

# iSecurity Safe Update

Regulate Attempts to Update  
Files

Software Version: 9.09

# About this Manual

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This user guide is intended for system administrators and security administrators responsible for the implementation and management of security on IBM i systems. However, any user with basic knowledge of IBM i operations will be able to make full use of this product after reading this book.

Raz-Lee takes customer satisfaction seriously. Our products are designed for ease of use by personnel at all skill levels, especially those with minimal IBM i experience. The documentation package includes a variety of materials to get you familiar with this software quickly and effectively.

This user guide, together with the iSecurity Installation Guide, is the only printed documentation necessary for understanding this product. It is available in HTML form as well as in user-friendly PDF format, which may be displayed or printed using Adobe Acrobat Reader version 6.0 or higher. If you do not have Acrobat Reader, you can download it from the Adobe website: <http://www.adobe.com/>. You can also read and print pages from the manual using any modern web browser.

This manual contains concise explanations of the various product features as well as step-by-step instructions for using and configuring the product.

Raz-Lee's iSecurity is an integrated, state-of-the-art security solution for all System i servers, providing cutting-edge tools for managing all aspects of network access, data, and audit security. Its individual components work together transparently, providing comprehensive "out-of-the-box" security. To learn more about the iSecurity Suite, visit our website at <http://www.razlee.com/>.

## Intended Audience

The Safe-Update User Guide document was developed for users, system administrators and security administrators responsible for the implementation and management of security on IBM® AS/400 systems. However, any user with a basic knowledge of System i operations is able to make full use of this document following study of this User Guide.

**NOTE:** Deviations from IBM® standards are employed in certain circumstances in order to enhance clarity or when standard IBM® terminology conflicts with generally accepted industry conventions.

This document may also serve for new versions' upgrade approval by management.

## Native IBM i (OS/400) User Interface

Safe-Update is designed to be a user-friendly product for auditors, managers, security personnel and system administrators. The user interface follows standard IBM i CUA conventions. All product features are available via the menus, so you are never required to memorize arcane commands.

Many features are also accessible via the command line, for the convenience of experienced users.

## Conventions Used in the Document

Menu options, field names, and function key names are written in **Courier New Bold**.

Links (internal or external) are emphasized with underline and blue color as follows: "About this Manual" on the previous page.

Commands and system messages of IBM i® (OS/400®), are written in ***Bold Italic***.

Key combinations are in Bold and separated by a dash, for example: **Enter, Shift-Tab**.

Emphasis is written in **Bold**.

A sequence of operations entered via the keyboard is marked as

***COMMAND > 81 > 32***

meaning: Syslog definitions activated by typing ***COMMAND*** and selecting option: **81** then option: **32**.

## Menus

Product menus allow easy access to all features with a minimum of keystrokes. Menu option numbering and terminology is consistent throughout this product and with other Raz-Lee products. To select a menu option, simply type the option number and press **Enter**. The command line is

available from nearly all product menus. If the command line does not appear (and your user profile allows use of the command line), press **F10** to display it.

## Data Entry Screens

Data entry screens include many convenient features such as:

- Pop-up selection windows
- Convenient option prompts
- Easy-to-read descriptions and explanatory text for all parameters and options
- Search and filtering with generic text support

The following describes the different data entry screens.

- To enter data in a field, type the desired text and then press Enter or Field Exit
- To move from one field to another without changing the contents press Tab
- To view options for a data field together with an explanation, press F4
- To accept the data displayed on the screen and continue, press Enter

The following function keys may appear on data entry screens.

- **F1: Help** Display context-sensitive help
- **F3: Exit** End the current task and return to the screen or menu from which the task was initiated
- **F4: Prompt** Display a list of valid options for the current field or command. For certain data items, a pop-up selection window appears
- **F6: Add New** Create a new record or data item
- **F8: Print** Print the current report or data item
- **F9: Retrieve** Retrieve the previously-entered command
- **F12: Cancel** Return to the previous screen or menu without updating

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# Preface

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## Overview

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Safe-Update protects IBM i business-critical data against updates made by unauthorized programs.

Using programs such as file editors, DFU, or the interactive Start SQL (STRSQL) command in production environments is risky. The Sarbanes Oxley Act (SOX) and other regulations require that updates be made only by authorized programs.

This leads IT managers to try to prevent usage of file editors in production environments. But, as the security system is built to protect data from users, usually it ends up just using the existing authority system to prevent programmers from accessing the files. That isn't what we wanted.

The added security layer that Safe-Update provides can ensure that file updates are only done by authorized programs unless specific temporary permissions have been set.

Safe-Update protects sensitive data by checking every update made to it, ensuring that the update is done by programs in a whitelist that are permitted to do so. The whitelist is composed of generic names of multiple programs and libraries. If the whitelist becomes too complex, the product can be set just to prevent updates made by file editors.

For programmers who need to update data with tools that are normally not allowed, Safe-Update implements work orders, created by management, that generate tickets specifying who can work with the data, the reason for the work, and the limited time during which the tickets are valid. All work under the tickets is logged, even if the data files themselves are not journaled.

Safe-Update is the latest component of Raz-Lee's iSecurity suite.

## The Safe-Update Solution

Raz-Lee Security's Safe-Update guards against unauthorized updates by dangerous programs. It monitors which programs can update data files and can even distinguish between critical and less important fields within the files. While programs such as file editors might be allowed to read files, if they try to update the data without clear permission from a work order, Safe-Update requires that the person performing the update identify the ticket that is allowing the work. Any updates to the data are logged, so that the organization and its regulators have a clear record of what was done and by whom.

## Key Features

- Monitors and protects data against unauthorized updates in real-time.
- Creates a record of updates, logging who updated the data, who authorized the update, and why it was done.
- Distinguishes among software allowed to affect different data.
- Work orders can specify the number of tickets that can be created under them, as well as for how long and at what times they can be used. Tickets can be closed after set periods of inactivity.
- Fields within data files can be marked as “insignificant” so that they can be updated without triggering the process.
- Allows authorized users to create ad-hoc tickets, which are tracked in the same way as work orders.
- Database journal information displayed by AP-Journal commands highlights updates made under Safe-Update permissions.

# Safe-Update Setup

To start Safe-Update, type "**STRSU**" on the command line of any screen and press the **Enter** key. The **Safe-Update Main Menu** screen appears.

```
JCSAFUPD                               Safe Update                               iSecurity
                                     Regulate File Editors Usage       System:  S520

Protect                                Reporting & Working
 1. Protect Physical files             41. Active Tickets
 2. Pending Permission Requests       42. Display history      WRKSUHST
 5. Definitions                       43. Display updates     WRKBYTKT

Tickets by Work-Order                 Related Products/Options
11. Work with Work-Orders              61. Application Journal
12. Set Work-Order Ticket SETWOTKT    62. Display File Journal DSPDBJRN
                                       63. Display Journal     DSPAPCRJ

Ad-Hoc Tickets
21. Set Ad-Hoc Ticket      SETAHTKT

General Tickets Activities             Maintenance
31. Display Ticket         DSPTKT      81. System Configuration
32. End Ticket            ENDTKT      82. Maintenance Menu
                                       89. Base Support

Selection or command
===> _____

F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel
F13=Information Assistant   F16=AS/400 main menu
Type option number or command.
```

To **define lists of files** that Safe-Update protects and the programs that you do or do not allow to update them, enter "5" on the command line. The **Definitions** screen (shown in "Defining Program and File Lists" on the next page) appears.

