involve a combination of Full Text and fields not Full Text indexed, it is most efficient to group the search clauses on Full Text indexed fields together using parenthesis.

For example, the query:

```
('Status' = "New" AND 'Short Description' LIKE "network%") AND 'Long Description' LIKE "network%"
```

would be more efficient if arranged as follows:

```
'Status' = "New" AND ('Short Description' LIKE "network%" AND 'Long Description' LIKE "network%")
```

For more information, see *Query Bar Method* on page -100.

Setting Query Window Preferences

You can control several aspects of how the Query window looks and acts by selecting Preferences from the File menu. Using the Query preferences, you can specify how many active schemas you want displayed in the active schema list at the bottom of the File menu, the maximum number of items you want displayed in a query operation, how you want the window to behave before a new query, control whether or not the query bar is visible, and specify whether a Display, Modify Individual or Report window is opened after double-clicking on a query list item. For more information on how to set Query window preferences, see “Setting User Preferences” on page 27 in Chapter 2.

In addition to the query operations described in the previous chapter, you can also generate reports and statistics based on the ARs that match your search criteria. This chapter describes how to define the format for a report you want to generate and how to send the report to the screen, to a printer, or to a file. It also describes how to define a set of statistics you are interested in and generate a report of those results.

This chapter includes information about the following topics:

- Setting the page style.
- Setting report layout.
- Specifying the sorting and grouping of fields.
- Generating statistics.
- Saving, using, and modifying custom reports.

Generating Reports

For any query that returns at least one entry, you can generate a report by selecting Report from the Query menu (or typing `Ctrl+R`).

A Report window appears containing a list of all of the fields in the current schema as well as any existing custom report names, as shown in Figure 5-1.

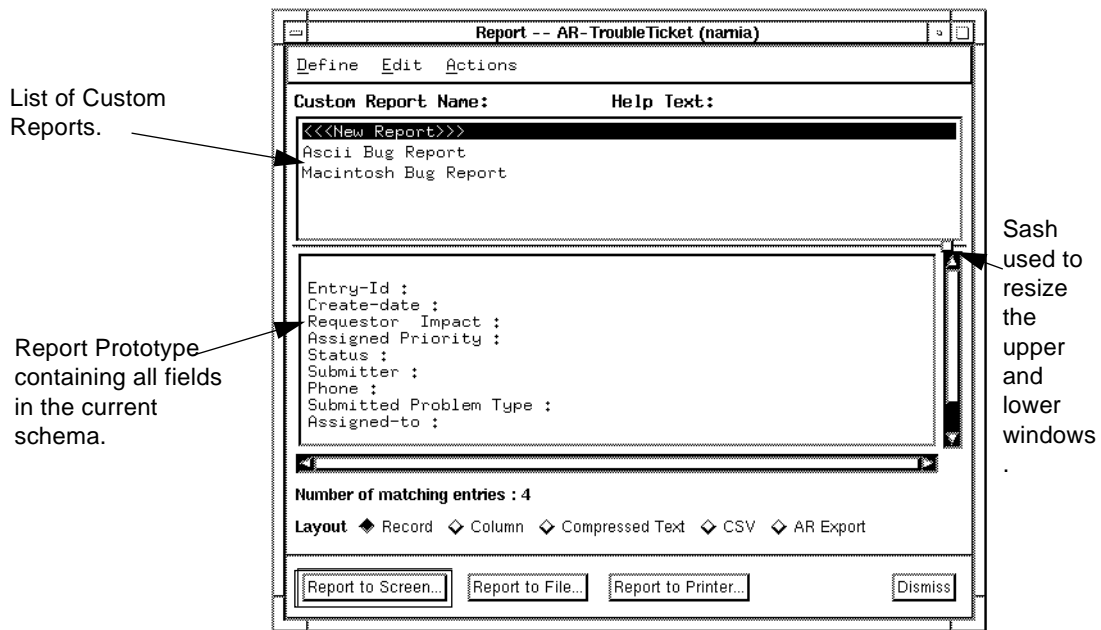


Figure 5-1 Report Window

The Report window lets you create a new custom report, modify an existing custom report, specify the layout of your report, and specify the type of output you want. You can choose an existing custom report or experiment with a new report until you are satisfied with it. Once you are happy with your report, you can save the format as a custom report or create your output and send it to the screen, a file, or a printer.

Note – If you want to create a report with a more sophisticated format, you can export the report to a file and import the resulting file into a desktop publishing application. See “*Formatting a Report to use in Another Application*” on page 110.

To generate a report:

1. After defining the query criteria or selecting ARs from the Query List, select **Report** from the **Query** menu (or type `Ctrl+R`). The Report window appears (Figure 5-1).
2. To use a previously saved custom report, select the report name from the Custom Report Name list. See “Using Custom Reports” on page 123 for more information.
3. To create a new report, select <<<New Report>>> from the Custom Report Name list and then select **Field Selection** from the **Define** menu (or type `Ctrl+F`) to specify the fields to be included as described in “Designing Reports” on page 106.
4. To change the default settings for the page layout of a report, as well as to specify page breaks, column title separators, and column and record separators, select **Report Preferences** from the **Define** menu (or type `Ctrl+P`) and see “Defining Report Preferences” on page 112.
5. To specify how to sort and group the fields in your report, select **Report Sort Options** from the **Define** menu (or type `Ctrl+A`) and see “Sorting and Grouping Records in a Report” on page 115.
6. To generate statistical information about the ARs that match the query criteria, select **Statistics Options** from the **Define** menu (or type `Ctrl+T`). See “Generating Statistics” on page 119.
7. When you have completed defining the report, you can send the report output to the screen, to a file, or to a printer. See “Generating Report Output” on page 129 for details.

Designing Reports

Each time you generate a new report you can select the fields that you want to include in the report and choose whether to display the information about the fields you select as a list of records, in columns, in a compressed text format, in comma separated format, or in an AR export format. You can also determine what each page of your report will look like by specifying fields to sort and group by, generating statistics on the fields in your report, defining margins, heading, footers, and other page layout specifications and output options. You design reports using the Report Selected Fields window, shown in Figure 5-2.

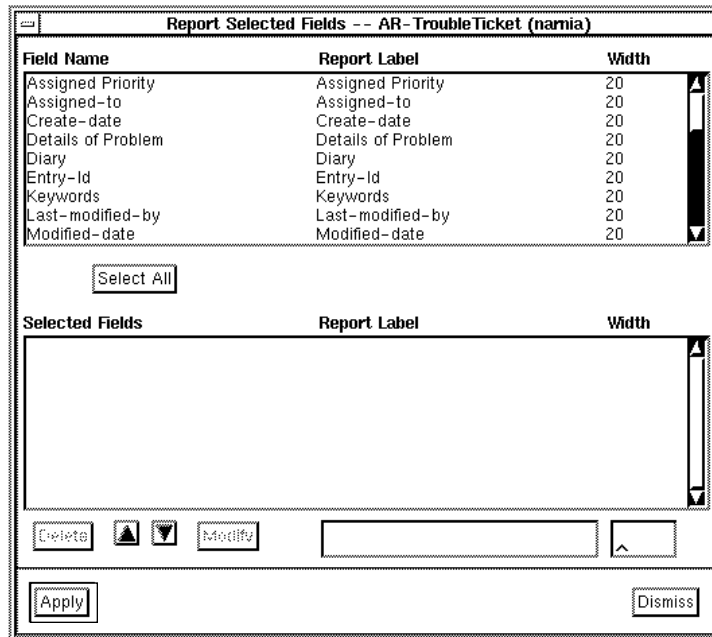


Figure 5-2 Report Selected Fields Window

Selecting Fields

The Report Selected Fields window shows a list of the fields from the current schema in the upper half of the window. As you select the fields that you want to include in the report you are designing, the selected fields appear in the Selected Fields list in the lower half of the window. As you select and add fields to be included in the report, you can also specify an alternate label to be used for the field or an alternate output width for the field.

To select fields for a report:

1. In the Report window, select Field Selection from the Define menu (or type **Ctrl+F**). The Report Selected Fields window appears (Figure 5-2).
2. Select the fields you want to include in the report from the list of fields in the upper half of the window. The fields appear in the Selected Fields list in the lower half of the window.

- To select all of the fields in the schema, select **Select All**. All of the fields in the upper half of the window appear in the **Selected Fields** list in the lower half of the window. If some fields were already selected and in the lower half of the window, they only appear once.
 - To change the field order, use the up and down arrows to move the selected field within the list. Double-clicking the up or down arrow moves the selected field to the top or bottom of the list.
3. **To modify the field Report Label or the width of the field to be used in the report, first select the field in the Selected Fields list. Then, modify the Report Label and Width fields to the right of the Modify button. The width value is only needed in a columnar report. If you want a blank label, delete the current label. Select the Modify button. The new Report Label and Width are displayed in the Selected Fields list.**
 4. **To delete fields from the Selected Fields list, select the field in the Selected Fields list and then select the Delete button.**
 5. **When you have finished setting up the report format, select the Apply button.**
 6. **To remove the Report Selected Fields Window, select the Dismiss button.** The Report window appears with a prototype of your report format so far. To specify sorting and grouping of the selected fields, see “Sorting and Grouping Records in a Report” on page 115.

Specifying the Report Layout

You can format a report as a list of records, in columns by field name, in a compressed text format, as a comma separated file formatted for use in a desktop publishing application, or in AR export format. You determine which format is used by selecting the **Record**, **Column**, **Compressed Text**, **CSV**, or **AR Export** radio button in the **Layout** field on the Report window.

Formatting a Report by Records

The **Record** format lists the fields for each AR (record), using a blank line, a record separator character, or a page break to separate each AR or each group of ARs, as specified on the Report Preferences window. You can select the fields that you want to include in the report. Records appear as a list of field

labels followed by the field contents for that AR, as shown in the example in Figure 5-3. If the field contents are longer than the specified Chars per line report preference, the field contents wrap to another line.

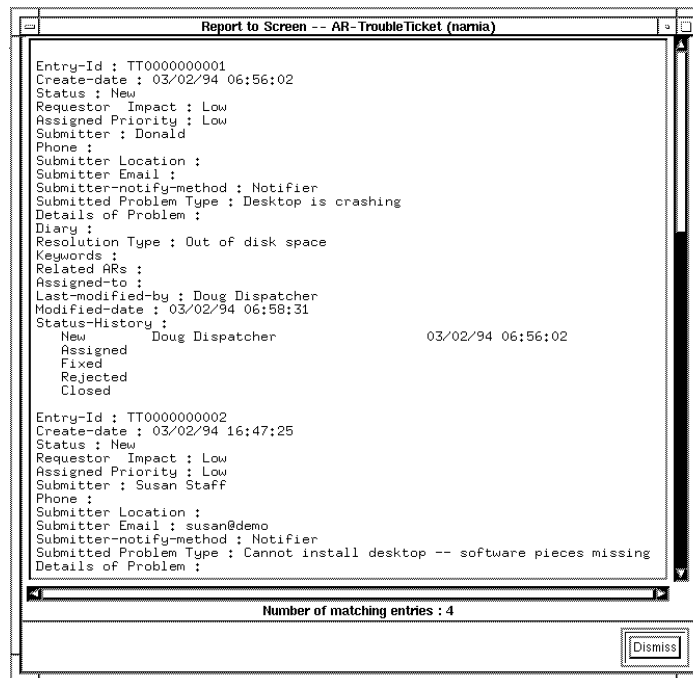
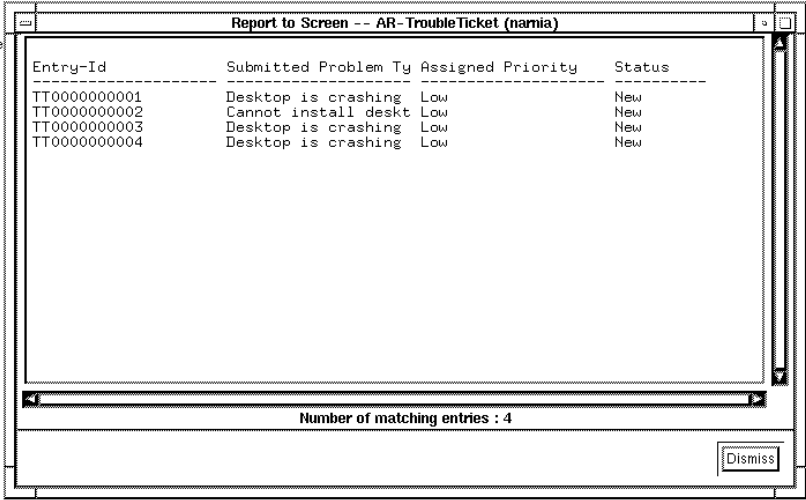


Figure 5-3 Report Formatted by Record

Formatting a Report in Columns

The Column format displays the field labels as column headings and displays information for each AR in a separate row, as shown in the example in Figure 5-4. You can select the fields that you want to include in the report. If you specify Wrap for the Long field format preference on the Report Preferences window, any information that does not fit on a single line is continued on the next line within the same column. Therefore, a “row” may consist of more than one line of actual output. If you specify Truncate for the Long field format preference and the information in a field does not fit in the column width you defined for the report, the information is truncated.



Entry-Id	Submitted Problem Ty	Assigned Priority	Status
TT0000000001	Desktop is crashing	Low	New
TT0000000002	Cannot install desk	Low	New
TT0000000003	Desktop is crashing	Low	New
TT0000000004	Desktop is crashing	Low	New

Number of matching entries : 4

Dismiss

Figure 5-4 Report Formatted in Columns

Formatting a Report to use in Another Application

If you want to create a report with a more sophisticated format, you can export the report to a file and import the resulting file into another application, such as a desktop publishing or spreadsheet application. All report output files are in plain ASCII format and are suitable for loading or importing into another application. Many desktop publishing applications accept comma separated files as input. You can save your custom report in either a compressed format or in a comma separated file by selecting either Compressed Text or CSV in the Layout field on the Report window. Figure 5-5 illustrates a comma separated report. Once you select Compressed Text or CSV, the report prototype appears in the appropriate format in the Report window.

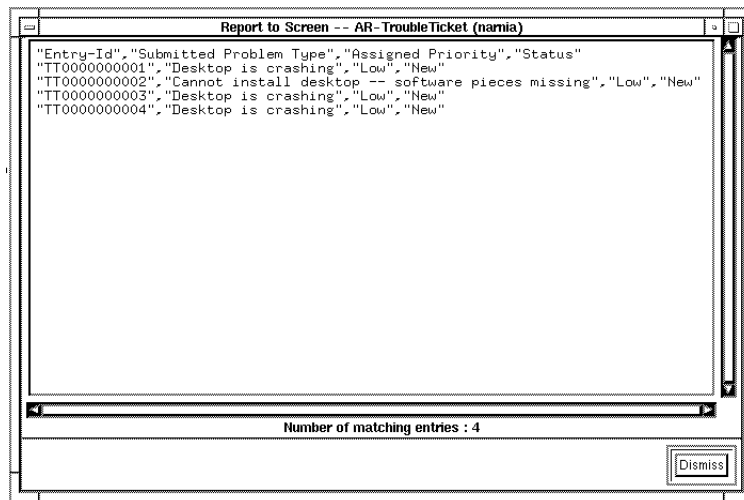


Figure 5-5 Report Formatted in Comma Separated Format

Formatting a Report in Order to Export ARs

If you want to create a report in order to export ARs, select AR Export in the Layout field. This exports the records that match the query criteria. The records are in an archive format that is compatible with the `arimport` program. For more information about the `arimport` program, see the *Action Request System Administrator's Guide*.

To specify the report layout:

1. In the Report window, select the Record, Column, Compressed Text, CSV, or AR Export radio button in the Layout field at the bottom of the screen.
2. A prototype of your report format appears in the Report window, as shown in Figure 5-6. If you want to see more of the prototype in the bottom panel of the window, place the pointer on the sash (the small square that is between the upper and lower vertical scroll bars). Then, drag the box up to enlarge the lower panel containing the prototype.

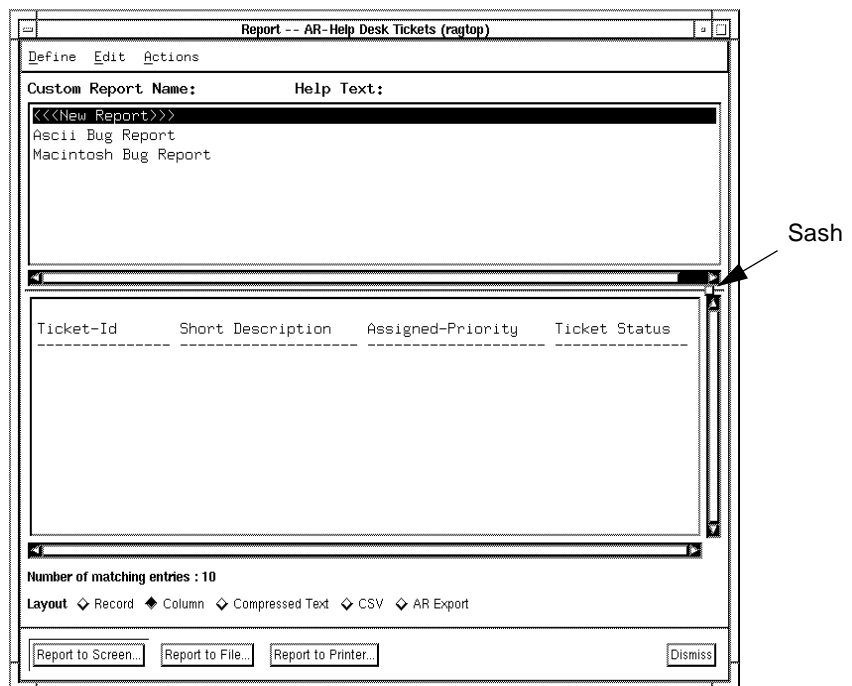


Figure 5-6 Report Window with Prototype of Formatted Report

You are now ready to define your report preferences.

3. To define report preferences such as the report title, lines per page, and the column or record separator, refer to the section that follows, *Defining Report Preferences*.

Defining Report Preferences

You can define your report preferences independently for each report you generate. Report preferences are basic page layout controls, such as the title for the report, margin specifications, and page length and width as well as column and report separators, page breaks, and a column title separator.

To define report preferences:

- 1. In the Report window, select Report Preferences from the Define menu (or type Ctrl+P). The Report Preferences window appears, as shown in Figure 5-7.**

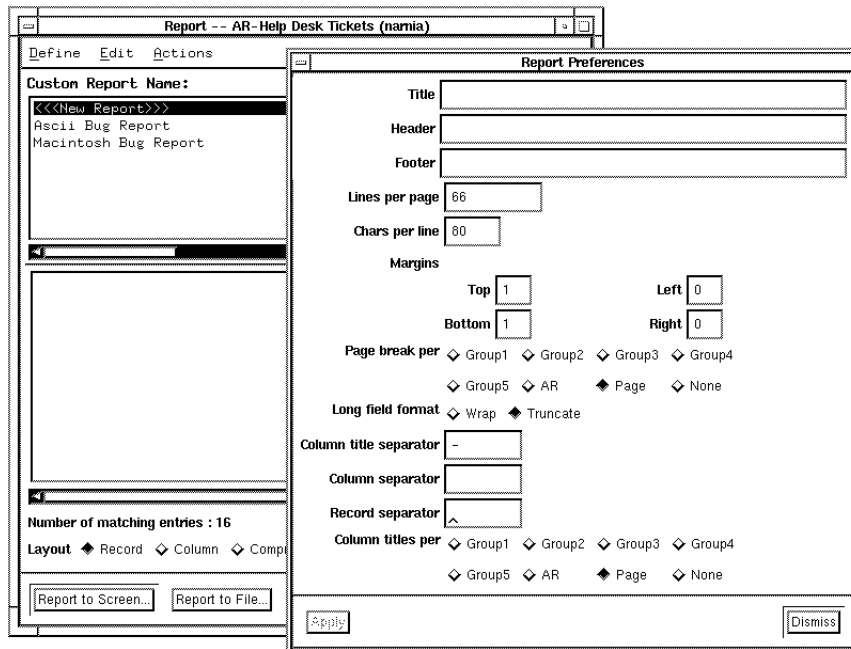


Figure 5-7 Report Preferences Window

- 2. Specify the report preferences that you want for your report.**

The Report Preferences window allows you to specify report preferences for column-oriented reports only, with the following exceptions:

- Long field format (column only).
- Column title separator (column only).
- Column separator (column and compressed text only).
- Record separator (column and record).
- Column titles per (CSV, compressed text, and column).

Note – When defining the header, footer, and title, you can use the keywords mentioned in “Using Keywords” on page 51 in Chapter 3, with the exception of \$DEFAULT\$ and \$NULL\$. In addition, a special reporting keyword, \$PAGE\$, is available so that you can include a page number.

Title	The report title that appears only on the first page of your report (centered). The maximum is 1024 characters.
Header	The information that appears at the top of each page in your report. The header may be a maximum of 1024 characters and is left justified on the page.
Footer	The information that appears at the bottom of each page in your report. The footer may be a maximum of 1024 characters and is left justified on the page.
Lines per Page	The number of lines for each page. This setting determines the location of the header and footer on the page.
Char per Line	The line length (specified in character units).
Top Margin	The number of blank lines at the top of each page of your report (including the header and title, if any).
Bottom Margin	The number of blank lines at the bottom of each page of your report (including any footers).
Left Margin	The left text margin (the number of blank character units from the left edge of the page).
Right Margin	The right text margin (the number of blank character units from the right edge of the page).
Page break per	This setting specifies whether or not to force a page break (include a form feed character) after each AR, after groups (Group1, Group2, Group3, Group4, or Group5), after each Page as defined by the Lines per Page preference, or none at all (None). None is the default value.
Long field format	This setting specifies whether or not long fields are wrapped to the next line within the same column. Specifying Wrap causes long fields to wrap to the next line within the same column, while Truncate cuts off long field contents once it fills up the specified width of the field as specified on the Report Selected Fields window. This setting only works in column-formatted reports.
Column title separator	The character that is used for this report as the separator between the column title and the rest of the report. This setting only works in column-formatted reports. The default value is a - (hyphen).
Column separator	The character that is used for this report as the separator between columns in a column- or compressed-formatted report. The default value is a space. Besides any alphanumeric character, you can use any of the following special characters:

	\b	Backspace
	\n	Return
	\t	Tab
	\\	Backslash
	\<nnn>	ASCII Character <nnn> (this number is decimal, not octal)
Record separator		The character that is used for this report as the separator between records (ARs) in a record- and column-formatted report. The default value is a blank line. In a column-oriented report, this value is used to separate records which may occupy multiple lines in a wrapped report. Specify “\n” as a separator to cause double spacing between records.
Column titles per		This setting specifies whether to provide a column title at the beginning of each page (Page), each AR, each Group (Group1, Group2, Group3, Group4 or Group5), or not at all (None). If you choose None, your prototype report in the Report window appears blank. This setting works in Column, CSV, and Compressed Text entry.