To **activate and control protection** of data files, enter "1" on the command line. The **Protect Physical Files** screen (shown in "Protecting Files" on page 39) appears.

## Defining Program and File Lists

The **Safe-Update Definitions** screen leads to tools that define blacklists, whitelists, and lists of protected files within Safe-Update. To reach it, enter "5" on the command line of the **Safe-Update** main menu screen (shown in "Safe-Update Setup" on the previous page) .

```
JCSAFDFN          Safe Update Definitions          iSecurity/Safe-Update
                                                           System:  S520

Definitions
1. List of File Editors
   This is the blacklist containing DFU, STRSQL and other file editors. When
   the term *REGULAR is used, it means all programs except those.

2. Program Lists
   Whitelists of programs that are allowed to update secured files. Usually
   such programs reside in one or a few specific libraries.

3. File Lists
   Work-orders and tickets can be set for a generic* file name or for a file
   list containing several generic* file names.

5. Output Fields per File
   Specify which fields to display when reporting changes. Default: Key+chgs.

Selection or command
====> _____

F3=Exit   F4=Prompt   F9=Retrieve   F12=Cancel
F13=Information Assistant   F16=AS/400 main menu
```

To work with the **blacklist** that defines programs that Safe-Update does not allow to handle data files, enter "1" on the command line. The **Change File Editors** screen (shown in "Working with the File Editor Blacklist" on page 16) appears.

To work with **whitelists** that define programs that Safe-Update allows to handle data files, enter "2" on the command line. The **Work with Program Lists** screen (shown in "Working with Allowed Program Whitelists" on page 17) appears.

To work with **lists of files that Safe-Update protects**, enter "3" on the command line. The **Work with File-Lists** screen (shown in "Working with File Lists" on page 23) appears

To set the **fields that appear in Safe-Update reports** on each file, enter "5" on the command line. The **Work with File Reporting Specification** screen (shown in "Working with File Reporting Specifications" on page 28) appears.



## Working with Allowed Program Whitelists

A **whitelist** is a list of programs that are allowed to handle sensitive files. If a whitelist is associated with a file through a file list, no programs other than those listed will be allowed to update that file without a Safe-Update ticket.

To **work with whitelists**, enter "2" on the command line of the **Safe-Update Definitions** screen (shown in "Defining Program and File Lists" on page 14). The **Work With Program Lists** screen appears.

```
Work with Program-Lists                               Subset: _____
Type options, press Enter.
1=Select 3=Copy 4=Delete

Opt  Pgm-List      Description
-    ACCOUNT      Accounting Management
-    INVENTORY    Programs of inventory management
-    SALES        Programs of sales management
-    TESTLIST     list of allowed programs

Bottom
Program-lists are used to specify programs that are allowed to update a file.
Specification can be done using generic* or *ALL for both Library and Name.
F3=Exit  F6=Add new  F12=Cancel
```

The screen shows the Program Lists that exist on your system.

To **change the contents** of a list, enter **1** in the **Opt** field of the line showing the list that you want to change. The **Change Pgm-List** screen (shown in "Changing Approved Program Whitelists" on page 20) appears.

To **copy** a Program List, enter "**3**" in the **Opt** field. The **Copy Pgm-List** screen (shown in "Copying Approved Program Whitelists" on page 21) appears.

To **delete** a Program list, enter "**4**" in the **Opt** field. The **Delete Program Lists** screen (shown in "Deleting Approved Program Whitelists" on page 22) appears.

To **add** a new list, press the **F6=Add New** key. The **Create Program List** screen (shown in "Adding Approved Program Whitelists" on the facing page) appears.





## Copying Approved Program Whitelists

To **copy a file list**, enter "3" in the Opt field for the file list on the **Work with Program-lists** screen (shown in "Working with Allowed Program Whitelists" on page 17). The **Copy Pgm-List** screen appears.

```
Copy Pgm-List

Type choices, press Enter.

From:
  Pgm-List . . . . . ACCOUNT

To:
  New Pgm-List . . . . . ACCOUNT2

F3=Exit  F12=Cancel
```

The name of the file list to be copied appears in the **Pgm-List** field.

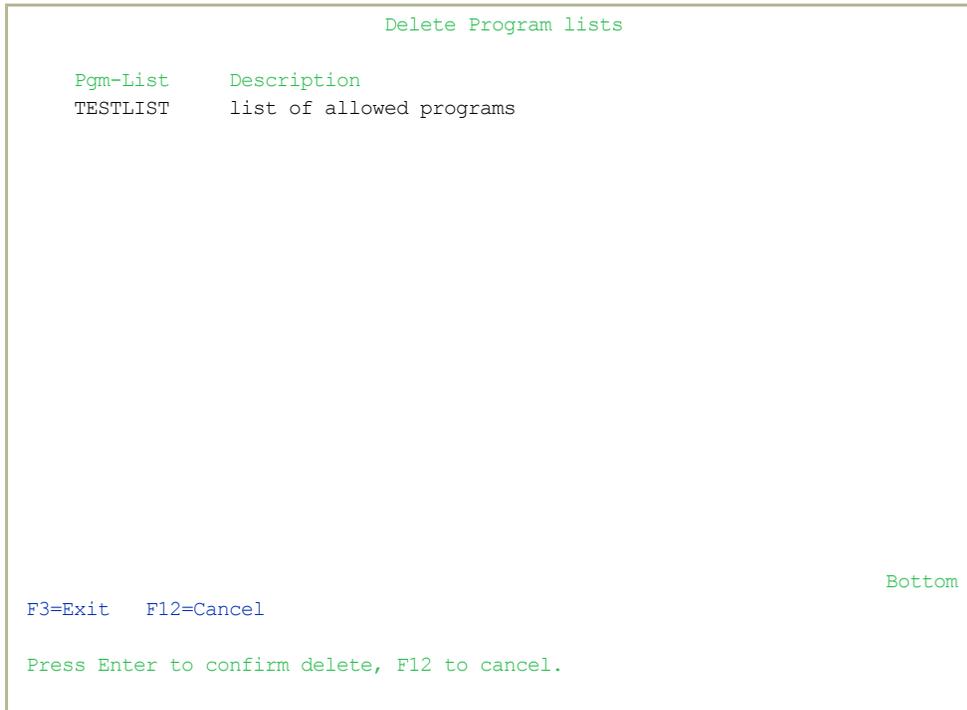
Enter the name of the new whitelist in the **New Pgm-List** field and press the **Enter** key. The text "Modify data, or press Enter to confirm" appears at the bottom of the screen.

To **confirm** the copy, press **Enter**. The **Work with Program-Lists** screen reappears with the name of the new list displayed.

To **cancel** the copy, press the **F3=Exit** or **F12=Cancel** key. The **Work with Program-Lists** screen reappears, unchanged.

## Deleting Approved Program Whitelists

To **delete program lists**, enter "4" in the **Opt** field for each list on the **Work with Program-lists** screen (shown in "Working with Allowed Program Whitelists" on page 17). The **Delete Program Lists** screen appears.



```

Delete Program lists

Pgm-List      Description
TESTLIST      list of allowed programs

F3=Exit  F12=Cancel

Bottom

Press Enter to confirm delete, F12 to cancel.
```

The names of the program lists to be deleted appear in the **Pgm-List** field.

To **confirm** the deletion, press **Enter**. The **Work with Program-Lists** screen reappears with the names of the lists deleted.

To **cancel** the deletion, press the **F3=Exit** or **F12=Cancel** key. The **Work with Program-Lists** screen reappears, unchanged.

## Working with File Lists

You can create lists of files that you want Safe-Update to protect similarly.

To **create or manage** these lists, enter "1" on the command line of the **Definitions** screen (shown in "Defining Program and File Lists" on page 14). The **Work with File-Lists** screen appears.

```
Work with File-Lists                               Subset: _____
Type options, press Enter.
1=Select  3=Copy  4=Delete

Opt  File-List  Description
-    JASMIN     UVVVVVU
-    PRICES     Item's  prices management
-    SALARY     Salary management
-    SALARY2    Salary management

Bottom
File-lists are used to restrict work-orders and tickets to certain files only.
Specification can be done using generic* or *ALL for both Library and Name.
F3=Exit  F6=Add new  F12=Cancel
```

The screen shows the name and a description of each File List that exists on your system. To change the contents of a list, type "1" in the **Opt** field of the line showing the list that you want to change and press **Enter**. The **Change File-List** screen (shown in "Changing File Lists" on page 25) appears.

To **copy** a File List, enter "3" in the **Opt** field. The **Copy File-Lists** screen (shown in "Copying File Lists" on page 26) appears.

To **delete** a File List, enter "4" in the **Opt** field. The **Delete File-Lists** screen (shown in "Deleting File Lists" on page 27) appears.

To **add** a new list, press the **F6=Add New** key. The **Create File-List** screen (shown in "Adding File Lists" on the next page) appears.





## Copying File Lists

To **copy** a file list, enter "3" in the **Opt** field for the file list on the **Work with File-Lists** screen (shown in "Working with File Lists" on page 23). The **Copy File-List** screen appears.

```
Copy File-List

Type choices, press Enter.

From:
File-List . . . . . SALARY

To:
New File-List . . . . . SALARY3

F3=Exit  F12=Cancel
```

The name of the file list to be copied appears in the **File-List** field.

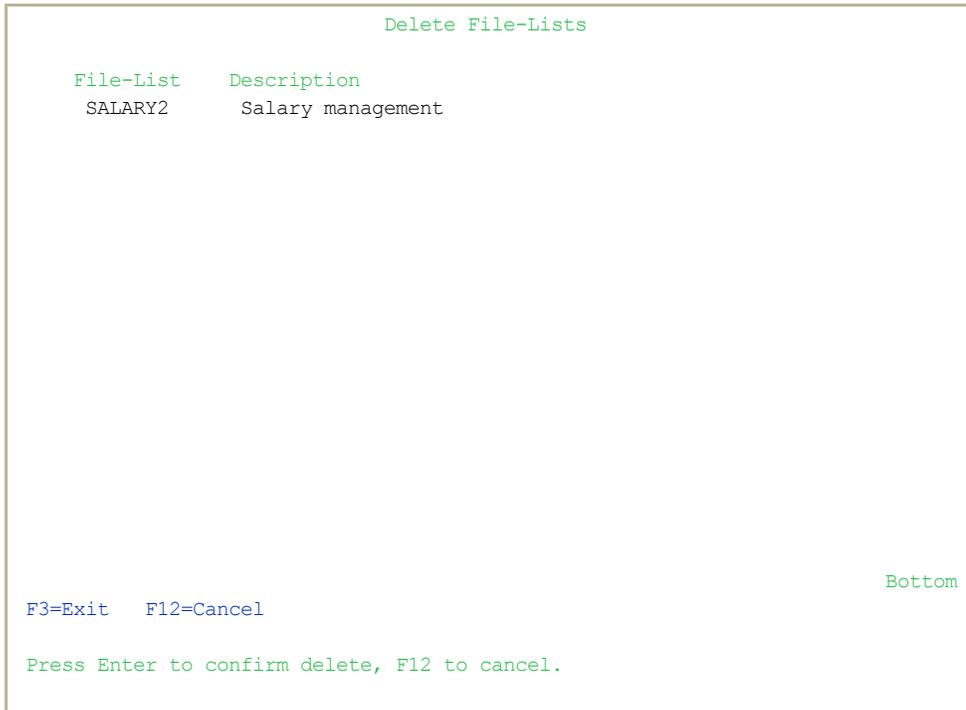
Enter the name of the new file list in the **New File-List** field and press the **Enter** key. The text "Modify data, or press Enter to confirm" appears at the bottom of the screen.

To **confirm** the copy, press **Enter**. The **Work with File-Lists** screen reappears with the name of the new list displayed.

To **cancel** the copy, press the **F3=Exit** or **F12=Cancel** key. The **Work with File-Lists** screen reappears, unchanged.

## Deleting File Lists

To **delete a file list**, enter "4" in the **Opt** field for the file list on the **Work with File-Lists** screen (shown in "Working with File Lists" on page 23). The **Delete File-Lists** screen appears.



File-List	Description
SALARY2	Salary management

F3=Exit F12=Cancel

Bottom

Press Enter to confirm delete, F12 to cancel.

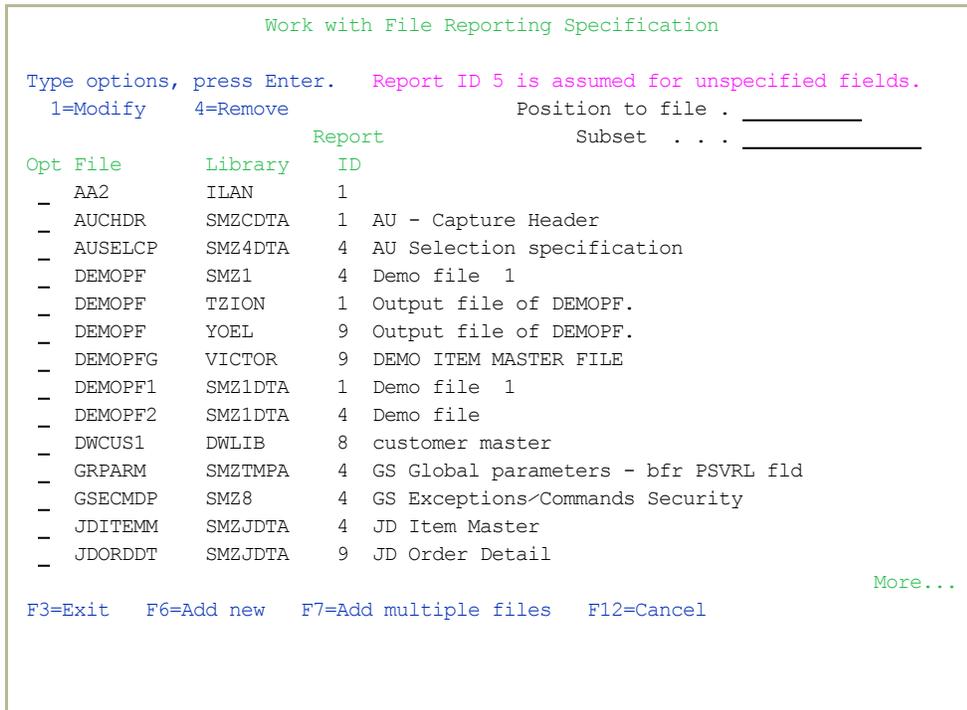
The name of the file list to be deleted appears in the **File-List** field.