3. When you have finished specifying report preferences, select the Apply button. (Selecting the Dismiss button closes the window without saving any changes.)

Sorting and Grouping Records in a Report

By default, the ARs in a report are sorted using the sorting order defined by Sort Options from the Actions menu on the Query window. You can change the sorting order or specify grouping by using the Report Sort Options from the Define menu of the Report window. This is useful if you want to create a custom report that sorts fields a certain way or if you want to visually separate each group or perform statistical calculations on each group.

You can sort on up to five fields in your reports with each field ordered either in ascending or descending order.

You can also group by the same five fields that you can sort on. Grouping lets you visually separate each group and lets you perform statistical calculations on each group. This creates a more readable and therefore more usable report. If you want to group by any of the subordinate fields, all of the superior fields are also grouped (Group1 is the most superior field while Group5 is the most subordinate field).

Using the Page break per Report Preferences option, you can create a report that places all ARs with the same field value specified by Group1, Group2, Group3, Group4 or Group5 on the same or separate page.

Using the Column titles per Report Preferences option, you can create a column-formatted report that prints column titles above each group, each AR, or at the top of each page. The column titles are the field labels of the fields you selected to include in your report. For more information about report preferences, see “Defining Report Preferences” on page 112.

Along with being able to print different groups on different pages, you can perform statistical calculations on the ARs within each group. You can perform any of the five statistical operations on any of the five groups and you can specify that the statistical results be printed on one line, on more than one line, or under the appropriate column in the report. For more information about calculating statistics, see “Generating Statistics” on page 119.

A good example of where grouping and performing statistical calculations would be very useful is if you needed to check on the overall status of a particular product. You could group first by the product (SW Version field), then by the priority (Assigned-Priority field), and finally on the status (Ticket Status field), and then you could print the total number of ARs in each specified Status setting. You can do all of this by specifying the SW Version field as the first field to sort on and then to be Group1, then sort on the Assigned-Priority field and select it to be Group2, and finally sort on the Ticket Status field and select it to be Group3. You can then specify that the statistical Count operation be performed for each Status setting and that those results be printed after the third group (Group3 being the Ticket Status field) in the report. You can also specify that all ARs with the same Ticket Status setting be printed on a separate page.

Figure 5-8 illustrates this type of report. It places ARs with the same status value on separate pages and prints the total number of ARs that have the same status value at the bottom of the page.

Ticket-Id	SW Versi	Assigned-Priori	Ticket Status	Short Description
TT00000000000006	2.0	Low	Closed	PC disk is bad
TT00000000000015			Open	PC disk is bad
TT00000000000017			Open	disk drive
TT00000000000001		Medium	Closed	test case
TT00000000000002			Escalated	test
TT00000000000005			Open	Server is slow
TT00000000000012			Open	User Tool has repair
TT00000000000003			Closed	Request for ability
TT00000000000009			Open	Need more memory
TT00000000000014			Open	Submitting tickets n
TT00000000000007		High	Escalated	PC disk is bad
TT00000000000008			Escalated	This machine can't t
TT00000000000004			Closed	test-4
TT00000000000010			Open	PC hard drive is bad
TT00000000000013			Open	Submitting tickets n
TT00000000000011			Escalated	test
TT00000000000016			Escalated	Submitting tickets n
Total Number of ARs = 17				

Number of matching entries : 17

Dismiss

Figure 5-8 Grouping Query Results in a Report

The sorting and grouping options specified by the Report Sort Options window are stored as part of the custom report which guarantees that the custom report will be sorted the same way each time it is used regardless of what the query sorting order is set to at the time the report is created. For more information on specifying the query sort order see Chapter 4.

To specify report sorting and grouping order:

1. Select Report Sort Options from the Define menu (or type **Ctrl+A**) to display the Report Field Sort Order window, as shown in Figure 5-9.

Field Name	Sort Order	Group By
	◆ Ascending ◆ Descending	<input type="checkbox"/>
	◆ Ascending ◆ Descending	<input type="checkbox"/>
	◆ Ascending ◆ Descending	<input type="checkbox"/>
	◆ Ascending ◆ Descending	<input type="checkbox"/>
	◆ Ascending ◆ Descending	<input type="checkbox"/>

Apply Dismiss

Figure 5-9 Report Field Sort Order Window

2. Select the menu pop-up symbol to the right of the Field Name field.
All of the fields on the current schema that you can sort on are displayed.
3. Select the field you want to sort on.
4. Select either the Ascending or Descending Sort Order radio button next to the Field Name field you just edited.
5. If you want to group by this field, select the box under Group By (Group1, Group2, Group3, Group4, or Group5) next to the Field Name field you just edited.
6. Continue specifying up to five fields.
7. Once you are finished, select the Apply button.
8. Select the Dismiss button to remove the Report Field Sort Order window and return to the Report window.

Generating Statistics

For any query that returns at least one entry, you can generate a statistical summary by selecting Statistics Options from the Define menu, as shown in Figure 5-10.

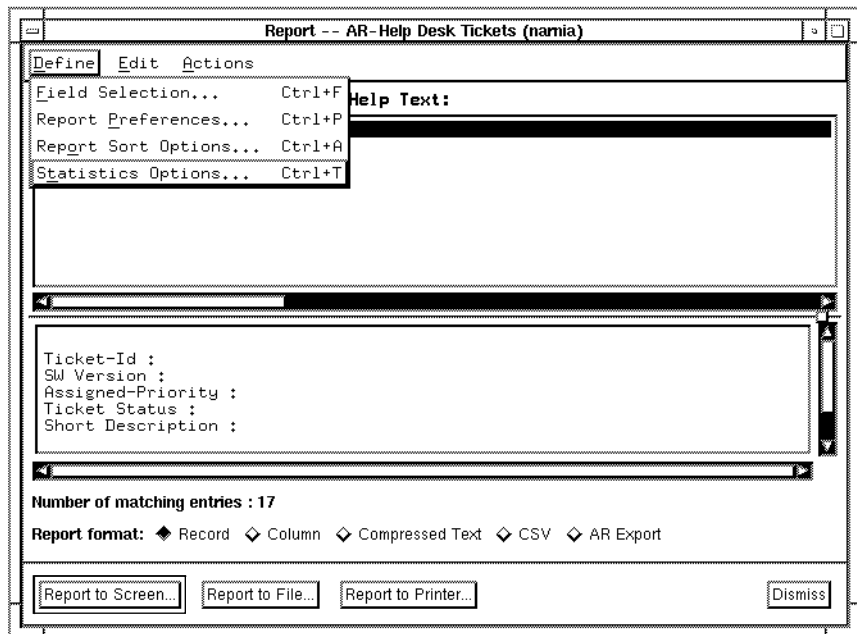


Figure 5-10 Statistics Options Command

There are five statistical operations you can perform:

Count	Tallies the number of ARs that were selected by the query criteria.
Sum	Sums specified fields or the arithmetic relationship between fields.
Average	Averages specified fields or an arithmetic relationship between fields.
Minimum	Provides the minimum value for a specified field or an arithmetic relationship between fields.
Maximum	Provides the maximum value for a specified field or an arithmetic relationship between fields.

If you do specify a field and you specify Column for the report layout, the statistical count result is displayed under the corresponding column. For all other statistical operations, if the field is an expression with at least one variable and you specify Column for the report layout, the statistical results are displayed under the first field in the expression.

The other four operations can only be applied to numeric and date and time fields. The arithmetic operators (+, -, *, /, and %) are used the same way as in the query bar (see “Using Operators in the Query Bar” on page 72 in Chapter 4).

Specifying Statistics

You define statistics one at a time using the procedures that follow.

To specify statistics:

- 1. From the Report window, select Statistics Options from the Define menu (or type `Ctrl+T`).**

The Statistics window appears, as shown in Figure 5-11.

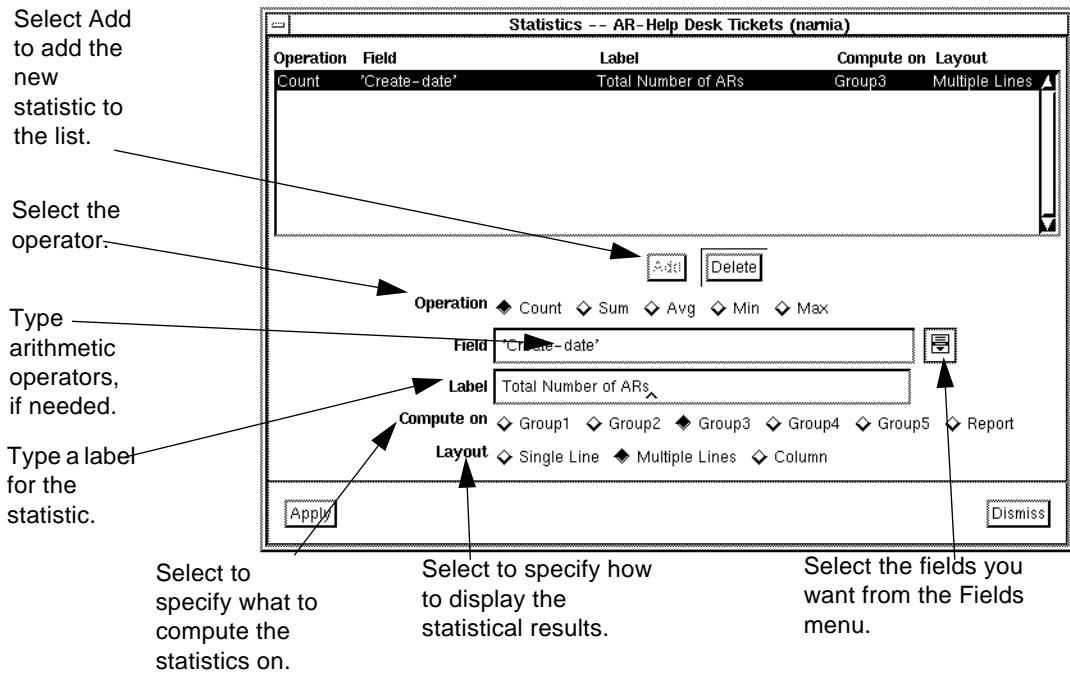


Figure 5-11 Specifying Statistics

2. Select an Operation (Count, Sum, Average, Minimum, Maximum).
3. Select the fields you want as part of the statistic by selecting the pop-up symbol to the right of the field and selecting the field. The selected field appears in the Field field. Enter arithmetic operators, if appropriate, between fields.

For example if you are finding the average time it took for an AR to go from the New to Fixed status, you would specify:

```
'Status-History.Fixed.TIME' - 'Status-History.New.TIME'
```

4. In the Label field, type the label for this statistic.

For example:

```
Average Time to Fix =
```

Labels can be a maximum of 128 characters and can include any characters (including blanks). Include blank spaces after the label to provide space between the label text and the statistic in the actual display or printout. You cannot use tabs since they take you to the next field. But you can include a tab in the label by using the special tab character. You can use any of the following special characters in the Label field:

<code>\b</code>	Backspace
<code>\n</code>	Return
<code>\t</code>	Tab
<code>\\</code>	Backslash
<code>\<nnn></code>	ASCII character <code><nnn></code>

You can specify the value of a field by specifying the field name within dollar signs (`$fieldname$`). This is especially good to show field values when you have grouped by a field and are reporting statistics per group.

- 5. You can specify that the statistics be computed for the entire report, or for any one of the five possible groups. Select the appropriate radio button in the Compute on field.**
- 6. Select Single Line in the Layout field to display the statistical results on one line. Select Multiple Lines to display each statistical results on its own line. Select Column to display the statistical results at the bottom of the column of the field specified by the Field field. Column is only valid for a column-formatted report.**
- 7. Select the Add button to add the statistic to the list of statistics you are specifying.**
The definition for the statistic is added to the window in the top half of the screen.
- 8. To delete a statistic you have specified, select the statistic in the list in the window and select the Delete button.**
- 9. When you have finished specifying the statistics you want, select the Apply button.**

10. Select the Dismiss button to remove the Statistics window.

Note – Only fields with values are included in the statistical results. If some ARs do not have a value for a field specified in a statistic, a message warns you that one or more fields contain a NULL value. It means that the statistic result you receive is computed only for entries that had valid data for the fields in your statistic request.

Exporting Statistics

If you are preparing to export a report to a spreadsheet or desktop publishing application, you should choose labels and line spacing appropriately. Commas, tabs, and spaces are commonly used field delimiters for data to be imported into a spreadsheet.

Using Custom Reports

Custom reports are reports that you design for a specific purpose and save so that you can generate a report in that custom format at any time you desire. You can create a new custom report any time you define a new report or after you modify an existing custom report. Once you create a custom report, you can use it any time you are in the Report window.

You create a custom report simply by defining a report as you normally would, and then selecting Save Custom from the Edit menu on the Report window. The Save Custom Report Format window appears, allowing you to save your report. The new report is added to the Custom Report Name list in the Report window. You can then select and run the custom report at any time.

You can allow other users to access your custom reports by either letting them copy your custom report files or by saving your custom reports in any directory specified by your `ARPATH` environment variable that other users have access to. For more information about sharing custom reports and the `ARPATH` environment variable, see the section entitled “Sharing Macros, User Commands and Custom Reports” on page 34 in Chapter 2.

Saving a Custom Report

At any time during the process of defining a report, even after viewing the report output, you can save a report as a custom report.

To save a custom report:

1. In the Report window, select **Save Custom** from the **Edit** menu (or type **Ctrl+S**). The **Save Custom Report Format** window appears, as shown in **Figure 5-12**.

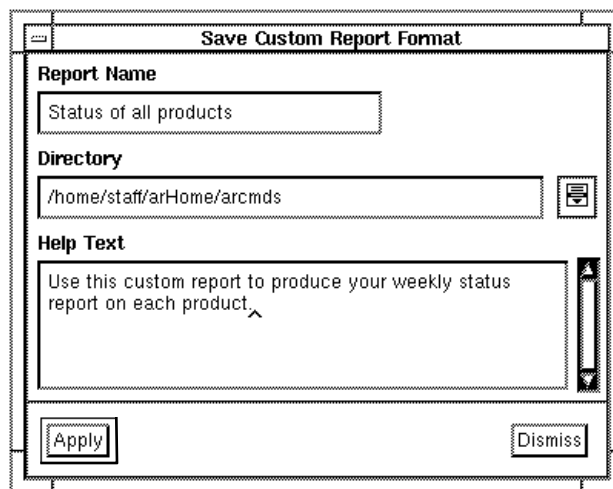


Figure 5-12 Save Custom Report Format Window

2. **Enter the report name in the Report Name field.**
If you use the name of an existing report, you receive a prompt asking if you want to overwrite the existing file. If you say yes, the existing report will be overwritten when you apply. If you say no, the custom report is not saved and you must supply a different report name.
3. **Display the Directory menu by selecting the pop-up symbol to the right of the field. Select the appropriate directory where you want to save your custom report.**
All of the directory path names defined by your `ARPATH` environment variable are listed on the Directory menu.

4. **Enter information that describes the report in the Help Text field.**
 Help text is useful for telling other users what the custom report does, as well as reminding yourself what it does.
5. **Select the Apply button to save the new custom report format. (Selecting the Dismiss button removes the Save Custom Report Format window without saving the custom report format.)**
 The report appears with other custom reports in the Report window, as shown in Figure 5-13.

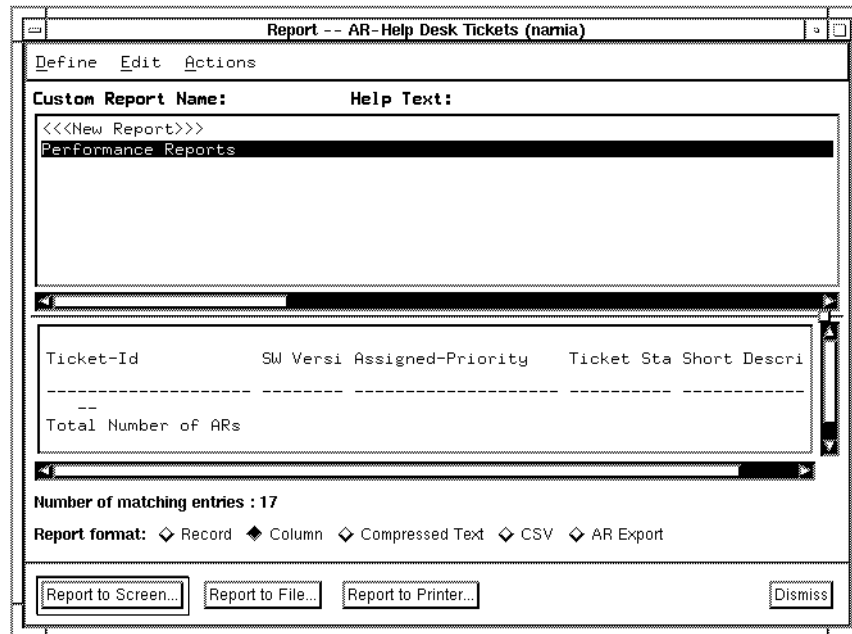


Figure 5-13 Report Window

Note – The saved custom report includes the fields to be included in the report, their order, labels, and size information, and any report preferences, sorting options, grouping options and statistics that you have defined.

Using a Custom Report

You can use a custom report any time you are displaying the Report window.

To use a custom report:

- 1. Select the custom report from the Custom Report Name list by clicking on the report name.**
- 2. The custom report is loaded into the Report window with the report prototype visible. If you want to see more of the prototype in the bottom panel of the window, place the pointer on the small square that is between the upper and lower vertical scroll bars. Then, drag the box up to enlarge the lower panel containing the prototype.**

The custom report format is applied to the set of ARs selected by your query criteria. Any open Report windows such as the Report Selected Fields, Report Preferences, Report Field Sort Order, and Statistics windows are updated to reflect the values contained in the custom report.

- 3. Select an output option. (See “Generating Report Output” on page 129.)**

Modifying a Custom Report

You can modify a custom report’s name, directory, help text, report preferences, and sorting and grouping options at any time. Simply select the report you want to start with and then make any changes you desire.

To modify a custom report:

- 1. Select the custom report from the Custom Report Name list by clicking on the report name.**
- 2. The custom report is loaded into the Report window, with the report prototype visible. If you want to see more of the prototype in the bottom panel of the window, place the pointer on the small square that is between the upper and lower vertical scroll bars. Then, drag the box up to enlarge the lower panel containing the prototype.**

The custom report format is applied to the set of ARs selected by your query criteria.

- 3. Modify any aspects of the report as you would when first specifying a report.**

4. **Select Save Custom from the Edit menu (or type `Ctrl+S`) to display the Save Custom Report Format window.**
5. **Enter a report name in the Report Name field for this new custom report.** You can enter an existing report's name, if you are modifying it.
6. **Display the Directory menu by selecting the pop-up symbol to the right of the field. Select the appropriate directory where you want to save your custom report.**
All of the directory path names defined by your `ARPATH` environment variable are listed on the Directory menu.
7. **Enter information that describes the report in the Help Text field.** Help text is useful for telling other users what the custom report does, as well as reminding yourself what it does. Five lines of text are displayed by default.
8. **Select the Apply button to save the new custom report format. (Selecting the Dismiss button removes the Save Custom Report Format window without saving the custom report format.)**
If you use the name of an existing report, you receive a prompt asking if you want to overwrite the existing file. If you say no, the custom report is not saved and you must supply a different report name.

A new report with the changes you just made is added to the Custom Report Name list on the Report window.

To modify a report's name or help text:

1. **Select Manage Custom Report from the Edit menu on the Report window (or type `Ctrl+M`). The Manage Custom Reports window appears, as shown in Figure 5-14.**

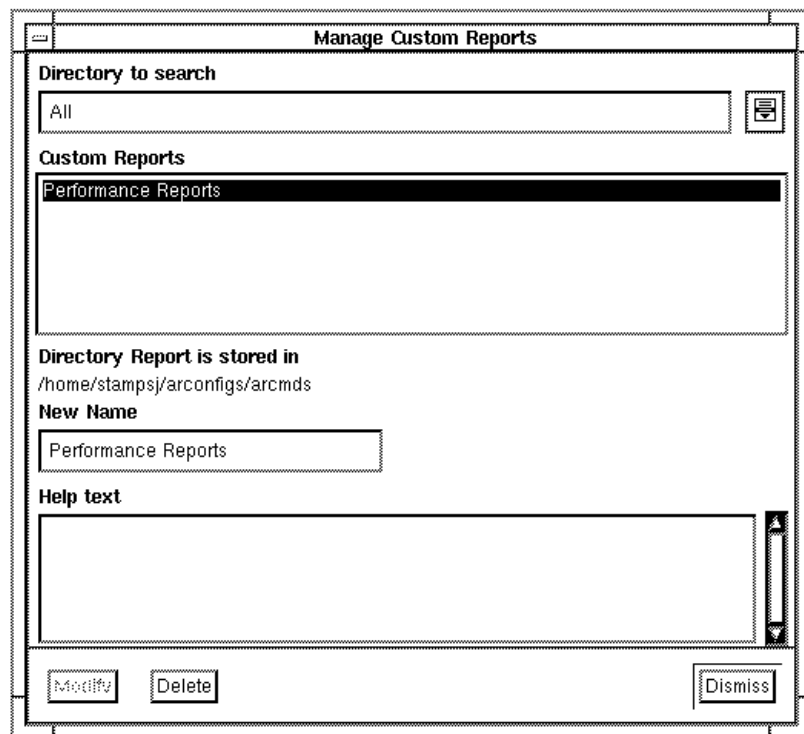


Figure 5-14 Edit Custom Report Formats Window

- 2. Display the Directory to search menu by selecting the pop-up symbol to the right of the field.**

The Directory to search menu contains all directories defined by your `ARPATH` environment variable, your `<ar_config_dir>/arcmds` directory, and the word `ALL`. If you select a directory from the menu, only those custom reports stored in that directory appear in the Custom Reports list. If you select `ALL`, all custom reports contained in all directories available to you appear in the Custom Reports list.
- 3. Select the report in the Custom Reports list whose name or help text you want to modify. The current name and help text appears in the New Name and Help Text fields.**
- 4. Modify the name and help text as appropriate and select the Modify button.**

5. When you have finished, select the **Dismiss** button to close the **Manage Custom Reports** window. The new report name appears in the **Custom Report Name** list on the **Report** window.

Deleting a Custom Report

You can delete a custom report any time you are displaying the **Report** window.

To delete a custom report:

1. Select **Manage Custom Report** from the **Edit** menu (or type **Ctrl+M**) to display the **Manage Custom Reports** window as previously described.
2. Display the **Directory to search** menu by selecting the pop-up symbol to the right of the field. Select the directory containing the custom report or select **All**.
3. Select the report you want to delete from the **Custom Reports** list and select the **Delete** button to delete the custom report. You will be asked to confirm your action (Motif only). The report is no longer listed in the **Custom Report Name** list on the **Report** window.

Generating Report Output

You can send reports to the screen, to a file or to a printer. When you send a report to the screen, a report appears in a scrollable window, as shown in Figure 5-15. When you send reports to a file, you can create a new file or you can choose to append to or overwrite an existing file.

Ticket-Id	SW Versi	Assigned-Priori	Ticket Status	Short Description
TT00000000000006	2.0	Low	Closed	PC disk is bad
TT00000000000015			Open	PC disk is bad
TT00000000000017			Open	disk drive
TT00000000000001		Medium	Closed	test case
TT00000000000002			Escalated	test
TT00000000000005			Open	Server is slow
TT00000000000012			Open	User Tool has repair
TT00000000000003			Closed	Request for ability
TT00000000000009			Open	Need more memory
TT00000000000014			Open	Submitting tickets n
TT00000000000007		High	Escalated	PC disk is bad
TT00000000000008			Escalated	This machine can't t
TT00000000000004			Closed	test-4
TT00000000000010			Open	PC hard drive is bad
TT00000000000013			Open	Submitting tickets n
TT00000000000011			Escalated	test
TT00000000000016			Escalated	Submitting tickets n
Total Number of ARs = 17				

Number of matching entries : 17

Dismiss

Figure 5-15 Report to Screen Window

To display a report to the screen:

1. **Select Report to Screen on the Report window.**
The report appears in a Report to Screen window (Figure 5-15).
2. **Select the Dismiss button to close the Report to Screen window.**

To send the report to a file:

1. **Select Report to File on the Report window.**
The Report to File window appears, as shown in Figure 5-16.

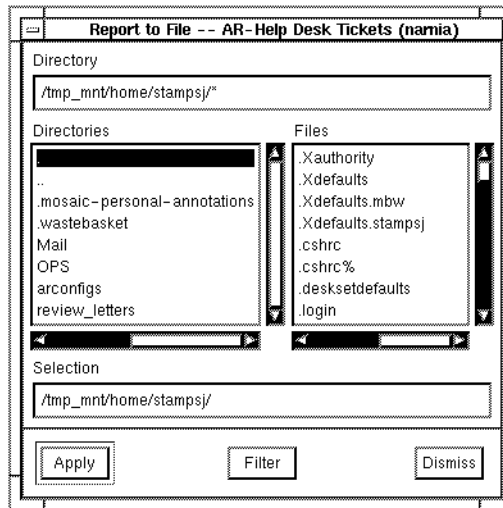


Figure 5-16 Report to File Window

2. **Specify the directory and file name for the report file in the Selection field.**
3. **You can use the Filter button and the Directories window to select the directory path name where you want to put the report file.**
To specify your default directory (*<arHome_dir>/arcmds*), select *<arHome_dir>/arcmds/* in the Directories window and then select the Filter button (or double-click on *<arHome_dir>/arcmds/*).

The Files window displays all files found under your *<arHome_dir>/arcmds* directory and the selection window is filled in with the pathname of your default directory.

4. **To move around your UNIX directory tree structure, select *<arHome_dir>/arcmds/..* in the Directories window and then select the Filter button (or double-click on *<arHome_dir>/arcmds/..*).**
The Files window displays all directories and files found under your *<arHome_dir>* directory and the selection window is filled in with the pathname of *<arHome_dir>*.
5. **To specify a new file name, enter the file name in the Selection field after the directory path name and then select the Apply button.**

6. **To overwrite or append to an existing file, select the file name in the Files window and then select the Apply button. You can also double-click on the filename in the Files window.**

A warning message is displayed telling you that the specified file already exists. To overwrite the existing file, select the Overwrite button. To append to the existing file, select the Append button. To not save this custom report with the existing file name, select the Cancel button.

7. **To remove the Report to File window without saving your report in a file, select the Dismiss button.**

To print a report:

1. **Select Report to Printer on the Report window.**

The Report Print window appears, as shown in Figure 5-17.

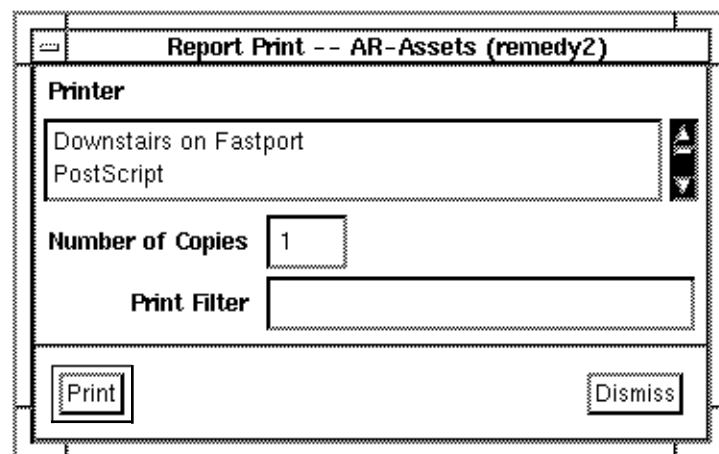


Figure 5-17 Report Print Window

2. **Select the printer from the Printer list.**
3. **Specify the number of copies you want printed.**

4. If you want to run the report through a print filter before it is printed, enter the filter name and appropriate path information.

See *Print filters* below for more information on filtering the print job.

Select the Print button to send your report to the printer. (Selecting the Dismiss button closes the Report Print window without sending anything to the printer.)

Print filters

You invoke the print filter with the file name you want filtered as its argument. For example, if the filter is `fold -70`, then the command line you would pass to the shell to execute would be:

```
fold -70 <temp-filename> | lpr -d<num-copies>
```

The User Tool will supply `<temp-filename>` and `<num-copies>`.

The print filter can only be one command, not a sequence of commands separated by the pipe (`|`) symbol. If you want to use a more complex print filter, write a small script that includes the sequence of commands, and have the script take a filename argument.

For example, if the filter you want is `cat | fold -70`, then you could write a script like this:

```
#!/bin/sh
cat $* | fold -70
```

If you named this script `myfilter`, then you would just type `myfilter` as the print filter.

Using Macros



A **macro** is a set of operations recorded for later execution. A macro can include any operation that the User Tool can perform: querying the database (with an optional sorting order), submitting ARs, modifying ARs, changing user defaults, or even setting user defaults, running macros, running user commands, creating a report, changing schemas, and specifying preferences. You may want to create macros to automate frequently used or complex query or submit operations.

You can execute a macro by selecting Run Macro from the Macros menu and then selecting the macro from the Select Macro window or by entering it as a command line parameter when you start the User Tool.

This chapter provides information about the following:

- Recording macros.
- Executing macros.
- Changing a macro's name and help text.
- Deleting macros.
- Sharing macros with other users.

Recording Macros

When you create a macro, you assign it a name and enter a description of its function. The next time you select Run Macro from the Macros menu, the new macro is listed along with any other macros you have created.

Before recording a macro, it is a good idea to try the operation you intend to record to make sure it produces the results you expect.

You can create a macro that leaves the contents in a Query window when the macro ends. You might want to create a macro that does this if you find that you perform many queries with much of the same criteria. By running a macro that displays the query contents, you are left with the Query window filled in with the common criteria waiting for you to add any additional criteria specific to your current query task.

You can also create a macro that leaves a Submit window open containing some field values. This is useful if you submit many ARs with some similar information. By running a macro that leaves a Submit window open that contains some field values, when the macro ends you are left with the Submit window filled in with common field information waiting for you to add any additional information specific to your current submit task.

This type of macro is very useful as part of an active link. It is also useful because it allows you to select Dismiss on the Submit window, therefore, cancelling the submit operation. For instance, suppose your AR System administrator created an active link on your Customer Support Call Tracking schema that copies the field contents of the customer call AR to a Submit window containing the Bug Tracking schema. This is very useful if your customer support call results in the submission of a software bug. For more information about creating active links, see the *Action Request System Administrator's Guide*.

Note – When you record a macro that submits an AR, you receive a warning message informing you that the macro recording is active and that the operation was recorded but that no database operation was performed (no AR was submitted).

You can allow other users to access your macros by either letting them copy your macro files or by saving your macros in any directory specified by your ARPATH environment variable that other users have access to. For more information about sharing macros and the ARPATH environment variable, see the section entitled “Sharing Macros, User Commands and Custom Reports” on page 34 in Chapter 2.

Note – You can create a macro that executes other macros. While recording, simply select the macro you want to execute by selecting Run Macro from the Macros menu. In this way, you can create powerful macros that can perform a series of complex tasks.

While the following sections take you through the steps to record a macro that performs a query operation, you can create a macro to do any task that you can do using the User Tool.

To record a macro that performs a query:

1. Select Start Recording from the Macros menu.

RECORDING appears in the status area at the bottom of the Query window, as shown in Figure 6-1.

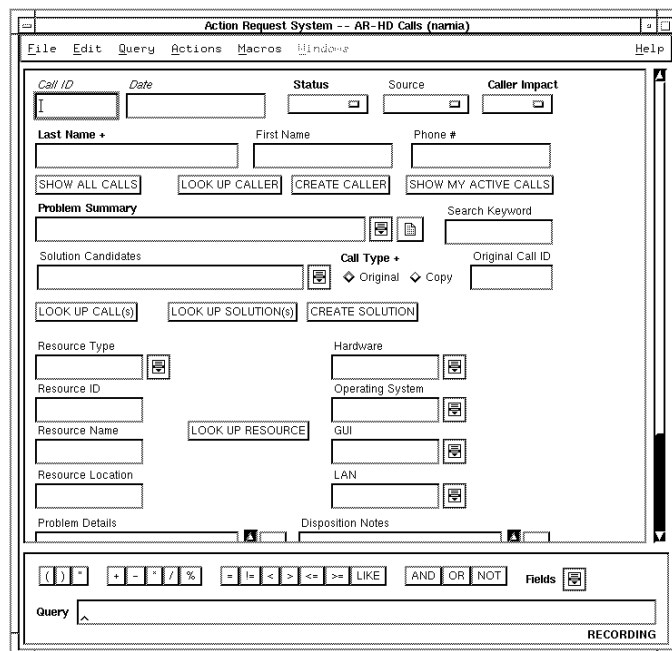


Figure 6-1 Recording in Progress

2. Display the appropriate schema in the Query window.

3. With the appropriate schema displayed, select **Clear All** from the **Edit** menu (or type **Ctrl+E**) to clear the schema's fields.
4. Specify the search criteria you want as you would for any query operation.
5. Select the operation(s) to be performed.
6. Select **Stop Recording** from the **Macros** menu to stop the recording process.

A Stop Recording window appears, as shown in Figure 6-2.

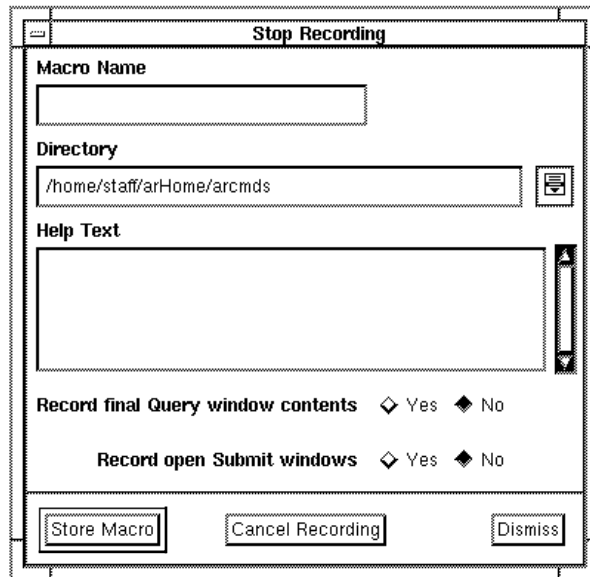


Figure 6-2 Stop Recording Window

If you want to continue recording, select the **Dismiss** button.

If you want to cancel the recording operation, select the **Cancel Recording** button.

7. **Enter a name for the macro in the Macro Name field.**
You might want to use a name that helps you to remember what the macro does.

8. Display the Directory menu by selecting the pop-up symbol to the right of the field and select the appropriate directory where you want to save your macro.

All of the directory pathnames defined by your ARPATH environment variable as well as your `<ar_config_dir>/arcmds` directory are listed on the Directory pull-right menu.

9. Enter a description of the macro in the Help Text field.

Help text is useful for telling other users what the macro does, as well as reminding yourself what it does. This text is displayed when the macro is selected to play back or in the Execute macro window, the help text of the currently selected macro is displayed.

10. Select Yes for the Record final Query window contents option to store the final contents of the Query window as part of the macro.

Then after the macro is executed, the Query window will contain the values specified by the macro.

If No is selected, after the macro is executed, the Query window will contain the last query ran.

11. Select Yes for the Record open Submit windows to store any Submit windows left open when the macro ended.

This allows you an additional way to record submissions. The macro records any open Submit windows opened after the start of the macro along with their contents. After the macro is run, the Submit window is left open and you can finish supplying information before submitting the AR.

12. Select the Store Macro button to save the macro.

The name of the new macro now appears in the Select Macro window when you select Run Macro from the Macros menu.

Note – The macro remembers the size and position of any window it displays during playback. Take advantage of this feature by sizing and positioning the final result windows before dismissing them or before stopping the recording (whichever occurs first).

Recording Macros with Variables

You can record a more generic macro that lets you change some of the values each time you execute the macro. These are macros which provide user-specified variables to be entered during the macro's execution.

For example, suppose you want to create a macro that displays "Assigned" ARs that have a "Critical" priority, but you want to specify the "Submitter" each time you run the macro. To create this macro with variables, you record the query operations as usual, but for variable information you type the **prompt text** enclosed by dollar signs. In this example, to allow yourself to specify the Submitter when you run the macro, you enter the prompt text \$UserName\$ in the Submitter field instead of entering a specific name.

Note – You cannot use dollar signs as part of your variable.

As you continue recording the query, you are prompted to enter an example value for this variable. Note that the values you enter are used in the recording session, but are not retained as part of the macro.

Note – You cannot use the query-by-example section of the screen to specify variable values for selection fields. You must use the query bar for this task.

Figure 6-3 on page -140 shows a Query window with a variable specified in the Submitter field.

The screenshot shows a window titled "Action Request System -- AR-Help Desk Tickets (namia)". The window contains a form with various input fields and buttons. The "Submitter" field is highlighted with a black arrow pointing to the text "\$User Name". A label "Variable in Submitter field" points to this field. The form includes fields for "Ticket-Id", "Short Description", "Long-Description", "Problem Area", "Problem Type", "SW Version", "OS", "GUI", "DB", "NW Mgmt Platform", "Resolution Log", "Assigned-Priority", "Solution", "Currently assigned to", "Escalated to Engineering", "Date Escalated", "Defect-Id", "Last-modified-by", "Modified-date", and "Create-date". A query window is visible at the bottom of the window.

Figure 6-3 Specifying a Variable

To record a macro with variables:

1. **Select Start Recording from the Macros menu.**
RECORDING appears in the status area at the bottom of the Query window.
2. **Select the desired schema in the Query window.**
3. **Select Clear All from the Edit menu (or type Ctrl+E) to clear the schema's fields.**

- 4. Specify the search criteria you want. For criteria that have variable information, enter the prompt text that the user sees when the macro executes enclosed by dollar signs (\$). For example, if the Submitter field value will vary, you could enter**

\$User Name\$

as the prompt text in the Submitter field, as shown in Figure 6-3 on page -140.

- 5. Select the operation(s) to be performed from the Query menu.**
The Macro Parameters window appears, prompting you to enter example value(s) for any variables you have designated, as shown in Figure 6-4.

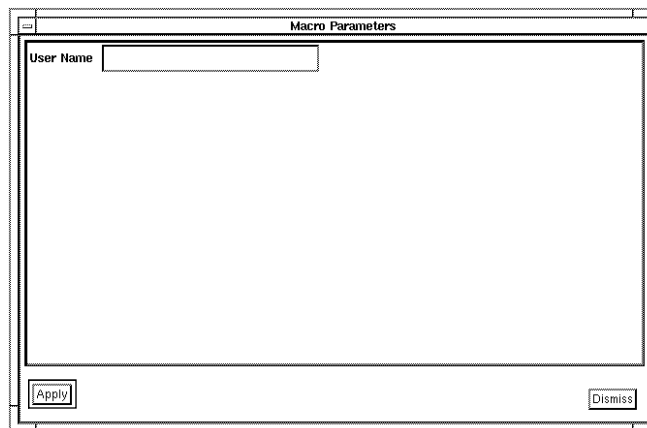


Figure 6-4 Prompt to Enter Example Value

- 6. Enter an example for each of the prompted variables.**
The examples you enter are not stored with the macro. They only allow you to continue with the recording session.
- 7. To stop the recording process, select the Stop Recording button from the Macros menu. A Stop Recording window appears.**
If you want to continue recording, select the Dismiss button.

If you want to cancel the recording operation, select the Cancel Recording button.

- 8. Enter a name for the macro in the Macro Name field and a description of its function in the Help Text field.**
Help text is useful for telling other users what the macro does, as well as reminding yourself what it does.
- 9. Display the Directory menu by selecting the pop-up symbol to the right of the field. Select the directory where you want to save your macro.**
All of the directory path names defined by your ARPATH environment variable are listed on the Directory menu.
- 10. Select Yes for the Record final Query window contents option to store the final contents of the Query window when the macro ended as part of the macro.**
Then after the macro is run, the Query window will contain the values specified by the macro.
- 11. Select Yes for the Record open Submit windows to store any Submit windows left open when the macro ended.**
This allows you an additional way to record submissions. The macro records any open Submit windows and their contents. After the macro is run, the Submit window is left open containing information allowing you to finish supplying information before submitting the AR or to cancel the submission.
- 12. Then select the Store Macro button to save the macro.**
The name of the new macro now appears in the Select Macro window when you select Run Macro from the Macros menu.

Executing Macros

Follow these steps to execute a macro from the Query window.

To execute a macro:

- 1. Select Run Macro from the Macros menu (or type Ctrl+I). The Select Macro window appears, as shown in Figure 6-5.**

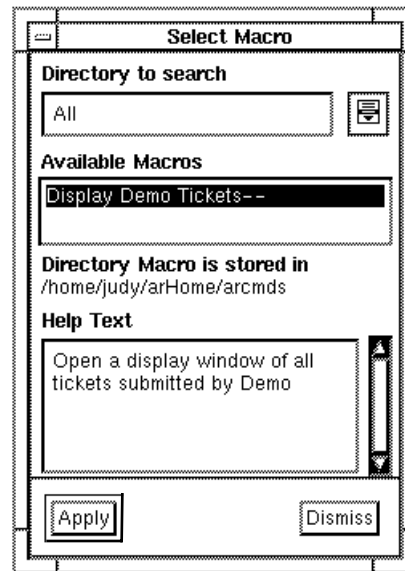


Figure 6-5 Select Macro Window

2. **Display the Directory to search menu by selecting the pop-up symbol to the right of the field.**
To display all of the macros in the Available Macros list that you have access to, select All from the Directory to search menu. To display only the macros contained in one directory, select that directory from the Directory to search menu.
3. **Select the macro that you want to run from the Available Macros list and then select the Apply button or double-click on the macro name.**
If the currently active window contains the schema required by the macro, the macro operation occurs in the active window. Otherwise, the macro changes the schema in the Query window.
4. **If you execute a macro with variables, a window appears for you to enter the values to be used for the current query, as shown in Figure 6-6. Enter the values, then select the Apply button to continue executing the macro. Selecting the Dismiss button cancels the macro.**

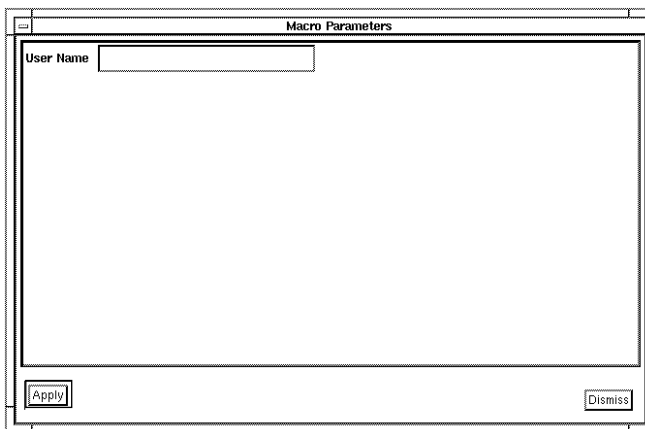


Figure 6-6 Entering Variables for a Macro

If you do not supply a value for a prompted variable, an empty string is substituted in the macro. If the variable is in the query-by-example section of the Query window, it simply means that no qualification for the corresponding field is specified. If the variable is in the query bar, however, failure to specify a value often leads to a syntax error or unexpected results due to bad comparisons.

Changing the Macro Name or Description

Follow these steps to rename a macro or change its description. The name identifies the macro in the Macro list. The help text can include additional information about the macro operations.

Note – To change any of the operations performed by the macro, you *must* re-record the macro.