To **confirm** the deletion, press **Enter**. The **Work with File-Lists** screen reappears with the name of the list deleted.

To **cancel** the deletion, press the **F3=Exit** or **F12=Cancel** key. The **Work with File-Lists** screen reappears, unchanged.

## Working with File Reporting Specifications

To indicate which fields in a file are listed in reports from Safe-Update, enter "5" from the **Definitions** screen (shown in "Defining Program and File Lists" on page 14). The **Work with File Reporting Specifications** screen appears.



For each file, it shows the **Filename** and **Library**, a brief text description, and a numeric **Report ID**. The **Report ID** field can have the following values:

- 1: Reports contain user-selected fields and changed fields
- 2: Reports contain user-selected fields and changed fields. If a record is completely added or deleted, the report contains all its fields.
- 4: Reports contain key fields and changed fields.
- 5: Reports contain key fields and changed fields. If a record is completely added or deleted, the report contains all its fields.
- 8: Reports contain user-selected fields.
- 9: Reports contain all fields.

To **modify** the list of fields that appear in a report on a file, enter "1" in the **Opt** field for that file. The **Modify File Reporting Specification** screen (shown in "Modifying File Reporting Specifications" on page 35) appears.

To **remove** a file from the list, enter "4" in the **Opt** field for that file. The **Remove File Reporting Specification** screen (shown in "Removing File Reporting Specifications" on page 37) appears.

To **add a specification for a single file**, press the **F6=Add new key**. The **Add File Reporting Specification** screen (shown in "Adding File Reporting Specifications" on the next page) appears.

To **add specifications for multiple files**, press the **F7=Add multiple files** key. The **Add Multiple File Reporting** screen (shown in "Adding Field Specifications for Multiple Files" on page 33) appears.

## Adding File Reporting Specifications

To specify which fields will appear in reports for an additional file, press the **F6=Add new** key on the **Work with File Reporting Specifications** screen (shown in "Working with File Reporting Specifications" on page 28). The **Add File Reporting Specification** screen appears.

```

                                Add File Reporting Specification

Type choices, press Enter.

File . . . . . DEMOFF      Name
Library . . . . . SMZ1DTA   Name

Report ID (Data to output) 4      1=User select + Changed fields
                                   2=Same. All fields on Add/Delete
                                   4=Key fields + Changed fields
                                   5=Same. All fields on Add/Delete
                                   8=User select, 9=All fields

Define data conversions . Y      Y=Yes, N=No
Define conversions to be made between internal and external representation.

F3=Exit   F4=Prompt   F12=Cancel
```

Enter the name of the file in the **File** field and the name of the library containing the file in the **Library** field. For each field, you can see a list of choices by pressing the F4=Prompt key.

The **Report ID** field indicates the fields that Safe-Update lists in reports when a record in the file is changed. It can have these numeric values:

- 1: Reports contain user-selected fields and changed fields
- 2: Reports contain user-selected fields and changed fields. If a record is completely added or deleted, the report contains all its fields.
- 4: Reports contain key fields and changed fields.
- 5: Reports contain key fields and changed fields. If a record is completely added or deleted, the report contains all its fields.
- 8: Reports contain user-selected fields.
- 9: Reports contain all fields.

To **define** how data fields will be converted between internal and external representations, set the **Define data conversions** field to "Y" and press **Enter**. The **Select Fields to Convert** screen (shown in "Selecting Fields to Convert" on the next page) appears.

To **save** the field specifications and exit, press **Enter**. The **Work with File Reporting Specifications** screen reappears with the file added.

To **exit** without saving the field specifications, press the **F3=Exit** or **F12=Cancel** key. The **Work with File Reporting Specifications** screen reappears without adding the file.

## Selecting Fields to Convert

The **Select Fields to Convert** screen defines how data fields will be converted between internal and external representations in creating reports.

```
File: DEMOPF~SMZ1DTA

Type conversion type (Cvt), press Enter.

Cvt  Key Field      Description      Attributes
-   1  ITEMNO         Item number     A      6
-   SDESCR        Description (truncated)  A     12
-   VEND#         Item vendor     S     4, 0
-   QTYOH         Qty On Hand     B     5, 0
-   QTYOO         Qty On Order    B     4, 0
-   PRICE         Price           P     5, 2
-   PRCDAT        Price date YY.MM  S     6, 0
-   PRCCHG        Price change in-% P     5, 3
-   SALES#        Salesman        P     4, 0
-   DESCR         Description     A     30
-   CSL01         1st Quarter sales P     6, 2
-   CSL02         2nd Quarter sales P     6, 2
-   CSL03         3rd Quarter sales P     6, 2
-   CSL04         4th Quarter sales F     4, 2
                                     Bottom
F3=Exit          F12=Cancel
```

Enter the code for the conversion of each field in the **Cvt** column in the line for that field. To see a list of available conversions for a field and select from them, place the cursor in that field and press the **F4** key. A window appears from which you can select the conversion.

To exit this screen and **save** the list of conversions, press **Enter**.

To exit this screen **without saving** the conversions, press the **F3=Exit** or **F12=Cancel** key.

## Adding Field Specifications for Multiple Files

To specify which fields will appear in reports for multiple additional files, press the **F7=Add multiple files** key on the **Work with File Reporting Specifications** screen (shown in "Working with File Reporting Specifications" on page 28). The **Add Multiple File Reporting** screen appears.

```

                                Add multiple Files Reporting

Type choices, press Enter.

File . . . . .          *ALL          *ALL, generic*
Library . . . . .       _____      Name, generic*

Print options
Data to output . . . . .  4             1=User select + Changed fields
                                   2=Same. All fields on Add/Delete
                                   4=Key fields + Changed fields
                                   5=Same. All fields on Add/Delete
                                   8=User select
                                   9=All fields

F3=Exit      F4=Prompt      F12=Cancel
```

Enter the generic name of the files in the **File** field and the name or generic name of the library containing the files in the **Library** field. For each field, you can see a list of choices by pressing the **F4=Prompt** key.

The **Report ID** field indicates the fields that Safe-Update lists in reports when a record in each file is changed. It can have these numeric values:

- 1: Reports contain user-selected fields and changed fields
- 2: Reports contain user-selected fields and changed fields. If a record is completely added or deleted, the report contains all its fields.
- 4: Reports contain key fields and changed fields.
- 5: Reports contain key fields and changed fields. If a record is completely added or deleted, the report contains all its fields.
- 8: Reports contain user-selected fields.
- 9: Reports contain all fields.

To **save** the field specifications and exit, press **Enter**. The **Work with File Reporting Specifications** screen reappears with the files added.

To **exit** without saving the field specifications, press the **F3=Exit** or **F12=Cancel** key. The **Work with File Reporting Specifications** screen reappears without adding the files.