To edit the name or description:

1. **Select Edit Macros from the Macros menu. The Edit Macros window appears, as shown in Figure 6-7.**

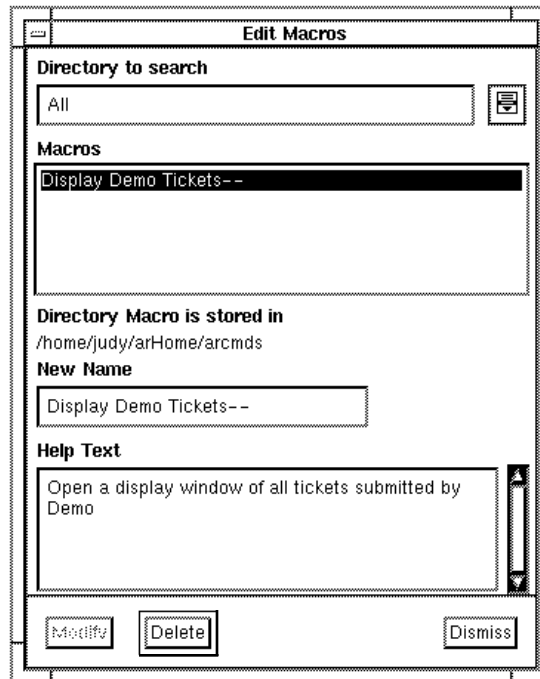


Figure 6-7 Edit Macros Window

2. **Display the Directory to search menu by selecting the pop-up symbol to the right of the field.**
 The Directory to search menu contains all directories defined by your ARPATH environment variable, your `<ar_config_dir>/arcmds` directory, and the word All. If you a directory from the menu, only those macros stored in that directory appear in the Macros list. If you select All, all macros contained in all directories available to you appear in the Macros list.
3. **Select the macro you want to edit from the Macros list.**
4. **Edit the New Name and Help Text fields as needed.**
5. **Select the Modify button to save the changes.**

Deleting Macros

Deleting a macro permanently removes it from the Macros list in the Select Macros and Edit Macros windows.

To delete a macro:

1. Select Edit Macros from the Macros menu.

The Edit Macros window appears (Figure 6-7).

2. Display the Directory to search menu by selecting the pop-up symbol to the right of the field.

The Directory to search menu contains all directories defined by your ARPATH environment variable, your `<ar_config_dir>/arcmds` directory, and the word All. If you select a directory from the menu, only those macros stored in that directory appear in the Macros list. If you select All, all macros contained in all directories available to you appear in the Macros list.

3. Select the macro you want to delete.

4. Select the Delete button to delete the macro. UNIX only, will confirm whether you want to delete.

Sharing Macros with Other Users

There are two ways that you can share macros. The first way is to copy the macro files and place them in your `<ar_config_dir>/arcmds` directory. The second way is to specify the directory that contains the files you want to access in your AR Path desktop preference. For more information about sharing macros, “Sharing Macros, User Commands and Custom Reports” on page 34.

Customizing the Environment



This chapter provides information about customizing your environment. Customizing can include setting defaults for fields, adjusting the layout of fields on your view of a schema (your **view**), or changing the display properties of fields and creating system commands. You can customize your environment only if your AR System administrator has given you customize permission (placed you in a group that has customize privileges). However, you do not need special permissions to define default values.

This chapter provides information about the following:

- Defining default field values.
- Personalizing views.
- Saving and restoring views.
- Exporting views.
- Creating user commands.
- Executing user and administrator commands.

Defining Default Field Values

You can assign default values to any field for which you have been given access privileges by the AR System administrator. Your default values override any defaults the AR System administrator may have defined when setting up the schema. If your AR System administrator has specified a default value for a field that you want to be clear (empty), you need to specify a default value of

\$NULL\$ for your user default value. You can use the \$NULL\$ keyword in any field except for a selection field (radio button or selection menu). Your defaults are saved in a file named `<ar_config_dir>/<schema_name>.ard` and can be exchanged with other AR System users by copying the file.

These default values are automatically loaded when you select Set to Defaults from the Edit menu (or type `Ctrl-U`) on the Query window, select the Set To Defaults button on the Submit window, or when the Preferences setting for the Submit or Query window is set to display default values prior to a new submission or query, respectively.

Note – When the default values are loaded into the Query or Submit window, any AR System administrator default values are loaded as well as your own. If you specified a default value for a field that your AR System administrator also specified, your default value takes precedence.

To define default field values:

1. Select **Customize Defaults** from the Actions menu. The **Customize User Defaults** window appears, as shown in Figure 7-1.

The screenshot shows a window titled "Customize User Defaults -- AR-Help Desk Tickets (namia)". The window contains several input fields and buttons. The fields are: Ticket-Id (with a "Show Related Calls" button), Submitter, Short Description, Ticket Status, Long-Description, Problem Area, Problem Type, SW Version, OS, GUI, DB, NW Mgmt Platform, Resolution Log, Assigned-Priority, Solution, and Currently assigned to. At the bottom of the window, there are three buttons: "Apply", "Clear Values", and "Dismiss".

Figure 7-1 Customize User Defaults Window

2. To clear all field values, select the Clear Values button.

3. Enter new default values or replace existing values.

Note – Fields that are normally hidden on your view are shown in gray text. Even though these fields are not normally visible, they exist in the database and you may want to assign a default value to them (if you have write access). Any default values you assign to hidden fields are preserved and applied when performing any operation where default values are used (selecting Set to Defaults from the Edit menu on the Query window or the Set to Defaults button from the Submit window).

4. To save these defaults, select the Apply button.

5. To dismiss the Customize User Defaults window, select the Dismiss button.

If you try to dismiss the Customize User Defaults window without first saving your changes, you are warned that you haven't saved your changes. If you want to continue dismissing the Customize User Defaults window, select the Continue button. To cancel the dismiss operation and return to the Customize User Defaults window to then save your changes, select the Cancel Dismiss button.

Customizing Your Schema View

The AR System allows you to create your own custom view of each schema. Your customizations can include changing the physical layout of your view and changing various field properties, such as the field label, location, and length. Your custom view characteristics are saved in a file named `<ar_config_dir>/<schema_name>.arv` and can be exchanged with other AR System users by copying the file.

When you customize a view on the Customize User View window, the system keeps a copy of the previous version of the view (the view that appeared when the window was first opened) so that you can restore it if necessary. You can also restore a view you have saved in a backup file. (See *Restoring Views*, later in this chapter.) You should always save valuable views in a backup file.

Note – Not all users have permission to customize their view of a schema. If you do not have customize permission for a schema, the Customize View item under the Actions menu is not available. You can use a view created by another user by copying their view file into your `arHome` directory, but you cannot create a new view yourself.

Changing the Layout

If you have customize permission, you can change the physical layout of your view of a schema by dragging fields to reposition them within the schema, as illustrated by Figure 7-2. You can drag the field past the bottom (or top) of the visible window to move the field onto the next (or previous) page.

Note – You can reposition a field more precisely by specifying X and Y coordinates. Or you can align fields to a grid line by turning on the Enable Grid and Display Grid features in the View Preferences. For more information, see the following section, *Changing Field and Active Link Properties*.

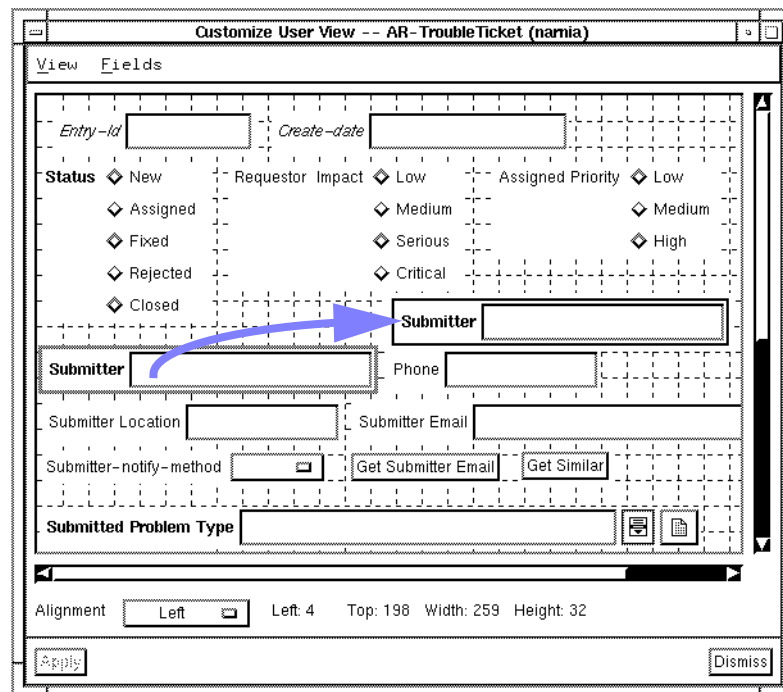


Figure 7-2 Dragging a Field to a New Location

To change the location of fields on the schema:

1. Select Customize View from the Actions menu.

The Customize User View window appears.

2. You can do any of the following:

- Enable the grid feature by selecting View Properties from the View menu and clicking on the Enable Grid and the Show Grid options in the Custom View Properties dialog box. See “Customizing View Properties” on page 152.
- Specify the grid alignment using the Alignment button. See “Selecting an Alignment Method” on page 153.
- Reposition one field by clicking on the field and moving it to another area on the schema.

- Reposition all the fields on the schema at one time by selecting Select All Fields from the Fields menu, clicking on one field, and moving it to another area on the schema.
- Modify the display attributes for a selected field by selecting Field Properties from the Fields menu and making changes in the Schema Item Properties dialog box. See “Changing Field and Active Link Properties” on page 154.

3. When you are ready to save your changes, select the Apply button.

Note – Once you select the Apply button, you can restore your old view by selecting Previous View from the Reset View menu. But, once you select the Dismiss button, you cannot restore your old view. You can always restore an Administrator view. For more information see “Restoring Views” on page 156.

4. To remove the Customize User View window and return to the Query window, select the Dismiss button.

Once you select the Apply button, the Query window immediately changes to reflect the new view. The current view is saved in

`<ar_config_dir>/<schema_name>.arv` while the previous view is saved in

`<ar_config_dir>/<schema_name>.arv.bak.`

Customizing View Properties

You can use the Custom View Properties dialog box shown in Figure 7-3 to specify grid options in the Customize User View window.

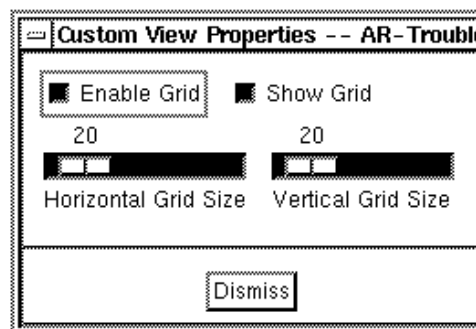


Figure 7-3 Custom View Properties Dialog Box

To set custom view properties

1. Select View Properties from the View menu in the Customize User View window.

2. Set view options as follows:

Enable Grid	Click to enable the grid feature in the Customize User View window. (Note that you can enable the grid feature without displaying the grid lines by deselecting Show Grid.)
Show Grid	Click to display the grid lines in the Customize User View window.
Horizontal Grid Size	Select and hold the mouse button down on the button within the slider bar and move to the left or right. The number above the slider bar, which represents the horizontal spacing (in pixels) between the lines in the grid, changes accordingly. You can also increment or decrement the pixel value by selecting the left or right arrows on the numeric keypad on your keyboard.
Vertical Grid Size	Select and hold the mouse button down on the button within the slider bar and move to the left or right. The number above the slider bar, which represents the vertical spacing (in pixels) between the lines in the grid, changes accordingly. You can also increment or decrement the pixel value by selecting the left or right arrows on the numeric keypad on your keyboard.

3. Select Dismiss to remove the Custom View Properties dialog box.

Selecting an Alignment Method

You can use the Alignment selection menu to specify the way in which a field aligns itself to an enabled grid line.

To select the alignment method:

- Select the Alignment menu and select from the following options:

Left	Align the left edge of the field, including the field label, to the grid line.
Value Left	Align the left edge of the data entry portion of the field to the grid line.
Right	Align the right edge of the field, including any associated field icons, to the grid line.

Value Right	Align the right edge of the data entry portion of the field to the grid line.
None	Disable the alignment feature, allowing you to reposition the field on the schema without respect to the grid line.

Changing Field and Active Link Properties

To change the properties of a field or active link button:

1. **Select Customize View from the Actions menu.**
The Customize User View window appears.
2. **Select the field or active link button, then select the Properties button (or double-click on the field or button).**
A Schema Item Properties window appears with the current settings for the selected field (or active link button), as shown in Figure 7-4.

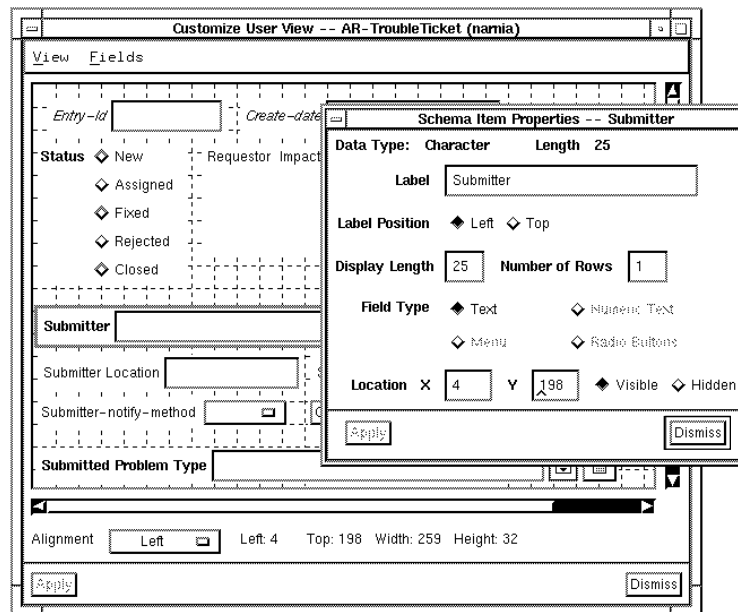


Figure 7-4 Schema Item Properties Window

3. **Change the properties as appropriate, then select the Apply button.**

4. You can continue customizing the view by selecting additional fields or active link buttons and changing their properties or by moving fields or buttons.
5. When you are ready to save all of your changes, select the **Apply** button on the Schema Item Properties window and on the **Customize User View** window.

Note – After you select the **Apply** button on the **Customize User View** window, you can return to the previous view by restoring it. But, once you select the **Dismiss** button on the **Customize User View** window, you cannot return to your previous view. You can always restore an Administrator view. For more information see “Restoring Views.”

6. To remove the Customize User View window and return to the Query window, select the Dismiss button.

When you save your changes, the Query window immediately changes to reflect the new view. The current view is saved in the

`<ar_config_dir>/<schema_name>.arv` file.

You can change some of the following properties for each selected field or active link:

Property	Description
Label	Lets you change the field label to one that may be more familiar to you. Make sure the label you specify does not suggest a different meaning for the field or active link. A field (or active link) label can include any characters (including blanks) and can be up to 30 characters long. Capitalization is retained since labels are case-sensitive.
Label Position	Lets you specify whether you want the field label to appear to the left of or on top of the field.
Display Length	Sets the length of the text field line.
Number of Rows	Sets the number of rows used for radio button displays or sets the number of rows of text shown for text type items.
Field Type	Lets you select an alternative presentation for selection or integer data types. Selection type fields may be displayed as a selection menu or as radio buttons. Integer type fields can be displayed with or without increment buttons (▲▼).

Location: X and Y	Repositions the field or active link button according to the X and Y coordinates you specify. This option is often used after dragging a field (or active link button) to the approximate desired location. If you have a series of fields or active links on the same line, these fields or active links must have the same Y coordinate in order for tabbing between them to work as you expect (tabbing works from top to bottom, left to right).
Visible/Hidden	Sets whether or not the field or active link button is visible on the schema. A hidden field or active link button is not deleted — it can be made visible at any time by changing the setting again. Hidden fields and active link buttons are shown with grayed labels in the Customize User View and Customize User Defaults windows. They are not visible on other windows.

Restoring Views

When you save a customized view by selecting the Apply button, the new view is stored in `<ar_config_dir>/<schema_name>.arv`. The system also keeps a copy of the view you had when you opened the Customize User View window. After making changes to your view, but before dismissing the Customize User View window, you can restore your previous user view. You can restore an AR System Administrator default view at any time. You can also restore a view you have saved in a backup file at any time.

Note – You should always save valuable views in a backup file at the UNIX system level. To do this, copy the appropriate `<ar_config_dir>/<schema_name>.arv` file to another file so that it won't be overwritten. Do not copy it to `<ar_config_dir>/<schema_name>.arv.bak` since this file name is used by the AR System.

To restore the previous view or the administrator's view:

- 1. After selecting the Apply button on the Customize User View but before selecting the Dismiss button, you can restore your previous (original) view by selecting Previous View from the View menu, as shown in Figure 7-5.**

Note – Once you select the Dismiss button on the Customize User View window, you cannot restore your previous view.

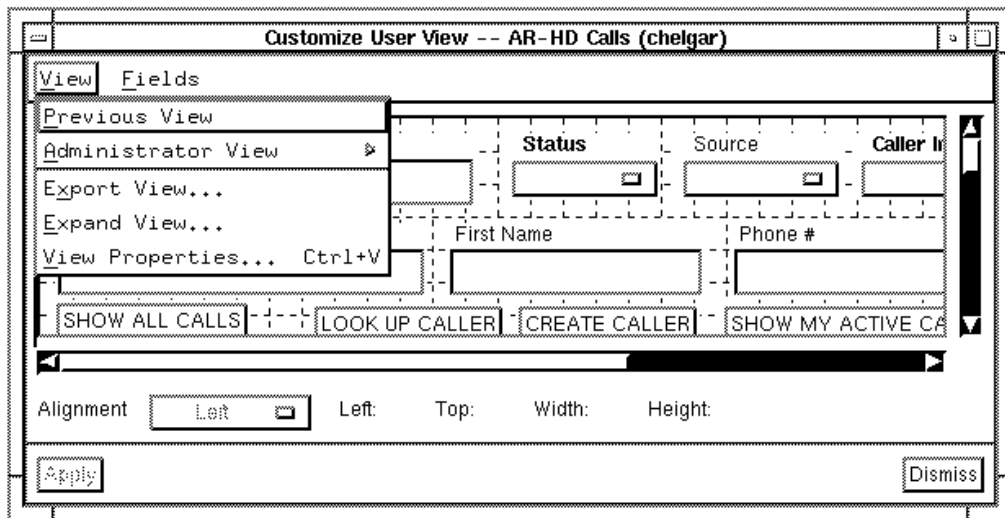


Figure 7-5 Previous View Menu

2. To restore an AR System Administrator view, select the desired Administrator View from the submenu under the View menu, as shown in Figure 7-6.

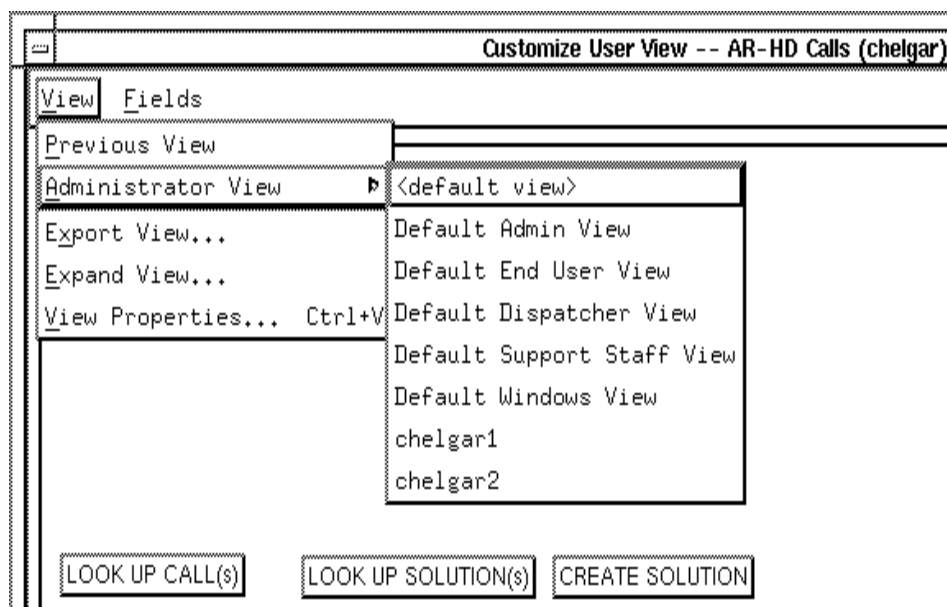


Figure 7-6 Reset View Menu

3. Select the Apply button to save the restored view.
4. Select the Dismiss button to remove the Customize User View window.

To restore a view backup file:

- At the UNIX system level, copy your backed-up view file to the appropriate `<ar_config_dir>/<schema_name>.arv` schema view file. Then, from the Query window, re-select the schema from the Open Schema window to restore this view.

Exporting Views

If you have Administrator capabilities in the User Tool, you can export a customized user view. That is, you can give the view a name and make it available on the current AR System server so that it can be opened in the Administrator Tool for further modification or for use as an administrator view.

To export a customized view:

1. Open the customized view in the Customize View window.
2. With the Customize View window active, select the Export View command from the View menu, as shown in Figure 7-7.

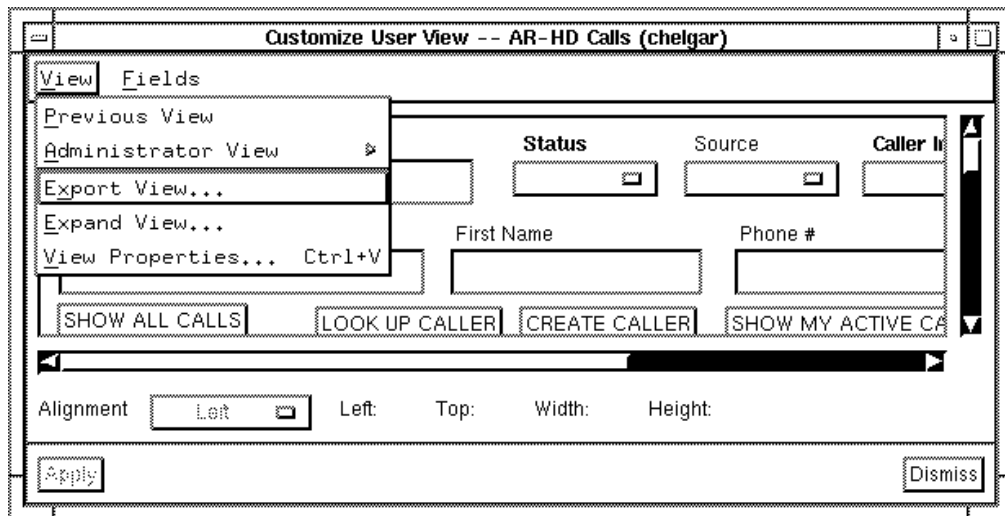


Figure 7-7 Export View Menu Command

Note – The Export View command is available to you only if you belong to the Administrator access control group.

The Export View dialog box appears, as shown in Figure 7-8.

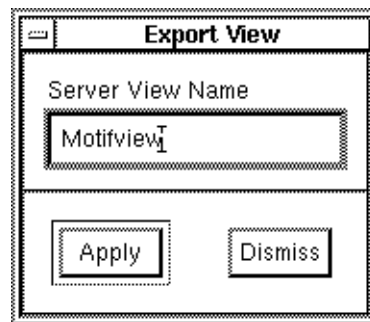


Figure 7-8 Export View Dialog Box

- 3. In the Server View Name field, enter a name for the customized view.**
- 4. Select the Apply button to save the view (or select the Dismiss button to close the Export View dialog box without saving the view).**
You can open the customized view in the Administrator Tool to modify it further or use it as an administrator view.

Selecting an Administrator View

The AR System administrator who designed the schema you are using may have designed more than one Administrator View of the schema. This capability is particularly important for schemas that will be viewed on more than one type of client, for example, both Motif and MS Windows.

You can set a user preference specifying the default Administrator View you want to use (see “Setting User Preferences” on page 27). You can override this default and select a different Administrator View by following the procedure below.

To select a different Administrator View:

1. Select **Customize View** from the **Actions** menu. The **Customize User View** window appears displaying the currently open schema.
2. Select the **View** command from the **Actions** menu. The **View** menu opens, as shown in Figure 7-9.

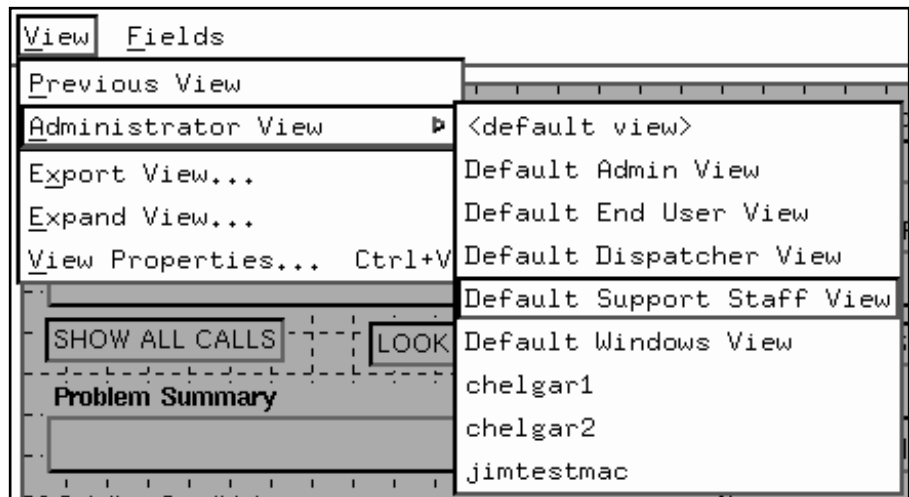


Figure 7-9 Selecting a Different Administrator View

3. With the **View** menu open, select one of the available view names from the list (for example, **Default Support Staff View**).
4. Activate the selected view by clicking the **Apply** button.
5. Click on the **Dismiss** button to close the **Customize User View** window. The view you selected is now the active view for the schema and stored in your `arHome` directory.

Note – Refer to the *Action Request System Administrator’s Guide* for instructions on designing alternate schema views.

User Commands

You can create user commands to invoke any UNIX command or application capable of being run from the UNIX command line. The user command spawns a shell from the shell where the User Tool was started. Once the UNIX command or application is finished, the spawned shell is exited.

A good example of where a user command can be useful is if you create a macro that generates a report and saves it in a UNIX file. Then, the same macro can execute a user command that takes that UNIX file and uses it as input to a word processing application running in batch mode.

In this way, by executing just one macro, you have created a report from the AR System and input it directly into a UNIX word processing application for formatting.

Another example of where a user command can be useful is if you create a macro that generates a report and then executes a user command that electronically mails the report to your boss.

You can enter more than one command in the Command Line field by separating the commands with semicolons. You can also write a shell script and invoke that from the Command Line of a user command.

User commands allow you to invoke these UNIX commands or applications from the Actions menu. Your user commands are saved in files named `<ar_config_dir>/<command_name>.arc`.

You can allow other users to access your user commands by either letting them copy your user command files or by saving your user commands in any directory specified by your `ARPATH` environment variable that other users have access to. For more information about sharing user commands and the `ARPATH` environment variable, see the section entitled “Sharing Macros, User Commands and Custom Reports” on page 34 in Chapter 2.

Note – Not all users have permission to create user commands. If you do not have customize permission, Create Command appears grayed out on the Actions menu and you cannot create user commands.

To create a user command:

1. Select Create Command from the Actions menu.

The User Commands window appears, as shown in Figure 7-10.

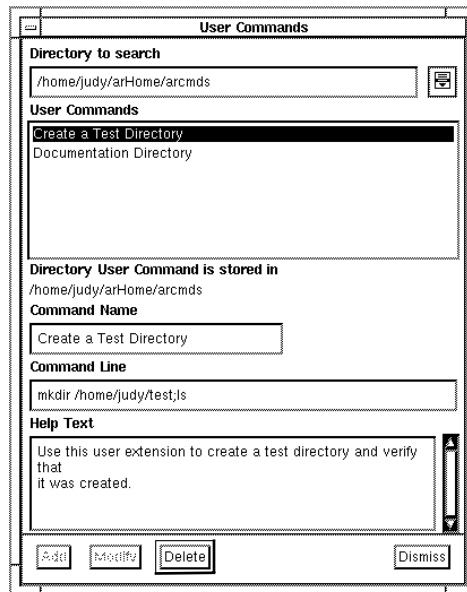


Figure 7-10 User Commands Window

2. Select the directory where you want the user command to reside from the Directory to search menu. Display the Directory to search menu by selecting the pop-up symbol to the right of the field.

The Directory to search menu contains all directories defined by your ARPATH environment variable, your `<ar_config_dir>/arcmds` directory, and the word `ALL`. You need to select a directory in which to store the user command. You will receive an error if you select Apply and the Directory to search menu field contains the word `ALL` and not a directory path name.

3. In the Command Name field, type the command name for your user command.

You can use any alphanumeric character and up to 30 characters.

4. **In the Command Line field, type the command line for your user command.**
You can enter any UNIX command line up to 255 characters long.
5. **In the Help Text field, enter any help text that would be useful later when using this user command.**
Help text is useful for telling other users what the user command does, as well as reminding yourself what it does.
6. **Select the Add button to create this user command and add it to the list of user commands available from the Select User Command window.**
7. **Select the Dismiss button to remove the User Commands window and return to the Query window.**

To modify a user command:

1. **Select Create Command from the Actions menu.**
The User Commands window appears.
2. **Display the Directory to search menu by selecting the pop-up symbol to the right of the field.**
To display all of the user commands in the User Commands list that you have access to, select ALL from the Directory to search menu. To display only the user commands contained in one directory, select that directory from the Directory to search menu.
3. **Select the user command that you want to modify by selecting it in the User Commands scroll list.**
4. **To de-select a selected user command, either select a different user command, or select the selected user command again. In either case, the originally selected user command is no longer selected.**
5. **Make changes to the name, command line, directory, or help text as desired.**
6. **Select the Modify button to save your changes.**
7. **Select the Dismiss button to remove the User Commands window and return to the Query window.**

To delete a user command:

- 1. Select Create Command from the Actions menu.**

The User Commands window appears.

- 2. Display the Directory to search menu by selecting the pop-up symbol to the right of the field.**

To display all of the user commands in the User Commands list that you have access to, select `ALL` from the Directory to search menu. To display only the user commands contained in one directory, select that directory from the Directory to search menu.

- 3. Select the user command that you want to delete by selecting it in the User Commands scroll list.**

- 4. Select the Delete button to delete the user command. On UNIX, there is a confirmation prompt.**

The selected user command is removed from the list in the window and from the list of user commands available from the Select User Command window.

- 5. Select the Dismiss button to remove the User Command window.**

To execute user commands:

- 1. Select Run Command from the Actions menu.**

The Select User Command window appears, as in Figure 7-11.

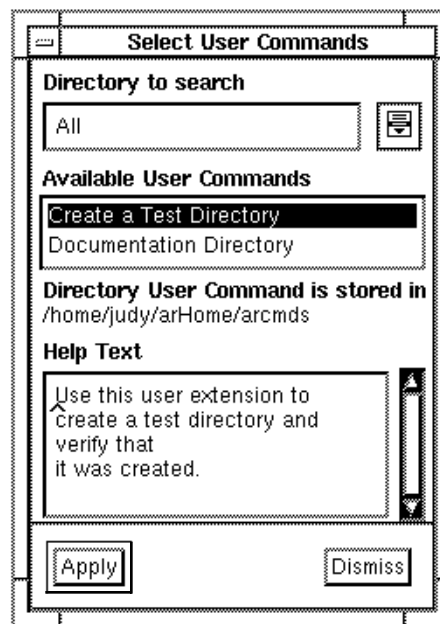


Figure 7-11 Select User Command Window

- 2. Select the directory where the user command resides from the Directory to search menu. To display the Directory to search menu, select the pop-up symbol to the right of the field.**

The Directory to search menu contains all directories defined by your `ARPATH` environment variable, your `<ar_config_dir>/arcmds` directory, and the word `ALL`.
- 3. Select the user command you want to execute.**
- 4. Select the Apply button to execute the user command.**
- 5. Select the Dismiss button to remove the Select User Commands window without executing any user commands.**

Administrator Commands

Your AR System administrator may have created some administrator commands. Administrator commands are UNIX commands that are available to all users. These commands run on the server as opposed to user commands which run on the client. An example of where an administrator command is useful is if one of your tasks is to archive ARs that are older than a certain date. Your administrator could create a macro that generates a report of all ARs older than a certain date specifying a layout of AR Export. This report can be saved to a file. This same macro could then run an administrator command that copies the report file to a file that is uniquely named based on the date that the macro is run. In this way, you could run this macro once a week and save each week's archived ARs in separate UNIX files.

To execute administrator commands:

1. **Select Run Admin Command from the Actions menu.**

The Select Admin Command window appears, as in Figure 7-12.

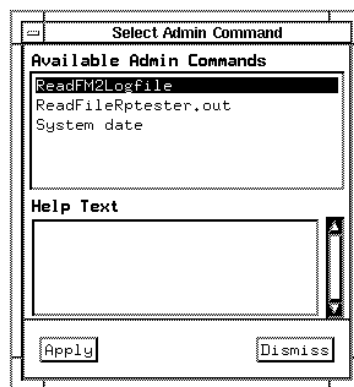


Figure 7-12 Select Admin Command Window

2. **Select the admin command you want to execute.**
3. **Select the Apply button to execute the admin command.**
4. **Select the Dismiss button to remove the Select Admin Commands window without executing any admin commands.**

Using the Notification Tool



The Notification Tool allows for the prompt notification of users who need to know when an AR has been submitted or when progress has been made in resolving an AR. The AR administrator determines what kinds of changes initiate a notification when setting up filters and active links in the AR System.

The Notification Tool alerts you when specific changes are made to ARs, as defined by your AR administrator. The tool runs in the background and waits for notifications to arrive from any AR server. When a notification is received for you, the Notification Tool can do any combination of the following to alert you, depending on the options you have set: beep, flash, open the tool, or display a notice window. The tool also maintains a notification log file for later reference. Depending on how the filter is created, and on how your AR administrator specifies your default notification mechanism, you can be notified by the Notification Tool or through email. For more information about receiving notifications through email, see Chapter 9, *Using Electronic Mail*.

This chapter includes information about the following Notification Tool topics:

- Starting and exiting the Notification Tool.
- Changing current login information.
- Receiving a notification.
- Reviewing the notification log.
- Deleting notifications from the log.
- Setting Notification Tool properties.

- Setting an alternate configuration directory for the Notification Tool.

For information on starting and working with the User Tool, see Chapter 2, Getting Started with the User Tool.

Starting the Notification Tool

You can start the Notification Tool from any machine (or machines) on the network with access to the AR System server. Before you start the Notification Tool, make sure you have the following information from your AR administrator:

- The directory that contains the executables for the Notification Tool (by default, this directory is `/usr/ar/bin`).
- Your registered AR System user name and password.

Note – A configuration directory is automatically created under your login directory for use by the Notification Tool. If you want to change its location, you should do so before starting the tool for the first time.

Your user name and password identify you to the AR System and give you the appropriate access permissions.

In the following steps, `<ar_run_dir>` refers to the directory containing the executables for the User and Notification Tools.

To start the Notification Tool:

- 1. Type the following at the UNIX prompt:**

```
% <ar_run_dir>/notifier &
```

- 2. If you are starting the Notification Tool for the first time, the Login window appears. Enter your registered user name and password, then select the Apply button.**

Once you have logged into the Notification Tool, your login name is included in the title of the Notification Tool window. Notifications destined for you are sent to all machines where you are running the Notification Tool.

Note – If there is more than one user logged in with the same user name, and if one of these users experiences some system problem at the same time a notification is sent out, as long as at least one user receives the notification for that user name, the user experiencing system problems will not receive any AR System error.

Changing the Current Login Information

If the Notification Tool was previously started by another user, you can change the user information and log in as yourself. This means you can log in at any machine on the network that has access to the AR server.

Note – If you log into the Notification Tool on a system where someone else is logged, before you change the user information and log in as yourself in the Notification Tool you might want to change the other user's `NTHOME` environment variable to point to the directory defined by your `NTHOME` environment variable. If you don't and you have specified to save your notification messages between runs of the Notification Tool, they are saved in the directory defined by the `NTHOME` environment variable of the user who is logged in. For more information about changing the `NTHOME` environment variable, see *Setting an Alternate Configuration Directory* later in this chapter.

To change the current login:

- 1. Select Login from the Notification Tool File menu (or type `Ctrl-N`).**
- 2. In the Login window, enter the correct name and password for the new login.**
- 3. Select the Apply button to complete the login.**
Any notification messages sent to your login name are appended to the list of the previous user's notification messages.
- 4. Select the Dismiss button to dismiss the Login window without changing the user name or password.**

Exiting the Notification Tool

To exit the Notification Tool, select Exit from the File menu (or type `Alt-F4`).

You can also exit the tool by selecting Quit from the Window menu.

Receiving a Notification

When a notification arrives, the Notification Tool responds according to the alert options you have selected (see *Setting Notification Tool Properties*). Figure 8-1 shows a notice window.

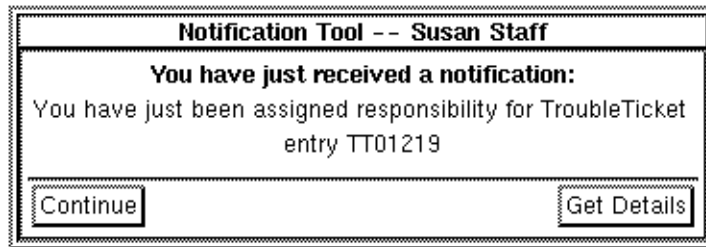


Figure 8-1 Notice Window

If you have not set an alert option, you are not alerted when a notification is received. In either case, your notifications are stored in a notification log where you can review them and display or modify the AR that generated the notification (see *Reviewing the Notification Log*).

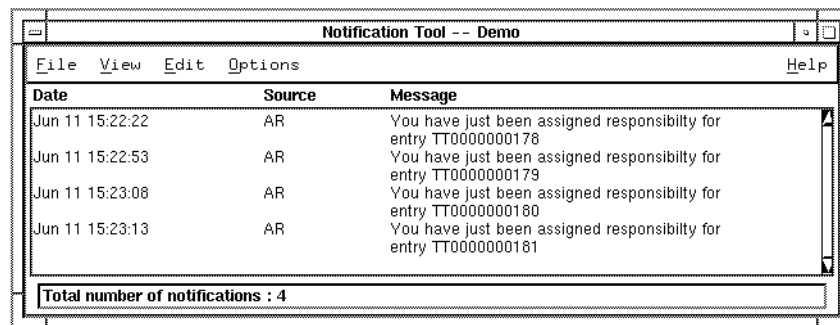
To use the notice window:

1. **If you are alerted with a notice window (Figure 8-1), you can retrieve more information about the notification by selecting the Get Details button.** If the notification is from the AR System, selecting the Get Details button starts the User Tool, if it is not already running. The AR that caused the notification to be issued appears in a Display or Modify Individual window, depending on how you have set the Properties options (see *Setting Notification Tool Properties*).
2. **To simply acknowledge the Notification and delay further action, select the Continue button in the notice window.**

Reviewing the Notification Log

The notification log, shown in Figure 8-2, lists each notification as it is received. You can review the notification log at any time by opening the Notification Tool. At any time you can select one or more notifications and request additional information by selecting Get Details from the View menu (or type Ctrl+D).

Note – The date and time in the Notification Log window is the date that this Notification Tool received this notification and *not* the date and time that the notification was issued.



Date	Source	Message
Jun 11 15:22:22	AR	You have just been assigned responsibility for entry TT0000000178
Jun 11 15:22:53	AR	You have just been assigned responsibility for entry TT0000000179
Jun 11 15:23:08	AR	You have just been assigned responsibility for entry TT0000000180
Jun 11 15:23:13	AR	You have just been assigned responsibility for entry TT0000000181

Total number of notifications : 4

Figure 8-2 Notification Log Window

To view the AR related to a notification:

1. Open the Notification Tool to display the log.
2. Select the notification in the log.

3. Select Get Details from the View menu or double-click on the notification (or type `Ctrl+D`).

If the notification is from the AR System (if AR is in the Source column), selecting Get Details starts the User Tool, if it is not already started. The AR that caused the notification appears in a Display or Modify Individual window depending on how you have set the Properties options (see *Setting Notification Tool Properties*).

If you receive any type of message from the Notification Tool itself, NT will be in the Source column.

An error message appears if there is an error accessing additional information, such as not being able to find a User Tool to run.

To delete notifications:

- 1. Open the Notification Tool to display the log.**
- 2. To delete all notifications, select Delete All from the Edit menu.**
- 3. To delete selected notifications, select the notifications to be deleted and select Delete Selected from the Edit menu (or type `Ctrl+S`).**

Setting Notification Tool Properties

You configure the behavior of the Notification Tool by selecting Properties from the Options menu in the Notification Tool window (or type `Ctrl+P`). The Notification Tool - Properties window appears, as shown in Figure 8-3.

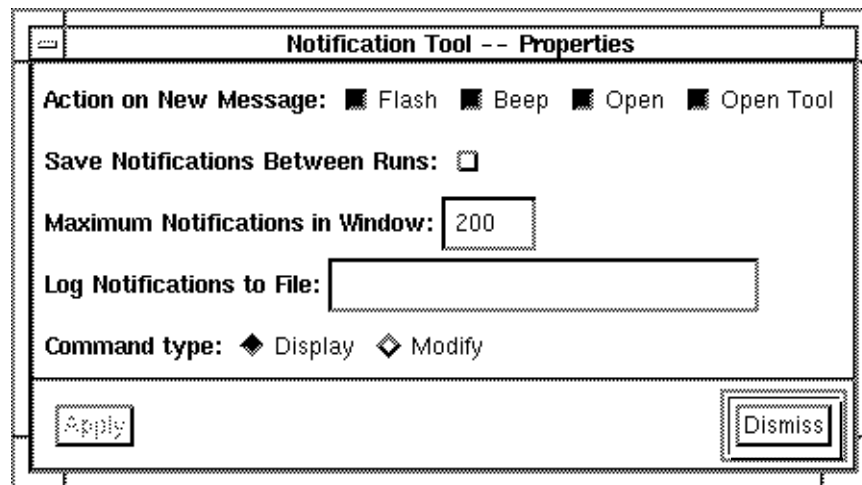


Figure 8-3 Notification Tool - Properties Window

The following list describes the Notification Tool property settings:

Action on New Message	Allows you to configure how the Notification Tool reacts when a notification arrives. You can set the Notification Tool icon to flash, beep, open the Notification Tool, or display a notice window. You can select multiple options or none.
Save Notifications Between Runs	You can save notifications between runs of the Notification Tool by selecting the Save Notification between runs option.
Maximum Notifications in Window	Allows you to specify the maximum number of notifications that you can save and display in the Notification Tool window. After the maximum number of notifications are displayed, any new notifications are displayed and the oldest notification is deleted.
Log Notifications to File	Allows you to specify a path and filename to be used as an audit trail log file. This file holds an audit trail of all notifications received. If you do not specify a name, no audit trail file is kept.

If you specify a name, all notifications received are logged to this file as well as to the local notification log online.

Note – The audit trail log file is an append-only listing of every notification received and is useful as an audit trail. It is different from the log that is created when you save notifications between runs; that log is simply an image of the list of “still active” notifications.

Command Type Allows you to specify whether a Display or a Modify Individual window appears when you select Get Details for or double-click on a notification that is related to an AR.

To set Notification Tool properties:

1. Open the Notification Tool icon to display the Notification Tool window.
2. Select Properties from the Options menu to display the Properties window or type `Ctrl+B`. (See Figure 8-3.)
3. Select the options you want and select the Apply button.
4. Select the Dismiss button to close the window without making any changes.

Setting an Alternate Configuration Directory

The Notification Tool uses a directory to hold your personalized configuration information. By default, this directory is named `arHome`. If you do not want to use the default `arHome` directory, you can set an alternate configuration directory either during installation or at a later time. Follow the instructions below to set an alternate configuration directory at any time after installation.

To set an alternate configuration directory:

1. Create the new directory where you want your AR System-related information stored. For example, to create the directory `/user/myhome`, type:

```
% mkdir /user/myhome
```

2. Set the environment variable `NTHOME` to reference the new directory. For example:

```
% setenv NTHOME /user/myhome
```

Environment variables tell the AR System tools where to look for and store information used in their operation. The `ARHOME` variable tells the User Tool where its local configuration information is stored. The `NTHOME` variable tells the Notification Tool where its configuration information is stored. You may set the `ARHOME` and `NTHOME` variables to point to separate directories; however, they are usually set to the same directory for simplicity. (See Chapter 2, Getting Started with the User Tool, for more information on setting an alternate configuration directory for the User Tool.)

Note – If the environment variables are not set, the configuration information is stored in the directory `arHome` under your home directory.

To keep these settings in effect, you should put the above entries into your shell's start-up file (`.cshrc`, `.profile` or other resource file). See your system administrator for details.

Displaying Version and Environment Information

Select On Version from the Help menu (or type `Ctrl+V`) to display information about the product, as shown in Figure 8-4. The information includes the tool name, version number, and copyright information.

You should be prepared to provide this information whenever you call for Customer Support.