## Modifying File Reporting Specifications

To modify the specifications of which fields from a file appear in reports, enter "1" in the **Opt** field for that file on the **Work with File Reporting Specifications** screen (shown in "Working with File Reporting Specifications" on page 28). The **Modify File Reporting Specifications** screen appears.

```
Modify File Reporting Specification

Type choices, press Enter.

File . . . . . DEMOPF      Name
Library . . . . . SMZ1      Name

Report ID (Data to output) 4      1=User select + Changed fields
                                     2=Same. All fields on Add/Delete
                                     4=Key fields + Changed fields
                                     5=Same. All fields on Add/Delete
                                     8=User select, 9=All fields

Define data conversions . N      Y=Yes, N=No
Define conversions to be made between internal and external representation.

F3=Exit      F12=Cancel
```

The **File** and **Library** fields indicate the File and Library for which you are setting the specification.

The **Report ID** is a numeric field showing which fields to include in reports:

- 1: Reports contain user-selected fields and changed fields
- 2: Reports contain user-selected fields and changed fields. If a record is completely added or deleted, the report contains all its fields.
- 4: Reports contain key fields and changed fields.
- 5: Reports contain key fields and changed fields. If a record is completely added or deleted, the report contains all its fields.
- 8: Reports contain user-selected fields.
- 9: Reports contain all fields.

To **define how data fields will be converted** between internal and external representations, set the **Define data conversions** field to "Y" and press **Enter**. The **Select Fields to Convert** screen (shown in "Selecting Fields to Convert" on page 32) appears.

To **save** the field specifications and exit, press **Enter**. The **Work with File Reporting Specifications** screen reappears with the file added.

To **exit** without saving the field specifications, press the **F3=Exit** or **F12=Cancel** key. The **Work with File Reporting Specifications** screen reappears without adding the file.

## Removing File Reporting Specifications

To **revert the specification for a file to the default**, enter "4" in the **Opt** field for that file on the **Work with File Reporting Specifications** screen (shown in "Working with File Reporting Specifications" on page 28). The **Remove File Reporting Specification** screen appears.

By default, when Safe-Update reports on a file whose records had changed, it includes the key fields and changed fields for those records. When records are added or deleted, it includes all the fields for those records.

```
Remove File Reporting Specification

Press Enter to confirm remove.
Press F12 to cancel and return without removing.

File      Library
JDITEMM   SMZJDTA

Bottom

F3=Exit   F12=Cancel
```

To **confirm** that you want to revert the specifications for the file to the default, press **Enter**. The **Work with File Reporting Specifications** screen returns, with the files whose specifications had reverted removed.

To **cancel** the reversion, press the **F3=Enter** or **F12=Cancel** key. The **Work with File Reporting Specifications** screen returns, unchanged.



# Protecting Files

Safe-Update uses file triggers to protect files. Whenever a program attempts to insert, update, or delete data in a file that Safe-Update protects, it checks whether the change is allowed and stops those that are not.

To **work with protected files**, enter "1" on the command line of the Safe-Update **Main Menu** screen. The **Protect Physical Files** screen appears.

```
Protect Physical files

Type options, press Enter.
1=Modify      3=Copy definitions  4=Remove protection  6=Activate  8=Deactivate
              7=Temporary disable

Allowed
Opt  File      Library  Programs
-    AUSYSID   ALEX     ACCOUNT   System id
-    DEMOPF    SMZ1DTA  *REGULAR  Demo file 1
-    DEMOPF    VICTOR   *REGULAR  DEMO ITEM MASTER FILE
-    DEMOPF    YOEL     ACCOUNT   Demo file
-    DEMOPF1   ALEX     *REGULAR  Demo file 1
-    DEMOPF1   SMZ1DTA  *REGULAR  Demo file 1
-    DEMOPF5   YOEL     *REGULAR  Demo file
-    DSPJOBLOG YOEL     ACCOUNT   Demo file
-    DSPOBJD   YOEL     ACCOUNT   Demo file
-    SUDEMO1   YOEL     *REGULAR  FOR TESTING COPY DEFINITIONS
-    SUDEMO2   YOEL     *REGULAR  FOR TESTING COPY DEFINITIONS
More...

Logical files are protected by the associated physical files
Protection is based on DB Triggers. ■ =Active.   =Temporary Disabled.
F3=Exit      F6=Add New   F12=Cancel
```

For each file, it shows

- The name and protection status of the file.
  - If file protection is active, the name is on white text on a dark background.
  - If file protection is inactive, the name of the program is in dark text on a white background.
- The library containing the file.
- Either
  - the name of a whitelist, as defined on the Work with Program Lists screen (shown in "Working with File Lists" on page 23), or

- the string "`*REGULAR`", which indicates that any program that is not in the blacklist defined on the **Change File Editors** screen (shown in "Working with the File Editor Blacklist" on page 16) may update the file.
- A text description of the file.

To **activate** protection for a file, enter "6" in the **Opt** field for the file.

To **deactivate** protection for a file, enter "8" in the **Opt** field for the file.

To **remove** protection for a file, enter "4" in the **Opt** field for the file.

To **modify** protection for a file, enter "1" in the **Opt** field for the file.

The [Modify Protection of File](#) screen (shown in "Modifying Protection for Files" on page 43) appears.

To **add** protection for a file, press the **F6-Add New** key. The [Add Protection of File](#) screen (shown in "Adding Protection to Files" on the facing page) appears.

## Adding Protection to Files

To add protection to a file or group of files, press **F6=Add New** from the **Protect Physical Files** screen (shown in "Protecting Files" on page 39). The **Add Protection to Files** screen appears.

```

Add Protection of File

File . . . . . _____ Name
Library . . . . . _____ Name
Secured File Description . _____

Reaction to UNALLOWED programs
Ticket Exists   Mode   Reaction   1-9   Reaction types
  No             Int      3         1-9   1=Reject
  No             Bch      1         1, 7, 9 2=Request Tkt+Pwd
  Yes            Int      7         1, 7, 9 3=Request Tkt
  Yes            Bch      7         1, 7, 9 5=< Remote permission >
                                     7=Allow with trace
                                     9=Allow without trace

ALLOWED updates
By authorized programs . .   *REGULAR   Named list, *REGULAR
- or -                       *REGULAR=All, except file editors
For non-critical fields .   Y           Y=Specify   e.g. description
Activate file protection .   Y           Y=Yes, N=No If not yet active

F3=Exit   F4=Prompt   F12=Cancel
  
```

Enter the name of the file in the **File** field.

Enter the name of the library containing the files in the **Library** field.

Enter a text description of the field in the **Secured File Description** field.

The **Updates are always allowed fields** show which programs are allowed to update the file.

The **By authorized programs** field can contain either:

- the name of a whitelist, as defined on the **Work with Program Lists** screen (shown in "Working with Allowed Program Whitelists" on page 17), or
- the string "**\*REGULAR**", which indicates that any program that is not in the blacklist defined on the **Change File Editors** screen (shown in "Working with the File Editor Blacklist" on page 16) may update the file.

To indicate that the file contains non-critical fields (such as many text descriptions) that any program may update, enter "Y" in the **For non-critical fields** field.

The **Reaction to UNALLOWED programs** fields show how Safe-Update is to react to attempts by programs that are not allowed to edit the files to update them.

The fields show four possible situations. The **Ticket Exists** field indicates whether a ticket has been issued for the change. The **Mode** field shows whether the program attempting to update the field is running interactively ("Int") or batch ("Bch").

For each of these possibilities, the **Reaction** field indicates which of a set of reactions would be used:

1. The update is rejected.
2. Safe-Update requests that the user enter both the ticket number and his system password (which is verified through an IBM API, and does not otherwise expose the password).
3. Safe-Update requests that the user enter the ticket number.
4. (Not used)
5. Safe-Update requires that the person who submitted the work order confirm the update via the **Work with Active Tickets** screen.
6. (not used)
7. The update is allowed. The system traces the work done.
8. (Not used)
9. The update is allowed without any trace.

The next, unlabeled field shows the possibilities for each combination of the **Ticket Exists** and **Mode** fields. For interactive updates without a ticket, any of the options may be chosen. For the other situations (batch updates without a ticket, or either interactive or batch updates with a ticket), it can be set to 1, 7, or 9.

When you have set all the relevant fields, press **Enter**. If you have set the For non-critical fields value to "Y", the **Define Non-Critical Fields** screen (shown in "Defining Non-Critical Fields" on page 45) appears. Otherwise, the **Protect Physical Files** screen (shown in "Protecting Files" on page 39) reappears.

# Modifying Protection for Files

To **modify protection** for a file or group of files, enter "1" in the **Opt** field for those files on the **Protect DB Files** screen (shown in "Protecting Files" on page 39). The **Modify Protection of File** screen appears.

```

Modify Protection of File

File . . . . . AUSYSID      Name
Library . . . . . ALEX       Name
Secured File Description . System id
-----
Reaction to UNALLOWED programs
Ticket Exists  Mode  Reaction  1-9  Reaction types
No            Int   3         1-9  1=Reject
No            Bch   1         1, 7, 9  2=Request Tkt+Pwd
Yes           Int   7         1, 7, 9  3=Request Tkt
Yes           Bch   7         1, 7, 9  5=< Remote permission >
                                     7=Allow with trace
                                     9=Allow without trace

ALLOWED updates
By authorized programs . .  *REGULAR  Named list, *REGULAR
- or -
For non-critical fields .  Y          Y=Specify  e.g. description

Activate file protection .  Y          Y=Yes, N=No  If not yet active

F3=Exit  F4=Prompt  F12=Cancel
  
```

The **Updates are always allowed fields** show which programs are allowed to update the file.

The **By authorized programs** field can contain either:

- the name of a whitelist, as defined on the **Work with Program Lists** screen (shown in "Working with Allowed Program Whitelists" on page 17), or
- the string "**\*REGULAR**", which indicates that any program that is not in the blacklist defined on the **Change File Editors** screen (shown in "Working with the File Editor Blacklist" on page 16) may update the file.

To indicate that the file contains non-critical fields (such as many text descriptions) that any program may update, enter "Y" in the **For non-critical fields** field.

The **Reaction to UNALLOWED programs** fields show how Safe-Update is to react to attempts by programs that are not allowed to edit the files to update them.

The fields show four possible situations. The **Ticket Exists** field indicates whether a ticket has been issued for the change. The **Mode** field shows whether the program attempting to update the field is running interactively ("Int") or batch ("Bch").

For each of these possibilities, the **Reaction** field indicates which of a set of reactions would be used:

1. The update is rejected.
2. Safe-Update requests that the user enter both the ticket number and his system password (which is verified through an IBM API, and does not otherwise expose the password).
3. Safe-Update requests that the user enter the ticket number.
4. (Not used)
5. Safe-Update requires that the person who submitted the work order confirm the update via the **Work with Active Tickets** screen.
6. (not used)
7. The update is allowed. The system traces the work done.
8. (Not used)
9. The update is allowed without any trace.

The next, unlabeled field shows the possibilities for each combination of the **Ticket Exists** and **Mode** fields. For interactive updates without a ticket, any of the options may be chosen. For the other situations (batch updates without a ticket, or either interactive or batch updates with a ticket), it can be set to 1, 7, or 9.

When you have set all the relevant fields, press **Enter**. If you have set the For non-critical fields value to "Y", the **Define Non-Critical Fields** screen (shown in "Defining Non-Critical Fields" on the facing page) appears. Otherwise, the **Protect Physical Files** screen (shown in "Protecting Files" on page 39) reappears.

# Defining Non-Critical Fields

To define which fields within a data file may be updated without tickets, set the **For non-critical fields** field to  $\gamma$  from either the **Add Protection of Files** screen (shown in "Adding Protection to Files" on page 41) or the **Modify Protection of Files** screen (shown in "Modifying Protection for Files" on page 43) for that file, then press **Enter**. The **Define Non-Critical Fields** screen appears.

```
ALEX/AUSYSID          Define Non-Critical Fields

Type choices, press Enter.
  1=Non-Critical Field. Any program or file-editor may change this field.

Opt Key Field          Description          Attributes
  1   ASTEXT           SYSTEM DESCRIPTION      A    50
  -   ASRLNB           SERIAL NUMBER           A     8
  -   ASYSNM           SYSTEM NAME              A     8

F3=Exit                F12=Cancel              Bottom
```

To mark any field as **non-critical**, enter "1" in the **Opt** column for that field, then press **Enter**. Any program will then be able to alter the field, whether or not it is in the whitelist or blacklist for that file.

To mark a field that had been marked as non-critical as being **significant**, remove the **1** from its **Opt** column.

The screen from which you accessed this screen reappears.



# Working with Work Orders

---

Safe-Update uses a system of work orders and tickets to allow users to update files using programs that are usually not allowed. Work orders can be issued by members of management.

Authorized users can designate people as appropriate management by selecting 89. Base Support from the Safe-UpdateMain Menu, then selecting 11. Work with Operators from the **BASE Support** screen.

To **work with work orders**, enter 11 on the command line of the Safe-UpdateMain Menu. The **Work with Work Orders** screen appears.

```
Work with Work-Orders
Type options, press Enter.
1=Select 4=Delete 5=Related tickets 9=End Request
Subset: _____
Orders: _____ - _____
Dates : 10101 - 999999
Active: Y Y/N/A=ALL
Opt Order Reason Act Valid Until
_ 000096 desc23 Y 24-06-19

F3=Exit F6=Add new F12=Cancel Bottom
```

The Active field determines which work orders are displayed.

- **Y**: Active orders only
- **N**: Inactive orders only
- **A**: All orders, active or inactive

For each work order, the screen shows the fields:

- **Order**: a unique order number for the work order
- **Reason**: a text description of the order

- **Act:** set to "Y" if the work order is active or "N" if it is not
- **Valid Until:** the last date on which the ticket is or was valid.

To **add** a new work order, press the **F6=Add New** key. The **Add Work-Order** screen (shown in "Adding Work Orders" on the facing page) appears.

To **modify** a particular work order, enter "1" in the **Opt** field for that work order. The **Modify Work Order** screen (shown in "Modifying Work Orders" on page 51) appears.

To **delete** a work order, enter "4" in the **Opt** field for that work order. The **Delete Work-Order** screen (shown in "Deleting Work Orders" on page 53) appears.

To **view tickets** related to a work order, enter "5" in the **Opt** field. The **Display Safe-Update History** screen (shown in "Displaying Ticket History" on page 66) appears.