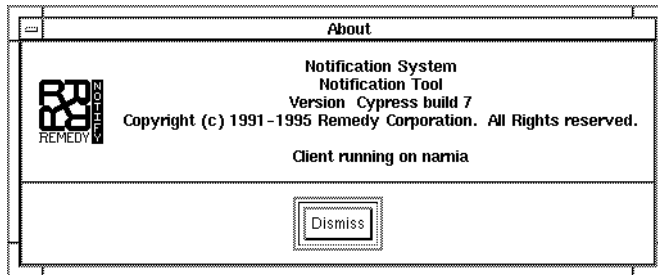


Figure 8-4 Getting Version Information

Using Electronic Mail



The Action Request System supports submitting ARs and receiving notifications through electronic mail (email). Using email, you can submit ARs even if you do not have access to a User Tool or if the AR System server is inaccessible. Electronic mail is often the preferred communication tool in environments where there is no direct high speed network link between the user and the AR System Server.

This chapter includes information about the following topics:

- Understanding how email works with the AR System.
- Constructing email templates.
- Submitting ARs using mail templates.
- Receiving notifications through email.

Overview of the AR System's Use of Electronic Mail

When you cannot directly access the AR System server, the AR System allows you to query or submit action requests through email using special email templates. Templates are generated by AR System administrators from any existing schema using the Export facility of the Administrator Tool. If you need an email template for a schema, request it from your AR administrator.

To query or submit ARs through email, you need:

- A mailbox address (default is `ARSystem`).

- An email template containing fields to fill in.

Email is processed by the AR System mail handler (`armaild`). It watches the mailbox of the AR System user for new messages. When messages are received and processed, ARs are created. You cannot display or modify ARs by email. You can only submit ARs.

The Email Template

The Export operation of the Administrator Tool generates a template that can look like the example shown in Figure 9-1.

```

#
Comments ——— # File exported Wed Jun 26 15:34:25
                  1991
#
Template header — [ Schema: TroubleTicket
                   | Server: gemini
                   | Login:
                   | Password:
#
Fields for text entry — [ Short-Description ! 8!:
                          | Description ! 9!:
                          | Impact !108!: Low
Possible selection values as comments — [ # Values: Low, Medium, Serious,
                                           | Critical
                                           | Submitter ! 2!:
                                           | Notify-submitter-method! 12!:None
                                           | # Values: None, Notifier, E-mail

```

Figure 9-1 Sample Email Template

Email templates have three components:

- Comments. (optional)
- Header block.
- Fields and values.

Comments

Comments are optional and must begin with a # in the first character column. They can occur anywhere in the message. In the example shown in Figure 9-1, the time stamp of the export operation and the listing of values (`# Values: . . .`) are comments.

Header Block

The Header block contains the primary address information needed by the AR System to identify the sender. It includes both mandatory and optional information:

- The header block contains a `Schema:` line. You can enter the name of the schema you want to use on this line. (The schema name is often already filled in when you get the template from your system administrator.) If you do not enter a schema name or if the schema you enter does not exist, the mail handler checks to see if a default schema was defined in the configuration file specified when the mail handler was started. If not, the item is rejected since a schema must be specified.
- The `Server:` line contains the name of the server on which the schema is located. (The server name is often already filled in when you get the template from your administrator.) If you do not enter a server name or if the server you enter does not exist, the mail handler first checks to see if a default server was defined in the configuration file specified when the mail handler was started. If not, then the machine running the `armaild` process is used as the server.
- You may enter values in the `Login:` and `Password:` lines if you desire. You need to fill in these fields to identify yourself as the user performing the operation. If you omit these values, the mail handler checks to see if defaults were defined in the configuration specified when the mail handler was started. If not, the user “Mailer daemon” is identified as the user.

Note – Using the `Login:` and `Password:` lines may give other users access to your AR System account since your user name and password are visible. If this is a problem for you, we suggest you use an alternate method of identifying yourself.

Fields and Values

The main body of the email message consists of a set of fields that you need to fill in. Fields that have default values are automatically filled in for you (you can change these values if you need to).

A field reference consists of a field name and field ID. The field name is optional. The field ID is what the AR System actually uses to process the data; it must be specified. The field ID value is placed within exclamation points. For example, field ID 9 would be `!9!`. Only digits and blank spaces are valid characters within the exclamation points. After the last exclamation point there is a single character, usually a colon (:), to mark the end of the field name.

Guidelines for Entering Values into Fields

There are several rules to remember when entering values into fields:

- The maximum size of any single line is 1024 bytes. If you enter a line that is longer than 1024 bytes, it will be truncated.
- Diary type fields and character type fields with the maximum length of over 50 characters can use multiple lines of text.
- If you do not enter a value into a field but a default value is defined for the field, then the default value is loaded. If you do not enter a value into a field and there is no default value defined for it, and the field is a required field, you will receive an error. See the section entitled *Responses to Email Submissions* later in this chapter for information on receiving error messages.
- Values can be entered any place after the delimiting character. Leading and trailing blanks are ignored when a value is read by the Mail daemon.

Figure 9-2 is an example of a completed template, ready to be submitted to the AR System. Text entered by the user is shown in bold type.

```
# File exported Tue May 8 9:48:22 1993
#
Schema: TroubleTicket
Server: gemini
Login: Joe User, Jr.
Password: <password>
```

```
Short-Description! 8!: Lost access to the print server
```

```
Description! 9!:      Whenever I send a file to the print
server, I get a message back telling me "unknown host
print".
Impact!108!:      Serious
# Values: Low, Medium, Serious, Critical
Submitter! 2!:    Joe User, Jr.
Notify-submitter-method! 12!:E-mail
# Values: None, Notifier, E-mail
Keywords!295!:    Printer
```

Figure 9-2 Completed Email Template

Querying or Submitting via Electronic Mail

You can fill in an email template using email tools or your favorite text editor to either query or submit Action Requests by electronic mail.

Querying via Electronic Mail

queries can be made in three formats via email:

- Query by Entry ID
- Query by Field
- Query Bar Command

Query by entry ID

The simplest method is the query by entry-id. This method requires that the user email a specific entry-id value.

Query by Field

The query by field method allows the user to specify a selection on a field or fields for the schema they wish to query, much like the functionality of the user tool. This method can return multiple entries.

Query Bar Command

The query via a query bar request is the most powerful version of the query via email functionality. This method provides an email-based query bar facility, anything you can enter in the query bar can also be done via email.

Formatting a Query via Electronic Mail

All matching requests are listed in the body of a message, one after another. In full format, each entry is separated by a line of dashes. If a request fails, an error envelope is returned with an indication of the cause of the failure.

Table 9-1 Email Queries

If an email query...	Then the AR System...
Fails	Returns an error envelope with an indication of the cause of the failure.
Finds only one match	Sends the entry to you via email.
Finds more than one match	Sends: * The entries to you via email. * A message indicates the total number of matches.
Finds more than the maximum allowable matches	Sends: * The maximum allowable number of entries to you. * A message indicating the total number of matches. * A message indicating that the query exceeds the configured query match limit and what that limit is.

Submitting Email

You can fill in an email template using email tools or your favorite text editor.

Using an Email Tool:

Follow these steps to create an AR for submission using an email interface:

- 1. Run your email tool.**
- 2. Open the supplied template.**

3. Fill in the appropriate fields.

Note – You can add additional fields to the template if you have permission to access these fields. If you do so, you must specify a `Login:` field to have your permissions take affect. But, be aware that using the `Login:` and `Password:` lines may give other users access to your AR System account.

4. Direct your mail message to the user identified by your AR administrator (usually this is simply ARSystem). Supply a subject if desired, although it is ignored by the AR System mail handler.

5. Mail your message.

Using a Text Editor:

Follow these steps to create an AR for submission using a text editor such as `vi` or `ed`:

- 1. Open the editor.**
- 2. Load the supplied template.**
- 3. Fill in the appropriate fields.**

Note – You can add additional fields to the template if you have permission to access these fields. If you do so, you must specify a `Login:` field to have your permissions take affect. But, be aware that using the `Login:` and `Password:` lines may give other users access to your AR System account.

4. Save the message you created by saving the modified template to a new file.

5. Direct your mail message to the user identified by your AR administrator (usually this is simply ARSystem). For example, where `mailfile` is your mail message, you might use a command like this:

```
% mail ARSystem < mailfile
```

Responses to Email Submissions

An email submission may be successfully received by the AR System or it may be rejected and returned to you. If your submission is successful, you'll receive a confirmation message that includes the ID of the AR entry. If your submission is rejected, you'll receive a message identifying any errors and the full text of the original submission. For example, an email submission may be rejected because you failed to fill in a required field (and there was no default set), because there was no `Schema:` line, or because the specified schema does not exist.

Note – If you are not receiving confirmation or error messages, it may be because the AR System administrator has set configuration values for the AR System mail handler that cause it to send confirmation and error messages elsewhere. If you are not receiving confirmation or error messages and believe you should be, check with your AR System administrator.

Receiving Email Notifications

If you cannot directly access the AR System server, you may receive notifications through email. If email is designated as the delivery mechanism for notifications, the notification message text may be sent to your email address. See the *Action Request System Administrator's Guide* for information on designating email as the delivery mechanism for notifications.

Command Line Options



You can start the User and Notification Tools from the command line. For the User Tool, you can include any of the various command line options. For example, you can include the `-i` or `-e` command line option to execute a macro when the User Tool starts. If need be, you can even pass parameters to the macro. You can also use most of the X11 Toolkit Intrinsic command line options. For more information about X11 Toolkit Intrinsic command line options, see the X11 man page or your system administrator.

Note – If you run the User or Notification Tools from within a shell or script, be sure to set any necessary environment variables before executing the tool.

User Tool (aruser)

In UNIX manual page syntax, the command to run `aruser` is:


```
aruser [{-e | -i} <macroName> [-p param=value ...]] [-n] [-s] [-I]
[-d directory] [-x server]
```

Note – Manual page syntax: Items between square brackets ([]) are optional. You must choose one of the items between braces ({ }). Vertical bars (|) separate the available choices. You can list more than one server.

Names containing spaces or special characters must be entered within quotes.

Syntax Options

The following options to `aruser` may appear in any order on the command line:

Table A-1 Syntax Options: User Tool

Option	Function
-d	The directory that the macro indicated by the <code>-e</code> or <code>-i</code> parameter is located in. This parameter is optional. If it is not specified, the macro is assumed to be in the default location for the user running the command (<code>\$ARHOME/arcmds</code>). Use the following format: <code>-d directory</code> .
-e	Run the indicated macro at system startup and exit the program when the macro has been completed. This option is good for running the tool to perform some specific operation (for example, generate a report) but not come up interactively. This is especially useful when running the system from a batch script.
-i	Run the indicated macro at system startup and the program remains active when the macro has been completed. This option is good for setting the system into an initial state at startup.
-I	Iconize the program at startup.

Table A-1 Syntax Options: User Tool

Option	Function
-n	<p>Do not share an existing instance of the <code>aruser</code> program even if it is possible. Run this instance as an independent program.</p> <p>By default, the system will share a running instance of the program when run with the <code>-i</code> option. This makes the system run more efficiently by running the macro in an existing instance of the tool and not paying the overhead penalty for an independent instance. This option allows you to override that default operation and force an independent instance of the tool to be run.</p> <p>In general, you want to take advantage of the sharing of existing instances as it is both faster and uses the resources on the workstation more efficiently. This option should be used as an exception case when and if needed.</p>
-p	<p>Specify a value for a parameter. There may be more than one <code>-p</code> option in a command line. If the macro specified (using the <code>-e</code> or <code>-i</code> options) has a parameter, a value can be supplied by naming that parameter and assigning a value. If either the parameter name or value includes a space or other special character that is interpreted by the command line, the parameter must be enclosed in quotes to stop the interpretation of the special characters. Use the following format for each parameter that you specify:</p> <pre>-p parameter=value</pre>
-q	This option performs no operation. It is supplied for backward compatibility.
-s	Open a submit window on the initial schema at startup. If there is no initial schema, this option does nothing.
-x	<p>Specify the name of a server to connect to. This option may be included more than once to connect to multiple servers.</p> <p>By default, the list of servers the tool will connect to is defined in the directory file <code>/etc/ar</code>. If this option is not specified, this file will be used to determine where to connect. If this option is specified one or more times, the servers specified in these options will be used. Use the following format:</p> <pre>-x server name</pre>

Examples Using Syntax Options

Open the User Tool with a macro running interactively:

```
% <ar_run_dir>/aruser -i <macroName> &
```

Invoke a macro but run in the background and exit on completion:

```
% <ar_run_dir>/aruser -e <macroName> &
```

Open the User Tool and run a macro, with two parameters (for example, `id` and `User Name`), running interactively:

```
%<ar_run_dir>/aruser -i <macroName> -p id=1 -p "User  
Name"="Fred Smith"&
```

Note – The example above is only an example

Using a Null Value in a Query

When you want to use a null value in a query, you have to use precise syntax to achieve accurate results.

For example, if you have a macro that prompts for three parameters that will be stored on a child schema:

- Status (stored a character field)
- User name (stored a character field)
- Status change date (stored a date/time field)

From the command line, the following example works:

```
aruser -e "storeticket" -p "status"="NEW" -p  
"status change date"="11/01/95" -p "user name"="TEST USER"
```

However, an error occurs when there is not a value for

```
"status change date"  
aruser -e "storeticket" -p "status"="NEW" -p  
"status change date"="" -p  
"user name"="TEST USER"
```

This gives the error 'Unrecognized command line option (ARERR 1004)

```
user name=TEST USER  
aruser -e "storeticket" -p "status"="NEW" -p  
"status change date"=""
```

This works OK (because there is no value behind the null value)

There is only a problem when another parameter follows the NULL value.

Instead of fighting the UNIX command line processor, separate empty quotation to its own argument. then the parser is OK. The string `A=""` is interpreted by the command line parser as `A=` (a single argument consisting of the string 'A=')

```
A = ""
```

is interpreted as

```
A = <empty string> (three arguments consisting of 'A', '=', and  
<empty string>)
```

So, try entering

```
aruser -e "storeticket" -p "status" = "NEW" -p  
"status change date" = "" -p  
"user name" = "TEST USER"
```


Changing Colors and Fonts



You can change colors and fonts of the User Tool and Notification Tool on a per-system basis, although usually the defaults supplied are sufficient. For your reference, the default fonts and colors are provided in a sample file, called `ARSystem`, located in the `<ar_install_dir>/bin` directory. If you want to change either colors or fonts, you simply update the `.Xdefaults` file in your home directory, or you can copy the sample files (`ARSystem` and `NTSystem`) to your home directory and change the default settings to the settings you want.

In order to have changes to the file recognized, you need to do the following:

- Run the program `xrdb` as follows:

```
% cd (to change to your home directory)
% xrdb -merge .Xdefaults
```

Once run, all instances of the User and Notification Tools will use the new colors and fonts.

Customizing with Color

You can change the colors used in a number of areas of the User Tool. To see a listing of available colors, type `showrgb` at the UNIX prompt.



AR System Resources

This section lists the default settings for colors, fonts, and dimensions used in the AR System tools.

aruser (User Tool) Resources

Table B-1 aruser (User Tool) Resources (1 of 2)

aruser (User Tool) Resources	Default Setting
ARSystem*menubar.spacing	10
Font used for menus: ARSystem*menubar*fontList	8x13
Default font used by AR System: ARSystem*fontList	-adobe-helvetica-medium\ -r*--12-*, \ -adobe-helvetica-medium\ -o*--12-*=Italic, \ -adobe-helvetica-bold\ -r*--12-*=Bold
Default background of all windows: ARSystem*background	steelblue2
The background of the scrollable portion of the Query Window: ARSystem*Query*background	lightsteelblue
The background of the text entry fields of the Query Window: ARSystem*Query*XmText*background	lightsteelblue3
The background of the scrollable portion of the Submit window: ARSystem*Submit*background	skyblue2
The background of the text entry fields of the Submit Window: ARSystem*Submit*XmText*background	skyblue1
The background of the scrollable area of the Modify window: ARSystem*Modify*background	#9db1c5
ARSystem*Modify*XmText*background	lightsteelblue
The background color of the scrollable portion of the Display window: ARSystem*Display*background	lightsteelblue3
The background color of the scrollable area of the Customize View window: ARSystem*CustomizeView*background	#c4a5a8

Table B-1 aruser (User Tool) Resources (2 of 2)

aruser (User Tool) Resources	Default Setting
Font used for reports: ARSystem*Report*fontList	8x13, 8x13bold=Bold
Font used for queries: ARSystem*QueryList*fontList	8x13
The background of the Query window: ARSystem*QueryList*background	#9db1c5
The background of popup windows: ARSystem*PopupWindow*background	skyblue
ARSystem*queryButtons*marginWidth	5

NT System (Notification Tool) Resources

Table B-2 NT System (Notification Tool) Resources

Resources	Default Settings
Default font used by NT System: NTSystem*fontList	-adobe-helvetica-medium-r-*--12-*, \ -adobe-helvetica-medium-o-*--12- *=Italic, \ -adobe-helvetica-bold-r-*--12-*=Bold
Default background of all windows: NTSystem*background	steelblue2
The background of popup windows: NTSystem*popupWindow*background	skyblue
NTSystem*menubar.spacing	10
Font used for menus: NTSystem*menubar*fontList	8x13

arimport Resources

Table B-3 arimport (Import Tool) Resources

Resources	Default Settings
The background color for the menu bar: ARSystem.menubar_bg	steelblue2
The background color for scrollable lists on the Main and Fallback Mappings windows: ARSystem.fields_bg	skyblue
The background color for labels: ARSystem*display_lab.fontList	-adobe-helvetica-bold-r-*--12-*

Miscellaneous Resources

Table B-4 Miscellaneous Resources

Resources	Default Settings
ARSystem*IconColor	green
ARSystem*highlightColor	yellow
ARSystem*selectColor	orange
ARSystem*armColor	red

AR System File Locations



This Appendix describes the various files needed by and created by the AR System. The directory where the AR System executables are installed is referred to here as *<ar_run_dir>* which is the `bin` directory under *<ar_install_dir>* (`/usr/ar/bin` and `/usr/ar` respectively, are the defaults). The directory specified to hold the user's configuration information is referred to here as *<ar_config_dir>* (usually, this directory is `/home/<user_name>/arHome`).

AR System User Tool Files

User Tool	<code><ar_run_dir>/aruser</code>
Configuration File	<code><ar_config_dir>/config</code>
User Views	<code><ar_config_dir>/<schema_name>.arv</code>
User Defaults	<code><ar_config_dir>/<schema_name>.ard</code>
Local Schema Definitions	<code><ar_config_dir>/<schema_name>.arf</code>
User Commands	<code><ar_config_dir>/arcmds/<user_command_name>.arc</code>
Macros	<code><ar_config_dir>/arcmds/<macro_name>.arq</code>
Custom Reports	<code><ar_config_dir>/arcmds/<custom_report_name>.arr</code>
AR Servers	<code>/etc/ar</code>
Catalog Files	<code>/usr/share/lib/locale/LC_MESSAGES/C/arsystem.cat</code> (for Sun) <code>/usr/lib/nls/C/arsystem.cat</code> (for HP) <code><ar_install_dir>/locale/arsystem.cat</code>
Man Pages	<code><ar_install_dir>/man/man1/*.1</code> <code><ar_install_dir>/man/man5/*.5</code>
X Application Defaults	<code>/usr/lib/X11/app-defaults/ARSystem</code> <code>/usr/lib/X11/app-defaults/HyperHelp</code>

AR System Notification Tool Files

Notification Tool	<code><ar_run_dir>/notifier</code>
Notification Client	<code><ar_run_dir>/ntclientd</code>
Configuration File	<code><nt_config_dir>/config</code>
Notification Servers	<code>/etc/ar</code>
X Application Defaults	<code>/usr/lib/X11/app-defaults/NTSystem</code> <code>/usr/lib/X11/app-defaults/HyperHelp</code>
Saved Notification Log	<code><nt_config_dir>/config.lst</code>
Catalog Files	<code>/usr/share/lib/locale/LC_MESSAGES/C/ntsystem.c</code> <code>at</code> (for Sun) <code>/usr/lib/nls/C/ntsystem.cat</code> (for HP) <code><ar_install_dir>/locale/ntsystem.cat</code>

AR System Import Tool Files

Import Tool	<code><ar_run_dir>/arimport</code>
Saved Import Log	<code>/tmp/arimport.log</code>
Mapping file	<code><ar_config_dir>//arcmds/mapping.arm</code>
X Application	<code>/usr/lib/X11/app-defaults/ARSystem</code>
Defaults	<code>/usr/lib/X11/app-defaults/HyperHelp</code>

Procedures



Here is a list of procedures and the pages on which they are located.

To start the User Tool	10
To change the current login	21
To select a schema	24
To set user preferences	27
To set an alternate configuration directory	34
To submit an action request	43
To type and edit information in a field	49
To use selection menus	50
To use selection radio buttons	50
To use the Text Edit window	53
To use the Diary Entry window	54
To use a Selection List window	59
To query the database	61
To define query criteria	65
To enter information in the query bar	71
To specify query operations sorting order	82
To use the Query List window	86
To use the Display Window	89
To view the status history of an AR	90
To modify individual ARs	93
To show the status history of an AR	93
To modify all selected ARs	94
To re-display query criteria	94
To display query list	94
To submit a similar AR	94

To start the User Tool	10
To add a new diary entry	95
To delete ARs	96
To generate a report	106
To select fields for a report	107
To specify the report layout	111
To define report preferences	113
To specify report sorting and grouping order	117
To specify statistics	120
To save a custom report	124
To use a custom report	126
To modify a custom report	126
To modify a report's name or help text	127
To delete a custom report	129
To display a report to the screen	130
To send the report to a file	130
To print a report	132
To record a macro that performs a query	136
To record a macro with variables	140
To execute a macro	142
To edit the name or description	144
To delete a macro	146
To define default field values	148
To change the location of fields on the schema	151
To set custom view properties	153
To select the alignment method	153
To change the properties of a field or active link button	154
To restore the previous view or the administrator's view	156
To restore a view backup file	158
To create a user command	163
To modify a user command	164
To delete a user command	165
To execute user commands	165
To execute administrator commands	167
To start the Notification Tool	169
To change the current login	170
To use the notice window	171
To view the AR related to a notification	172
To delete notifications	173
To set Notification Tool properties	175
To set an alternate configuration directory	175
Using an Email Tool	183

To start the User Tool	10
Using a Text Editor	184

Glossary

action request

AR. A collection of information that describes an event (transaction), such as a problem or a service request.

access control

Security feature that lets you limit the access users have to specific fields within a schema and to specific functions within the system.

See also access control group, permissions.

access control group

Facility of the Action Request System used primarily to define user access to the contents of a schema field. Each group can have its own member list defining users who belong to that group. The AR System defines five *special* groups: Public, Administrator, Customize, Submitter, and Assignee. You can define additional groups through the Group schema. Once you have defined a group, you can specify the type of access that the group will have to specific fields within a schema. *See also* access control, permissions.

access permissions

See permissions.

active link

A cause and effect relationship that you define on a per schema basis. Active links cause the Action Request System to perform specific operations in response to specific user actions. The AR System administrator can define active links that run macros, set fields to specified values, run independent

system processes, send an interactive message to the user, change field characteristics, or execute a DDE operation on a Windows User Tool. Active links run on the client machine.

administrator

Individual responsible for the management of the AR System, including setting up schemas, setting access rights for users, and designing the workflow process.

administrator default

Value that the administrator assigns to a field while designing the schema. When the user sets defaults, this value is used unless the user has assigned their own default. When a user submits an AR, the AR System automatically enters this value in the field unless the user has assigned their own default or has entered a different value.

administrator command

Menu extension defined by the AR System administrator using the Administrator Tool. Administrator commands allow users to invoke specific commands running on the server. (Administrator commands are not available from PC or Macintosh clients.) *See also* user command.

Administrator group

One of five special access control groups provided by the AR System. Members of this group have full and unlimited access to the AR System. You must be a member of this group to be able to create schemas, filters, active links, menus, and administrator commands.

Administrator Tool

The part of the AR System used exclusively by administrators to set up the system for use by support staff and end users. This includes setting up schemas, setting access permissions (users and groups), and creating filters, active links, menus, and administrator commands.

administrator view

The layout of a schema that was designed by the AR System administrator. This is the view that users will see unless they customize their view.

API

Application program interface. A set of functions that provide application programmers with access to the full functionality of a product. The AR System API provides a complete interface to the AR System server.

AR

See action request.

ARWeb license

Fixed or floating license that allows a user access to the ARWeb product.

AR System client

1. Subset of AR System software necessary to allow a user to access an AR System server on the network and run the AR System tools on the local workstation.
2. Hardware (workstation, terminal, Macintosh, or PC) running the AR System client software.

AR System server

1. Full set of AR System software. When installed on a workstation on the network, the server software provides access to the full feature set of the AR System and can be accessed by workstations, Macintoshes, terminals and PCs on the network that are running the AR System client software.
2. Hardware (workstation) running the AR System server software.

assignee

The person who is assigned responsibility for resolving an action request.

Assignee group

One of five special access control groups provided by the AR System. This is an *implicit* group; users automatically belong to this group and, if they have a valid AR System license, are granted change access for ARs for which they have been assigned responsibility (their name is in the Assigned-to field).

character data type

Data type used for fields where you will be entering text data. The AR System administrator can specify a maximum length for the field or leave the length unlimited. The administrator can also specify a pattern to restrict the data that users can enter or attach a character menu to the field.

character menu

A type of menu that opens up to different levels as you “pull” a selected item to the right using the mouse. You can create a character menu and attach it to any character-type data field.

client

See AR System client.

command line options

Parameters that you can combine with the commands to start the User, Administrator, and Notification Tools that allow you to specify how the tools will run. For the User Tool, you can execute a macro or open to the Query or Submit window. For the Administrator Tool, you can attach to a specific server or open the tool with a specific category displayed.

core field

One of a set of basic fields that are common to all AR System schemas. Additional limits, such as fixed or maximum sizes, are placed on some core fields.

configuration

- 1.The process of setting up hardware and/or software so that it operates in a manner consistent with the needs of a location.
- 2.The physical setup of a device or devices.
- 3.The operating characteristics of software.

custom extension

See administrator command, user command.

Customize group

One of five special access control groups provided by the AR System. This group grants users the right to customize their schema layout and create custom commands in the User Tool.

database

A collection of information maintained in the form of individual entries. The AR System allows you to create and maintain a history of trouble reporting information.

data type

Property of a field that determines what type of information the field contains. The choices are character, date and time, diary, integer, real, and selection.

date and time data type

Fields with this data type are limited to calendar dates and time.

DDE

Dynamic Date Exchange. This is a standard inter-application communication feature used in Windows applications. For more information, see your Windows documentation.

default

System or user defined setting or value that automatically applies to a field if users do not supply a different setting or value when submitting a new action request.

diary data type

Fields with this data type allow you to capture a history of the actions taken for an AR. Each multiple character entry is stamped with the time, date, and name of the user who entered the item.

dynamic menu

Menu that performs a query at the time a user selects the menu icon and uses the results of the query to build the list of menu items from which the user chooses.

end user

In the AR System, an end user is the person who is responsible for notifying support staff of problems and service requests by submitting ARs.

email

Electronic mail. The AR System allows you to set up an electronic mail handler so that users can submit ARs through email if they do not have access to a User Tool or if the AR server is inaccessible. (If you are running the client tools on a PC, your PC must be equipped with an SMTP gateway to allow email submissions.)

export

Facility that lets you move schemas, filters, active links, menus, administrator commands, and mail templates to a file. Exporting is useful if you want to share schemas with another server or generate mail templates.

extension

See user command, administrator command.

filter

Facility that tests every server transaction to see if certain conditions are met and responds to the conditions by taking a specific action or actions. The AR System administrator can define filters that set fields to specified values, run independent system processes, send an interactive message to the user, notify the user when the state of an AR changes, or make an entry in an audit trail log. Filters run on the server.

fixed license

Write license that is permanently assigned to a user so that the user always has access to the AR System.

See also floating license, write license.

Flashboards license

Fixed or floating license that allows a user access to the AR System Flashboards product.

floating license

Write license that exists on a server and is allocated to any user who requests a license and who is defined in the User database as having a floating license type. If no floating license is available at the time of the user request, the user must wait until a license becomes available.

See also fixed license, write license.

FTS

See full text search.

FTS license

Fixed or floating license that allows a user to perform a full text search in any large text or diary field indexed for FTS.

full text search (FTS)

Facility that allows a user to quickly search for information in large text or diary fields. The fields must be indexed and FTS-enabled by the AR System administrator, and the user must have an FTS license.

group access

See group type.

Group schema

Schema that lets you add new groups and modify group permissions.

group type

The maximum permission type allowed for a group. May be None, View, or Change. (Note that permission may be set below the group's maximum at the field level.)

guest user

An unregistered user with a limited set of capabilities (submit ARs and possibly review those ARs). Unregistered users may not be allowed at your site.

hidden field

A field that exists but is not visible in a user's view of the schema.

Import Tool

Facility that lets you share schemas, filters, active links, menus, and administrator commands that were created on another server. First, you must export the definitions from the server on which they were created to an ASCII file, then you can import the file to your own server.

integer data type

Fields with this data type contain numeric values between -2147483648 and 2147483647. (The range for a particular field may be limited by the administrator.)

license

See fixed license, floating license, read license, write license.

login window

Window that allows you to login to the AR System when you first start an AR System tool.

macro

A set of operations recorded for later execution. Macros are useful for automating frequently used or complex query operations.

mail template

Template that contains the fields that you need to fill in to submit an action request using electronic mail. Templates are generated by the administrator from existing schema using the export facility. (If you are running the client tools on a PC, your PC must be equipped with an SMTP gateway to allow email submissions.)

notification

An alert that tells you that an AR System event has occurred. The alert may be a system beep, flash, the display of a notice window, or the opening of the Notification Tool.

Notification Tool

The part of the AR System that alerts you when specific changes are made to ARs. Also referred to as the Notifier.

operator

One of a number of functions that let you define complex queries or build filter qualifications. The AR System operators are available through use of the query bar palette or the filter qualification palette or you can type them in directly.

permissions

Field property setting that allows you to control who can view and change individual fields of a schema. Permissions are defined for each access control group. View permission limits group members to reading the contents of a field. Change permission allows group members to read and write the contents of a field. *See also* access control group.

pick list

See selection list.

property

An attribute that is defined. For example, the properties of a field include its data type, physical characteristics such as length, and whether it is required or optional.

Public group

One of five special access control groups provided by the AR System. Every user is automatically a member of this view only group.

pull-right menu

See character menu.

query

Process that lets you select a subset of ARs according to search criteria that you define and then perform one of several operations on the selected ARs. *See also* query operation.

query bar

Part of the Query window, Active Link Qualification window, and the Filter Qualification window that lets you define complex query criteria. Includes a palette of operators that you can use in the query you build.

query list

A list that includes a one-line summary of each AR matching a query.

query operation

Action that you can perform on the entries that match the criteria defined in a query. The possible operations are: Query List, Display, Modify, Report, and Delete.

query statement

A complete definition of query criteria constructed in the query bar.

Query window

The User Tool window that lets you search the database for ARs that match specific criteria and display the results of the search. You also use the Query window to view or modify an existing AR. *See also* Submit window.

range

Defines the upper and lower limits of acceptable values. For example, if a field's range is -10 to 100, you will be able to enter any number from negative 10 to positive 100 inclusive.

read license

License that allows a user to query the AR System schemas and submit new ARs but does *not* allow the user to modify or save data on existing ARs. *See also* write license.

real data type

Fields with this data type contain a floating-point number. The range is set by the administrator.

report format

The layout that you specify when you generate a report from an AR System query. You can format a report in columns or as a list of records. You can also choose selected fields to print or print them all. To create a more sophisticated layout, you can export the report to a file and import the file into a desktop publishing application.

reserved field

One of a set of fields defined with specific interpretations. You can use these fields in any schema, if desired.

schema

The definition of the data fields in a database. Each schema represents a database on an AR System server. The AR System comes with several sample schemas and you can build as many additional schemas as needed.

scroll bar

Window element that appears when there is more information to view than will fit in the window. You use the mouse to slide the scroll bar and shift the view area. A scroll bar at the bottom of the window lets you move the viewing area left and right. A scroll bar on the right side of the window lets you move the viewing area up and down.

selection data type

Fields with this data type present a set of mutually exclusive choices from which the user is to choose. The selections are displayed as checkbox items or as options on a menu.

selection list

List that appears as a result of an active link that performs a query that returns more than one AR. The selection list lets the user pick the appropriate AR.

server

See AR System Server.

status field

Core field that lets you keep a record as an AR moves through the various stages of the process you are using to resolve ARs. The defined states should reflect the workflow process.

status history

Information that shows the progress that has been made on an AR. You can view status history from the Display or Modify window.

Submit window

The User Tool window that lets you enter the appropriate information to create and submit a new AR. *See also* Query window.

submitter

The person who submits an action request. The submitter's name is entered in the Submitter field.

Submitter group

One of five special access control groups provided by the AR System. This is an *implicit* group; users submitting ARs automatically belong to this group and, if they have a valid AR System license, are granted change access for ARs that are submitted with their name in the Submitter field.

support staff

Person or group responsible for resolving action requests. They assign and are assigned ARs, log their progress in appropriate fields, and use information stored in previous ARs to help resolve problems.

user default

Value that a user who has customize permission can assign to a field. When the user sets defaults, the AR System loads this value into the field. When the user submits an AR, the AR System automatically loads this value into the field unless the user has entered a different value.

user command

Facility that allows you to invoke an operating system command (or application capable of being run from an operating system command line) from the Execute menu of the Query window. Each user can define their own set of user commands. (User commands are not available from PC or Macintosh clients.) *See also* administrator command.

User schema

Schema that lets you add users to the AR System and specify the type of access each user will have.

User Tool

The part of the AR System that lets users enter new ARs and track them through the troubleshooting process. Users can also query the database for ARs that match specified criteria, generate reports, and modify existing ARs with the User Tool.

user view

What the user sees when they bring up a schema. If users have permission to customize their views, they are able to change the physical layout and other properties of the schema and schema fields as they appear for that user.

variable

Data element that changes according to user input. In macros, you can include variable definitions that will cause the AR System to prompt the user for certain information when the macro executes.

version

The system release number. To display the version of the AR System that you are running, select AboutOn Version under the FileHelp menu in the User Tool.

view layout

The location of fields in a user's view of a schema.

wild card

Character that you can enter to represent other characters in a search string. In query statements, for example, you can use wild card characters to match single characters, strings, or characters within a range or set.

write license

License that allows a user to modify and save data on existing ARs as field and schema permission settings allow. Write licenses may be either fixed (permanently attached to a single user) or floating (allocated to users as required).

See also fixed license, floating license, read license.

Index

Symbols

- !=
 - not-equal-to relational operator, 66
 - \$DATES, 50
 - \$DEFAULTS, 50
 - \$GROUPS, 50
 - \$HARDWARE\$, 50
 - \$NULL\$, 51
 - default value, 148
 - \$OSS, 51
 - \$SCHEMAS, 51
 - \$SERVERS, 51
 - \$TIMES, 51
 - \$TIMESTAMPS, 51
 - \$USERS, 51
 - \$WEEKDAYS, 51
 - %
 - wild card symbol, 67
 - .Xdefaults, 192
 - /usr/ar/bin, 169
 - <
 - less-than relational operator, 66
 - <=
 - less-than-or-equal-to relational operator, 66
 - =
 - equal-to relational operator, 66
 - >
 - greater-than relational operator, 66
 - >=
 - greater-than-or-equal-to relational operator, 66
 - [] (brackets)
 - wild card symbol, 68
 - [^] (brackets with caret), 68
 - _ (underscore)
 - wild card symbol, 67
- ## A
- About window, 177
 - accelerator keys, 16
 - access
 - complete, 45
 - conditional, 45
 - permissions, 9, 169
 - see also Administrator's Guide
 - access control, 3, 9, 169
 - customizing views, 150
 - fields, 45
 - see also Administrator's Guide
 - access permissions, 3
 - accrue operator in full text searches, using, 99, 100

action
 default, 9
 Action on New Message
 Notification Tool property, 174
 action request
 changing, 92
 creating, 43
 definition, 22
 deleting, 18, 77, 96
 displaying, 87
 displaying a subset, 87
 displaying a summary, 77
 editing, 77
 history of, 95
 listing, 84
 modifying, 60, 92
 modifying a subset, 92
 modifying all selected, 94
 modifying individual, 93
 modifying multiple, 77
 paging through, 88
 reviewing, 60
 submitting, 42
 submitting similar, 94
 Action Request System, 1
 action requests
 definition, 42
 Actions menu, 19
 active link, 3, 55
 and multi-line text, 56
 changing properties, 154
 example, 57
 help, 32
 pick list, 57
 selection list, 57
 active schema list, 17
 active window, 9
 activities
 administrator, 22
 user, 22
 adding
 a diary entry, 95
 field names to query bar, 71
 user commands, 163
 admin commands
 executing, 19, 167
 administrator
 activities, 22
 commands, 4
 Administrator Tool, 3
 see also Administrator's Guide
 administrator's view, 156
 restoring, 156
 alerting
 users of status of ARs, 3
 alignment method, 153
 Always prompt for Login
 preference, 30
 AND logical operator, 72
 Anywhere search style, 63
 APIs, 6
 AR, 198
 blank template, 93
 AR export format, 106
 AR System, 169
 administrator activities, 5
 management of, 2
 tools, 2
 users, 1
 AR System administrator, 1
 AR System sub-administrator, 1
 ar_install_dir, 192
 ar_run_dir, 9, 169
 archived views, 156
 ARDATE
 dates, 37
 environment variable, 37
 errors in formatting, 40
 examples, 40
 field descriptors, 38
 time, 37
 ARHOME, 34
 arHome directory, 21, 33
 arimport
 resources, 196
 arithmetic operator, 73

ARPATH environment variable, 34
defining, 35

ARs
initiating, 2
resolving, 2
specifying a maximum number of, 84
viewing related to notifications, 172

ARSystem sample files, 192

aruser
syntax options, 187

ascending order, 79
sorting, 115

assigning
action requests, 6

audit trail log file, 175
automatic execution, 55

automatically updating
query list, 86

automating
frequent operations, 6
operations, 134

Available Schemas list, 25

average
statistical operation, 119

B

backup file
view, 158

beeper
see Notification Tool, 3

begin recording a macro, 19

blank AR template, 93

bottom margin of report, 114

box
submission confirmation, 45

button
Next, 88, 92
Poll, 86
Previous, 88, 92
Refresh, 86
Show Status History, 89

C

calling Customer Support, 32, 176

case-sensitive, 9
fields values, 71

changing
action requests, 92
active link properties, 154
ARHOME environment variable, 34
colors and fonts, 192
field properties, 154
key bindings, 27
login information, 20, 170
macro name or description, 144
the current login, 170

character data type, 47

character menus, 47

Chars per Line
report preference, 114

choices
exclusive, 48

circulating
through open windows, 15

Clear All command, 17

clearing
all fields, 28, 29
all query fields, 65
all submit fields, 44
contents of all fields, 17

clicking
on field label, 71

color variables
User Tool, 194

colors
changing, 192
customizing, 192

Column titles report preference, 116

comma separated format, 106

command
Clear All, 17
Copy to Submit, 19, 89, 94
Create Command, 19
Customize Defaults, 19
Customize View, 19

- Delete, 18
- Display, 18, 87
- Edit Macros, 19
- Exit, 17
- Goto Query List, 94
- Index, 20
- List, 18
- Login, 16
- Modify All, 18, 94
- Modify Individual, 18
- On Context, 20, 32
- On Version, 20, 32, 176
- On Window, 20, 32
- Open Schema, 16
- Open Submit, 14, 16
- Preferences, 17
- Record Sort Options, 115
- Report, 18
- Run Admin Command, 19
- Run Command, 19
- Run Macro, 19
- Set to Defaults, 17
- Sort Options, 19, 78
- Start Recording, 19
- Statistics Options, 119
- Stop Recording, 19
- user, 164
- command line
 - starting tools from, 186
 - syntax, 186
- Command Type
 - Notification Tool property, 175
- commands
 - creating administrator, 4
 - Using Help, 31
- comments in email, 180
- complex
 - criteria, 65
 - query operations, 134
- compressed text format, 106
- conditional access, 45
- configuration directory
 - default location, 169
 - setting alternate, 33, 175
- Confirm to exit AR System
 - preference, 30
- Confirmation upon successful submit
 - preference, 29
- context sensitive help
 - displaying, 20
- control access, 169
- controlling
 - operations, 14
 - the behavior of the User Tool, 17, 27
- conventions, 75
 - in the AR System, 8
 - Motif, 8
- Copy to Submit command, 19, 89, 94
- copying
 - custom reports, 34
 - Display window contents, 89, 94
 - files, 35
 - macros, 34, 146
 - user commands, 34
 - values to a Submit window, 19
- copyright information
 - displaying, 32, 176
- count
 - statistical operation, 119
- Create Command command, 19
- creating
 - administrator commands, 4
 - an action request, 43
 - custom reports, 104
 - dynamic menus, 3
 - macros, 134
 - reports, 104
 - static menus, 3
 - user commands, 19, 162
- criteria
 - complex, 65
- CSV format, 106
- custom reports
 - copying, 34
 - deleting, 129
 - modifying, 126
 - saving, 124
 - sharing, 34

- using, 123, 126
- custom view properties, 152
- Custom View Properties dialog box, 152
- Customer Support
 - information to supply, 32, 176
- Customize Defaults
 - command, 19
 - window, 148
- Customize View
 - command, 19
- customizing
 - advanced, 192
 - colors, 192
 - default field values, 147
 - field display length, 155
 - field label positions, 155
 - field labels, 155
 - field type, 155
 - field visibility, 156
 - fonts, 192
 - number of rows, 155
 - schema layout, 150
 - the environment, 147
 - views, 156
 - access control, 150
 - x and y field location, 156
 - your schema view, 19

D

- data entry, 49
 - special, 51
- data type, 47, 49
 - character, 47
 - date/time, 48
 - diary, 47
 - integer, 48
 - real, 48
 - selection, 48
- database
 - definition, 3
 - problem solving, 1
 - querying, 60
 - see schemas

- date
 - format, 48
 - searching for action requests created after, 67
- date format
 - ARDATE, 37
 - defining, 40
- date/time data type, 48
- default
 - action, 9
 - configuration directory, 169
 - directories, 33, 175
 - file names, 35
 - search style, 63
 - value
 - \$NULLS, 148
 - view
 - see views
- Default Schema View
 - preferences, 31
- default values
 - hidden fields, 149
 - loading, 28, 29
 - setting, 17
 - specifying, 19, 51
- defaults
 - Query window, 65, 148
 - Submit window, 44, 148
- Define menu, 115
- defining
 - ARDATE environment variable, 40
 - ARPATH environment variable, 35
 - default field values, 147
 - queries, 69
 - query criteria, 62, 65
 - report preferences, 112
- Delete
 - command, 18, 96
 - query operation, 77
 - window, 97
- deleting
 - a custom report, 129
 - action requests, 18, 77, 96
 - macros, 146

- notifications, 173
 - user commands, 165
- descending order, 79, 115
- describing
 - a problem, 14
 - a support request, 14
- de-selecting
 - query list items, 86
- designing
 - reports, 106
- dialog box
 - Export View, 160
- dialog boxes
 - listing all open, 20
- diary data type, 47
- diary entries
 - adding, 95
 - reviewing, 91
 - viewing, 91
- Diary Entry window, 47, 49, 53, 95
- Diary field pop-up icon, 91, 95
- directory
 - ar_config_dir, 148
 - ar_install_dir, 192
 - ar_run_dir, 169
 - arHome, 21, 33
 - default, 33, 175
 - home, 33
- Display
 - command, 18, 87
 - query operation, 77
 - window, 15, 88
 - opening, 18
 - triggering active links, 89
 - using, 89
- displaying
 - a grid, 153
 - a schema, 16
 - a submit footer message, 29
 - a subset of matching action requests, 87
 - a summary of each action request, 77
 - action requests, 87
 - action requests as read-only, 77
 - both a footer and confirmation message, 29
 - context sensitive help, 20
 - copyright information, 32, 176
 - current window help, 32
 - environment information, 32, 176
 - help, 20, 31
 - help on current field or active link, 32
 - next action request, 89
 - previous action request, 89
 - product version, 32, 176
 - query bar, 71
 - reports, 130
 - search style information, 64
 - status history, 90
 - tool name, 32, 176
 - UNIX manual pages, 33
 - version number, 32, 176
- displaying help
 - on help, 31
- division operator, 73
- double quotes
 - query bar conventions, 75
 - using, 71
- double-click, 8
- Double-click action on query
 - preference, 29
- drag, 8
- dynamic menus, 3, 47

E

- Edit Macros
 - command, 19
 - window, 145
- Edit menu, 17
- editing
 - action requests, 77
 - fields, 49
 - information in a field, 49
 - macros, 19
- electronic mail, see email
- email, 178
 - comments, 180