# Adding Work Orders

To add Safe-Update work orders, press the **F6=Add New** key on the **Work with Work Orders** screen (shown in "Working with Work Orders" on page 47 ). The **Add Work-Orders** screen appears.

```

                                     Add Work-Order
Work-Order . . . . . *AUTO           Name, *AUTO
Expiration date . . . . . *TOMORROW    Date, *TOMORROW, *CURRENT
Reference ID . . . . . _____
Description . . . . . _____
                                     _____
To be performed by . . . . . *ALL       User, GrpPrf, *ALL
On file-list or *BYFILE . . . *BYFILE  Name, *BYFILE
If *BYFILE: File* . . . . . *NONE      Name, generic*, *NONE
      Library* . . . . . *ALL          Name, generic*
Maximum tickets . . . . . 99           0-98, 99=*NOMAX
Relevant PC document . . . . . _____
                                     _____
Last Update Date and User   0/00/00

System enables use of Ad-hoc tickets.
F3=Exit  F4=Prompt  F12=Cancel
```

The screen contains the following fields:

- **Work-Order:** A name for the work order. If you set this to \*AUTO, Safe-Update automatically assigns a work order number.
- **Expiration date:** The date on which the work order expires, You can set this to a particular date or to \*CURRENT (to expire at the end of the current day) or \*TOMORROW (to expire at the end of the following day).
- **Reference ID:** A free-form reference ID for the work order.
- **Description:** A free-form text description of the work order.
- **To be performed by:** The ID of a user or group who may do work under this order. Press the **F4=Prompt** key to select from a list. Set it to \*ALL if anyone can work under it.

- **On File list** or **\*BYFILE**: You can indicate the files that can be updated under this work order in two ways:
  - **File list**: the name of a file list that may be updated under this work order. The lists are defined on the **Work with File Lists** screen (shown in "Working with File Lists" on page 23). Press the **F4=Prompt** key to select from a list of existing lists.
  - **File and Library**: A specific or generic name for the files and libraries containing the files that may be updated. To use this, set the **On File** list or **\*BYFILE** field to **\*BYFILE**.
- **Maximum tickets**: The maximum number of tickets that can be issued under this work order. Enter a value from 0 to 98, or 99 if there is no maximum.
- **Relevant PC Document**: The location of a document that describes the updates, if one exists.

When you have finished entering the information for the work order, press **Enter**. The **Work with Work Orders** screen reappears.

# Modifying Work Orders

To **modify an existing work order**, enter "1" in the **Opt** field for that work order on the **Work with Work Orders** screen (shown in "Working with Work Orders" on page 47). The **Modify Work-Orders** screen appears.

```

                                Modify Work-Order

Work-Order . . . . . 000096

Reference ID . . . . . REF23
Description . . . . . desc23
_____
_____

To be performed by . . . . JR          User, GrpPrf, *ALL
On file-list or *BYFILE . *BYFILE   Name, *BYFILE
If *BYFILE: File* . . . . *NONE     Name, generic*, *NONE
      Library* . . . . . *ALL       Name, generic*
Maximum tickets . . . . . 99         0-98, 99=*NOMAX  Current 4
Relevant PC document . . . . _____
_____

Active . . . . . Y                 Y=Yes, N=No
Last Update Date and User 23-06-19 JR
Activated on . . . . . 23-06-19 10:39:09
Expires on . . . . . 24-06-19 23:59:59

System enables use of Ad-hoc tickets.
F3=Exit  F4=Prompt  F12=Cancel
  
```

The screen contains the following fields:

- **Work-Order:** A name for the work order. If you set this to \*AUTO, Safe-Update automatically assigns a work order number.
- **Expiration date:** The date on which the work order expires, You can set this to a particular date or to \*CURRENT (to expire at the end of the current day) or \*TOMORROW (to expire at the end of the following day).
- **Reference ID:** A free-form reference ID for the work order.
- **Description:** A free-form text description of the work order.
- **To be performed by:** The ID of a user or group who may do work under this order. Press the **F4=Prompt** key to select from a list. Set it to \*ALL if anyone can work under it.

- **On File list** or **\*BYFILE**: You can indicate the files that can be updated under this work order in two ways:
  - **File list**: the name of a file list that may be updated under this work order. The lists are defined on the **Work with File Lists** screen (shown in "Working with File Lists" on page 23). Press the **F4=Prompt** key to select from a list of existing lists.
  - **File and Library**: A specific or generic name for the files and libraries containing the files that may be updated. To use this, set the **On File list** or **\*BYFILE** field to **\*BYFILE**.
- **Maximum tickets**: The maximum number of tickets that can be issued under this work order. Enter a value from 0 to 98, or 99 if there is no maximum.
- **Relevant PC Document**: The location of a document that describes the updates, if one exists.
- **Active**: "Y" if the work order is active, "N" if it is not.
- **Activated on**: The date and time that the work order was activated.
- **Expires on**: The date and time that the work order expired or will expire.

When you have finished entering the information for the work order, press **Enter**. The **Work with Work Orders** screen reappears.

## Deleting Work Orders

To **delete an existing work order**, enter "4" in the **Opt** field for that work order on the **Work with Work Orders** screen (shown in "Working with Work Orders" on page 47). The **Delete Work-Orders** screen appears.

```
Delete Work-Order

Order Reason
000096 desc23

F3=Exit F12=Cancel

Press Enter to confirm DELETE or F12 to cancel

Bottom
```

To **confirm** the deletion, press **Enter**.

To **cancel** the deletion, press the **F12** key.

The **Work with Work Orders** screen reappears.



# Working with Tickets

Safe-Update tickets permit users to update files in ways not generally allowed by the files' blacklists or whitelists. Tickets are generally created under work orders (as described in "Working with Work Orders" on page 47) but may also be issued on an ad-hoc basis.

You can perform most tasks regarding tickets by using these items on the Safe-Update Main Menu.

```
JCSAFUPD                               Safe Update                               iSecurity
                                         Regulate File Editors Usage         System: S520

Protect                                  Reporting & Working
 1. Protect Physical files                41. Active Tickets
 2. Pending Permission Requests           42. Display history          WRKSUHST
 5. Definitions                           43. Display updates         WRKBYTKT

Tickets by Work-Order                    Related Products/Options
11. Work with Work-Orders                 61. Application Journal
12. Set Work-Order Ticket SETWOTKT        62. Display File Journal    DSPDBJRN
                                         63. Display Journal         DSPAPCRJ

Ad-Hoc Tickets
21. Set Ad-Hoc Ticket SETAHTKT

General Tickets Activities                Maintenance
31. Display Ticket DSPTKT                 81. System Configuration
32. End Ticket ENDTKT                    82. Maintenance Menu
                                         89. Base Support

Selection or command
==> _____

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel
F13=Information Assistant  F16=AS/400 main menu
Type option number or command.
```

To **set tickets under work orders**, enter "12". The **Set Work-Order Ticket (SETWOTKT)** screen (shown in "Setting Tickets under Work Orders" on page 57) appears.

To **set an ad-hoc ticket**, enter "21". The **Set Ad-Hoc Ticket (SETAHTKT)** screen (shown in "Setting Ad-Hoc Tickets without Work Orders" on page 59) appears.

To **display information about tickets**, enter "41". The **Work with Operations by Ticket** screen (shown in "Displaying Active Tickets" on page 61) appears.

To **end tickets**, enter "32". The **End Ticket (ENDTKT)** screen (shown in "Ending Active Tickets" on page 63) appears.