-
- entering values in fields, 181
 - fields and values, 181
 - header block, 180
 - mail handler, 179
 - mail template, 178, 179
 - responding to submissions, 185
 - submitting, 183
 - submitting ARs, 178
 - template components, 179
 - using a text editor, 184
 - email notifications
 - receiving, 185
 - empty strings in macros, 144
 - enabling grid, 153
 - end user, 2
 - activities, 4
 - entering
 - data in fields, 49
 - field values using email, 181
 - help for user commands, 164
 - information in a field, 49
 - information in the query bar, 71
 - environment
 - customizing, 147
 - information, 32, 176
 - environment variable, 176
 - ARDATE, 37
 - ARHOME, 34
 - ARPATH, 34
 - Equal search style, 63
 - equal-to, 74
 - operator, 66
 - query bar operator, 74
 - example
 - active link operation, 57
 - email template, 181
 - query statements, 76
 - examples
 - ARDATE environment variable, 40
 - exclusive choices, 48
 - executing
 - admin commands, 19, 167
 - macros, 142
 - user commands, 19, 165
 - execution
 - automatic, 55
 - Exit command, 17
 - exiting
 - Notification Tool, 170
 - the User Tool, 17, 21
 - explicit characters
 - using wild cards, 68
 - Export View dialog box, 160
 - exporting statistics, 123
- ## F
- field descriptors
 - ARDATE, 38
 - fields
 - access control, 45
 - and values in email ARs, 181
 - case-sensitive, 71
 - changing properties, 154
 - clearing, 29
 - clearing all, 28
 - clearing contents, 17
 - customizing
 - labels, 155
 - layout, 150
 - customizing default values, 147
 - data entry, 49
 - data types, 47
 - defining default values, 147
 - editing, 49
 - filling in, 45
 - font style, 45
 - help, 32
 - hidden default values, 149
 - keep previous values, 28, 29
 - label
 - clicking on, 71
 - selecting, 70
 - layout in view, 149
 - length, 155
 - narrative history, 53
 - number of rows, 155
 - optional, 46
 - pull-right selection menu, 71

- read only, 45
- required, 45
- selecting to include in a report, 107
- setting default, 65
- space sensitive, 71
- system-maintained fields, 46
- types by typeface, 45

file

- audit trail log, 175

File menu, 16

file name extension

- .arc, 35, 162
- .arq, 35
- .arr, 35
- .arv, 156

file names

- default, 35

file protections

- UNIX, 36

files

- copying, 35

fill-in aid, 47

filter, 3

fixed license, 12

floating license, 12

font style for fields, 45

fonts

- changing, 192

footer of report, 114

format

- AR export, 106
- comma separated, 106
- compressed text, 106
- CSV, 106
- query bar, 72
- time and date, 48

formatting

- a report by columns, 109
- a report by records, 108
- a report to export ARs, 111
- a report to use in another application, 110
- conventions

- query bar, 71

formatting errors

- ARDATE, 40

full text search

- accrue operator, using, 99
- capabilities, 98
- how to, 99
- ignore words list, 102
- importing data (when to rebuild), 102
- licenses, fixed and floating, 98
- limits, 101
- using, 97
- using indexed fields in queries, 99

G

generating

- a report, 18, 77, 104
- report output, 129
- reports, 104
- statistics in a report, 119

generic macro, 139

Get Details button, 171

getting

- help, 20
- started with the User Tool, 7

Goto Query List command, 94

greater-than

- operator, 66
- query bar operator, 74

greater-than-or-equal-to

- operator, 66
- query bar operator, 74

grid, 153

grouping report records, 115

groups, see access control and Administrator's Guide

guest

- privileges, 10
- user, 10, 12

H

header

- block (email), 180
- of report, 114
- Help
 - using help, 20
- help
 - displaying, 20, 31
 - for macros, 145
 - on schema, 20
 - user commands, 164
 - using, 20
- Help menu, 20
- help, using help, 31
- hidden field
 - customizing, 156
 - default values, 149
- hiding
 - the query bar, 29, 71
- history
 - of action requests, 95
 - of resolved problems, 6
- home directory, 33
- horizontal grid, 153

I

- iconize windows, 15
- ID field, 75
- ignore words list
 - using, 102
- Import Tool, 4
- importing
 - rebuilding FTS index after importing data, 102
- Index
 - command, 20
- indicating a range, 68
- initiating ARs, 2
- integer data type, 48
- invalid
 - password, 12
 - user name, 12

K

- keeping previous field values, 28, 29
- key bindings
 - changing, 27
- keyword, 50
 - \$DATES, 50
 - \$DEFAULTS, 50
 - \$GROUPS, 50
 - \$SHARDWARES, 50
 - \$NULLS, 51
 - \$OSS, 51
 - \$SCHEMAS, 51
 - \$SERVERS, 51
 - \$TIMES, 51
 - \$TIMESTAMPS, 51
 - \$USERS, 51
 - \$WEEKDAYS, 51
- in report headers and footers, 114

L

- label, 155
- label positions
 - customizing, 155
- layout of report
 - specifying, 108
- layout of view, 149
- Leading search style, 63
- left alignment of fields, 153
- left margin of report, 114
- length of text field, 155
- less-than, 74
 - operator, 66
 - query bar operator, 74
- less-than-or-equal-to
 - operator, 66
 - query bar operator, 74
- license, 12
 - fixed, 12
 - floating, 12
 - read, 12
- licenses
 - full text search, 98

LIKE operator, 73

Lines per Page
report preference, 114

List
command, 18
query operation, 77

listing
action requests, 84
all open windows, 20
most recently used schemas, 17

loading
default values, 29
field default values, 28

local User Tool configuration
information, 34

log file
audit trail, 175

Log Notifications to File
Notification Tool property, 174

logical operators, 71

login
to User Tool, 9

Login command, 16

login information
changing, 20, 170

Login window
Notification Tool, 169
opening, 16
User Tool, 11

M

macros, 134
containing variables, 139
copying, 34, 146
deleting, 146
editing, 19
empty strings in, 144
executing, 19, 142
generic, 139
parameters, 139
powerful, 136
providing help text, 145
recording, 134, 136
recording with a variable, 140
running, 19
running from command line, 189
sharing, 34, 135, 146
start recording, 19
stop recording, 19, 137
supplying variables during
playback, 143
using prompts, 139
variables in, 139

Macros menu, 19

mail
handler, 179
template, 178

making
menu selections, 8, 16
query bar visible, 29

management of the AR System, 2

manual pages
displaying, 33

manually updating
query list, 86

matching
a single character, 67, 68
any string, 67

Max in active schema list
preference, 28

Max in query
preference, 28, 78

maximum
number of ARs, 84
statistical operation, 119

Maximum Notifications in Window
Notification Tool property, 174

menu, 50
Actions, 19
bar, 14
character, 47
creating, 3
Define, 115
dynamic, 47
Edit, 17
File, 16
Help, 20

- Macros, 19
- Query, 18, 77
 - static, 47
 - Windows, 15, 20
- menu items
 - selecting, 16
 - User Tool, 16
- menu selections
 - making, 16
- Menu Style
 - preferences, 31
- menus
 - User Tool, 14
- minimum
 - statistical operation, 119
- Minutes field, 87
- Modify All
 - command, 18, 94
 - query operation, 77
 - window, 15
- Modify Individual
 - command, 18
 - query operation, 77
 - window, 15, 93
- modifying
 - a subset of action requests, 92
 - action requests, 60
 - all selected action requests, 94
 - custom report, 126
 - individual action requests, 93
 - multiple action requests, 77
 - report name or help text, 127
 - user commands, 164
- modulo operator, 74
- Motif conventions, 8
- mouse
 - using, 8
- multi-line text
 - active links, 56
- multiple windows, 14, 15
- multiplication operator, 73

N

- narrative history field, 53
- network management platforms, 6
- Next button, 88, 92
- non-numeric query bar values, 75
- NOT operator, 73
- not-equal-to
 - operator, 66
 - query bar operator, 74
- notice window
 - Notification Tool, 171
- notification
 - prompt, 168
- Notification Log window, 172
- Notification Tool, 3, 168, 171
 - exiting, 170
 - Get Details button, 171
 - notice window, 171
 - Properties window, 174
 - running multiple, 170
 - setting properties, 173
 - starting, 169
- Notification Tool property
 - Action on New Message, 174
 - Command Type, 175
 - Log Notifications to File, 174
 - Maximum Notifications in Window, 174
 - Save Notifications between runs, 174
- notifications
 - deleting, 173
 - log, 172
 - receiving, 171
 - reviewing, 172
- Notifier
 - see Notification Tool, 168
- NTHOME, 34, 176
 - default directory, 175
- NTSystem sample files, 192
- null value, in queries, 189
- NULL values in query statements, 75
- number
 - of field rows, 155

numeric value, 75

O

On Context command, 20, 32

On Version command, 20, 32, 176

On Window command, 20, 32

Open Schema command, 16

Open Submit command, 14, 16

open windows

circulating through, 15

opening

a Display window, 18

a help topic window, 20

a Login window, 16

a Modify All Selected window, 18

a Query List window, 18

a Submit window, 16

multiple submit windows, 42

operation

automating, 134

status, 14

OPERATION keyword, 51

operator

in the query bar, 72

precedence, 74

relational, 65

optional fields, 46

OR logical operator, 73

overriding

search style, 64, 69

P

Page break report preference, 116

page breaks in reports, 114

paging through action requests, 88

parameters in macros, 139

password, 9, 169

invalid, 12

valid, 12

permissions, 9

access, 169

setting access, 3

pick list

in active link, 57

Poll button, 86

pop-up icon

Diary field, 91, 95

position of windows, 8

powerful macros, 136

precedence of query bar operators, 74

precise query, 64

Preferences

command, 17

window, 27

preferences

Always prompt for Login, 30

Confirm to exit AR System, 30

Confirmation upon successful
submit, 29

Default Schema View, 31

defining for reports, 112

Double-click action on query, 29

Max in active schema list, 28

Max in query, 28

Menu Style, 31

Prior to new Query, 28

Prior to new submission, 29

Query Bar, 29

Query window, 103

setting, 27

Submit window, 59

Text Edit/Diary window Apply
action, 30

user, 27

press, 8

Previous button, 88, 92

previous view, 156

restoring, 156

printing

a report, 132

Prior to new Query

preference, 28

Prior to new submission

preference, 29

problem

- history, 6
- solving database, 1
- program
 - xrdb, 192
- prompt
 - notification, 168
 - text, 139
- prompting in macros, 139
- properties
 - Notification Tool, 173
- pull-right, 8
 - menus, 50
 - selection menu, 71
 - selection menus, 47

Q

- queries, from command line, 189
- queries, using FTS-indexed fields in, 99
- Query
 - menu, 18
- query
 - defining, 69
 - precise, 64
 - recording a macro, 136
- Query Bar
 - preference, 29
- query bar, 14, 65
 - adding field names, 71
 - arithmetic operator, 73
 - division operator, 73
 - entering information, 71
 - format, 72
 - formatting conventions, 71
 - hiding, 29
 - hiding or displaying, 71
 - making visible, 29
 - modulo operator, 74
 - operators used in, 72
 - statement, 75
 - subtraction operator, 73
 - syntax, 72
 - using, 69
 - using wild card symbols, 69
- query bar operator, 74
 - AND, 72
 - greater-than, 74
 - greater-than-or-equal-to, 74
 - less-than-or-equal-to, 74
 - LIKE, 73
 - multiplication, 73
 - NOT, 73
 - not-equal-to, 74
 - OR, 73
- query criteria
 - defining, 62, 65
 - re-displaying, 86, 89, 94
 - refining, 85
- query list
 - manually updating, 86
- query list items
 - de-selecting, 86
 - performing another operation on
 - selected, 86
 - selecting, 86
 - selecting multiple, 86
- Query List window, 14, 84, 86
 - opening, 18
 - returning, 89, 94
- Query menu, 77
- query operation, 189
 - complex, 134
 - Delete, 77
 - Display, 77
 - List, 77
 - Modify All, 77
 - Modify Individual, 77
 - Report, 77
 - sorting order, 82
- query results
 - sorting, 19
- query statement examples, 76
- Query window, 14, 60
 - clearing all fields, 65
 - default values, 65
 - defaults, 148
 - preferences, 103
 - using defaults, 65

query, using a null value
 null values in queries, 189
query-by-example, 60
 defining, 62
querying, 60
 defining a query-by-example, 62
 defining query criteria, 62
 for NULL values, 75
 general steps, 61
 status history, 65, 75
 the database, 60
 using the query bar, 65

R

radio buttons
 using, 50
range
 indicating, 68
read license, 12
read-only
 displaying action requests as, 77
 field, 45
real data type, 48
receiving
 email notifications, 185
 notifications, 171
Record Sort Options
 command, 115
recording
 a macro, 134, 136
 a macro that performs a query, 136
 a macro with variables, 140
re-displaying query criteria, 86, 89, 94
refining query criteria, 85
Refresh button, 86
registered users, 10
relational operators, 65
Report
 query operation, 77
Report command, 18
Report Field Sort Order window, 118
Report File window, 131
report footers, 114
report grouping, 117
report headers, 114
Report Layout
 window, 107
report layout
 by columns, 109
 by records, 108
 setting, 111
 specifying, 108
 to export ARs, 111
 to use in another application, 110
report output, 129
report preference
 Bottom Margin, 114
 Chars per Line, 114
 Column separator, 114
 Column title separator, 114
 Column titles, 116
 Column titles per, 115
 defining, 112
 footer, 114
 header, 114
 Left Margin, 114
 Long field format, 114
 Page break, 116
 Page break per, 114
 Record separator, 115
 Right Margin, 114
 Title, 114
 Top Margin, 114
Report Preferences window, 113
Report Print window, 132
report sorting order, 117
Report to Screen window, 130
Report window, 15, 105
Reports, 104
reports
 column separator character, 114
 column title separator character, 114
 column titles, 115
 copying, 34
 deleting, 129
 designing, 106

- displaying, 130
- generating, 18, 77, 104
- generating statistics, 119
- grouping records, 115
- Lines per Page preference, 114
- modifying, 126
- page numbers, 114
- printing, 132
- record separator character, 115
- sending to a file, 130
- setting report page setup, 112
- sharing, 34, 123
- sorting records, 115
- using, 126
- required fields, 45
- resolving ARs, 2
- responding to email submissions, 185
- restoring
 - a view backup file, 158
 - administrator's view, 156
 - previous view, 156
 - views, 156
- restricting
 - unqualified queries, 64
- returning
 - to the Query List window, 89, 94
- reviewing
 - action request, 60
 - diary entries, 91
 - notifications, 172
 - status history, 89
- right alignment of fields, 153
- right margin of report, 114
- Run Admin Command command, 19
- Run Command command, 19
- Run Macro command, 19
- running
 - admin commands, 19
 - macros from the command line, 187
 - multiple instances of a tool, 170
 - Notification Tool, 169
 - user commands, 19
 - User Tool, 10

S

- sample files
 - ARSystem and NTSsystem, 192
- sample schemas, 23
- Save Custom Report Format window, 124
- Save Notifications between runs
 - Notification Tool property, 174
- saving
 - custom reports, 124
- schema help
 - displaying, 20
- Schema Item Properties window, 154
- schema layout
 - customizing, 150
- schema list
 - active, 17
- Schema List window, 43
- schema view
 - customizing, 19
- schemas, 22
 - displaying, 16
 - listing most recently used, 17
 - sample, 23
 - selecting, 24
 - setting up, 3
- scroll bars, 26, 45
- search style
 - default, 63
 - information, 64
 - overriding, 64, 69
- searching
 - for action requests by time, 67
 - for action requests created after date
 - or time, 67
 - the database, 60
- selecting, 8
 - a field label, 70
 - a menu item, 16
 - a schema, 24
 - Administrator View, 161
 - fields to include in a report, 107
 - multiple query list items, 86
 - query list items, 86

- selection data type, 48
- selection list
 - in active links, 57
- sending
 - reports to a file, 130
- server Information, 17, 26
- Set to Defaults, 65
 - command, 17
- setting
 - access permissions, 3
 - alternate configuration directory, 175
 - an alternate configuration directory, 34
 - default values, 17
 - preferences, 27
 - properties of Notification Tool, 173
 - query default fields, 65
 - Query window defaults, 65
 - report layout, 111
 - report page setup, 112
 - submit default fields, 44
 - up filters and active links, 3
- sharing
 - custom reports, 34, 123
 - macros, 34, 135, 146
 - user commands, 34, 162
- shortcut key sequences, 16
- Show Query button, 86
- Show Status History button, 89
- showrgb, 192
- single character
 - matching, 67, 68
- single quotes
 - query bar convention, 75
- size of windows, 8
- Sort Options
 - command, 19, 78
- sorting, 115
 - in ascending order, 115
 - query operation results, 79
 - query results, 19
 - report records, 115
- space sensitive fields values, 71
- special characters
 - column separators, 114
- special data entry operations, 51
- specifying
 - a maximum number of ARs, 84
 - alignment method, 153
 - criteria by query-by-example, 60
 - criteria on the query bar, 60
 - default values, 19, 51
 - grid settings, 153
 - report grouping, 117
 - report layout, 108
 - report sorting order, 117
 - statistics, 120
 - the maximum number of ARs returned in a query, 28
 - the maximum number of schemas in list, 28
- Start Recording command, 19
- starting
 - Notification Tool, 169
 - tools from command line, 186
 - User Tool, 10
- static menus, 3, 47
- statistics
 - exporting, 123
 - exporting to spreadsheet, 123
 - specifying, 120
- Statistics Options command, 119
- Statistics window, 121
- status
 - of actions requests, 6
 - of operation, 14
- status history
 - querying, 65, 75
 - reviewing, 89
 - viewing, 89, 90, 93
- Status History window, 90
- Stop Recording
 - command, 19
 - window, 137
- stop recording a macro, 19, 137
- stop word list, *see* ignore words list

- string matching, 67
- submission confirmation box, 45
- Submit window, 14, 44, 46
 - clearing all fields, 44
 - copying values to, 19
 - default values, 44
 - defaults, 148
 - opening, 16
 - opening multiple, 42
 - preferences, 59
- submitting
 - action requests, 42, 43, 94
 - email, 183
- subtraction operator, 73
- sum
 - statistical operation, 119
- support staff, 1
- symbols
 - wild card, 65
- syntax
 - command line, 186
 - options for command line, 187
 - query bar, 72
- syntax options
 - aruser, 187
- system-maintained fields, 46

T

- template
 - blank AR, 93
- Text Edit window, 47, 49, 52
 - using, 52
- text fill-in aid, 47
- time
 - format, 48
 - searching for action requests by
 - time, 67
- time format
 - ARDATE, 37
- title
 - bar, 14
 - of report, 114
- tool

- import, 4
- tools
 - Administrator Tool, 3
 - Notification Tool, 3
 - User Tool, 2
- top margin of report, 114
- triggering active links
 - Display window, 89
- truncating
 - long fields in reports, 114
- typing
 - ALT key and underscored letter, 16
 - F10 and the underscored letter, 16
 - information in a field, 49

U

- UNIX
 - commands, 162
 - file protections, 36
 - manual pages, 33
- unknown user name, 12
- unqualified queries
 - restricting, 64
- unregistered users, 10
- updating
 - query list, 86
- user commands, 164
 - adding, 163
 - copying, 34
 - creating, 19, 162
 - deleting, 165
 - executing, 19, 165
 - modifying, 164
 - sharing, 34, 162
- User Commands window, 163, 166, 167
- user name, 9, 169
 - invalid, 12
 - unknown, 12
- user preferences, 27
- User Tool, 2
 - color variables, 194
 - controlling behavior, 17, 27
 - exiting, 17, 21

- getting started, 7
- local configuration information, 34
- menu items, 16
- menus, 14
- starting, 10
- users
 - activities, 4, 22
 - AR System, 1
 - AR System administrator, 1
 - AR System sub-administrator, 1
 - end user, 2
 - guest, 10, 12
 - support staff, 1
- user-specified variables, 139
- using, 53, 134
 - a custom report, 126
 - active links, 55
 - custom reports, 123
 - Diary Entry window, 54
 - double quotes, 71
 - email tool, 183
 - keywords, 50
 - macros, 134
 - menus, 50
 - Notification Tool, 168
 - NULL values when querying, 75
 - operators in the query bar, 72
 - pull-right selection menus, 50
 - query bar, 69
 - Query List window, 86
 - quotes in the query bar, 71
 - radio buttons, 50
 - the Diary Entry window, 53
 - the Display window, 89
 - the mouse, 8
 - the query bar, 65
 - the Text Edit window, 52
 - variables in macros, 139
 - wild card symbols, 67
 - wild cards as explicit characters, 68
- using full text search, 97
- Using Help, 20
- using help
 - commands, 31

V

- valid password, 12
- value
 - numeric, 75
- value left alignment of fields, 153
- value right alignment of fields, 154
- variable, environment
 - ARDATE, 37
- variables
 - empty, 144
 - environment, 176
 - in macros, 139
 - supplying during playback, 143
 - user-specified, 139
- version number
 - displaying, 32, 176
- vertical grid, 153
- view backup file
 - restoring, 158
- viewing
 - ARs related to notifications, 172
 - diary entries, 91
 - status history, 89, 90
 - the status history of an AR, 93
- views
 - administrator's, 156
 - customizing, 19, 147
 - default, 156
 - layout, 149
 - restoring, 156
- visible field
 - customizing, 156

W

- wild card symbol, 65
 - (hyphen), 68
 - %, 67
 - [] (brackets), 68
 - [^] (brackets with caret), 68
 - _ (underscore), 67
 - in the query bar, 69
 - using, 67
- window

active, 9
controlling size and position, 8
Customize Defaults, 148
Delete, 97
Diary Entry, 47, 49, 95
Display, 15, 88
Edit Macros, 145
for text editing, 52
help, 32
help topic, 20
iconize, 15
listing all open, 20
Login, 11
Modify All, 15
Modify Individual, 15, 93
multiple, 14, 15
Notification Log, 172
Notification Tool Properties, 174
Query, 13, 14
Query List, 14, 84
Report, 15, 105
Report Field Sort Order, 118
Report File, 131
Report Layout, 107
Report Preferences, 113
Report Print, 132
Report to Screen, 130
Save Custom Report Format, 124
Schema Item Properties, 154
Schema List, 43
server information, 17, 26
Statistics, 121
Status History, 90
Stop Recording, 137
Submit, 14, 44, 46
Text Edit, 47, 49
User Commands, 163, 166, 167
User Preferences, 27
Windows menu, 15, 20
workflow processes, 3
wrapping
 long fields in reports, 114

X

xrdb program, 192