# Setting Tickets under Work Orders

To set tickets under work orders, select "12" from the Safe-Update Main Menu. The **Set Work-Order Ticket (SETWOTKT)** screen appears.

Each user or job may only have one ticket open at a time, though the ticket may refer to multiple files.

```
Set Work-Order Ticket (SETWOTKT)

Type choices, press Enter.

Work-order . . . . . Work-order, *SELECT
Ticket in work-order . . . . . *AUTO Ticket, *AUTO
To be used by current . . . . . *USER *JOB, *USER
Ends if not used for . . . . . 10 Minutes, *NOMAX
Valid for . . . . . *NOMAX Minutes, 1H, 2H...24H=*NOMAX
DB operations allowed . . . . . *NOMAX Number, *NOMAX
Request permission or Approved *APPR *APPR, *RQST

Bottom
F3=Exit F4=Prompt F5=Refresh F12=Cancel F13=How to use this display
F24=More keys
```

The screen has the following fields:

- **Work-order:** Enter the order number of an existing work order or "\*SELECT" to choose from a list.
- **Ticket in work-order:** Enter a specific ticket number or "\*AUTO" to have one assigned automatically.
- **To be used by current:** Enter "\*USER" if it may be used anywhere by the current user or "\*JOB" if it may only be used by the current job.
- **Ends if not used for:** Enter a number of minutes. If the ticket is inactive for that amount of time, it is closed. Enter "\*NOMAX" if the ticket will never time out due to inactivity.

- **Valid for:** Enter either a number of minutes or a number of hours between **1** and **23** (as a number followed by an "H") after which the ticket ends. Enter "24H" to let it continue indefinitely.
- **DB operations allowed:** The number of database operations allowed under this ticket. Enter "\*NOMAX" to allow an unlimited number of operations.
- **Request permission or approved:** Set this to "\*APPR" if the ticket is pre-approved or "\*RQST" if you need to request permission.

Press **Enter** to set the ticket. The Safe-Update Main Menu reappears.

# Setting Ad-Hoc Tickets without Work Orders

If you have the appropriate authority, you can **set ad-hoc tickets** without work orders. To set them, enter "21" on the command line on the Safe-Update Main Menu. The **Set Ad-Hoc Ticket** screen appears.

Each user or job may only have one ticket open at a time, though the ticket may refer to multiple files.

```

Set Ad-Hoc Ticket (SETAHTKT)

Type choices, press Enter.

Ad-Hoc ticket . . . . . _____ Ad-Hoc ticket, *AUTO
Reference ID . . . . . _____
Reason . . . . . _____

-----

Limit to file-list / *BYFILE . . *NONE      *BYFILE, JASMIN, PRICES, SALAR
If *BYFILE: File . . . . . *ALL        Name, generic*, *ALL
      Library . . . . . *ALL        Name, generic*, *ALL
To be used by current . . . . . *USER      *JOB, *USER
Ends if not used for . . . . . 10         Minutes, *NOMAX
Valid for . . . . . *NOMAX      Minutes, 1H, 2H...24H=*NOMAX
DB operations allowed . . . . . *NOMAX      Number, *NOMAX
Request permission or Approved *APPR      *APPR, *RQST

Bottom
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
  
```

The screen has the following fields:

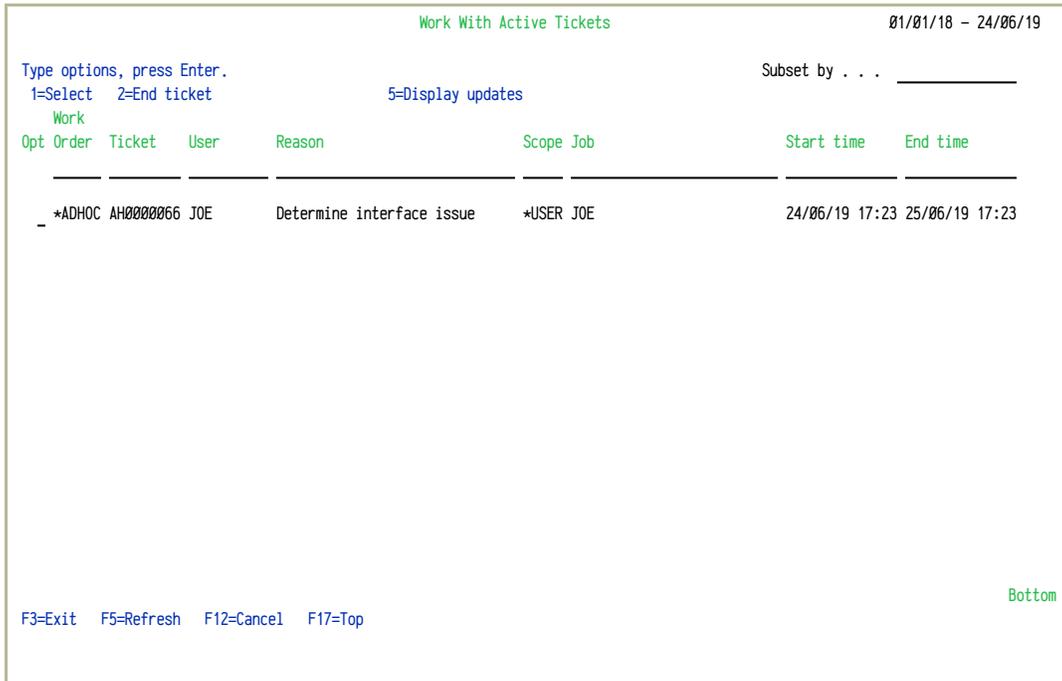
- **Ad-Hoc ticket:** Enter a specific ticket number or "\*AUTO" to have one assigned automatically.
- **Reference ID:** A free-form reference ID for the ticket.
- **Reason:** A text description of why you are creating the ticket.
- **Limit to file-list / \*BYFILE:** Either the name of a file list, as defined on the **Work with File-Lists** screen (shown in "Working with File Lists" on page 23) or the string "\*BYFILE" to enter a file name in the next field.

- If **\*BYFILE**: Two fields to designate the file affected by the ticket:
  - **File**: The name or generic name of the file, or "\*ALL" if the ticket is for all files in the library named in the next field.
  - **Library**: The name or generic name of the library containing the file, or "\*ALL" if the ticket is for all libraries.
- **To be used by current**: Enter "\*USER" if it may be used anywhere by the current user or "\*JOB" if it may only be used by the current job.
- **Ends if not used for**: Enter a number of minutes. If the ticket is inactive for that amount of time, it is closed. Enter "\*NOMAX" if the ticket will never time out due to inactivity.
- **Valid for**: Enter either a number of minutes or a number of hours between **1** and **23** (as a number followed by an "H") after which the ticket ends. Enter "24H" to let it continue indefinitely.
- **DB operations allowed**: The number of database operations allowed under this ticket. Enter "\*NOMAX" to allow an unlimited number of operations.
- **Request permission or approved**: Set this to "\*APPR" if the ticket is pre-approved or "\*RQST" if you need to request permission.

Press **Enter** to set the ticket. The Safe-Update Main Menu reappears.

## Displaying Active Tickets

To display information on active tickets, enter "41" from the command line from the **Safe-Update Main Menu**. The **Work with Active Tickets** screen appears.



The screenshot shows a terminal window titled "Work With Active Tickets" with a date range of "01/01/18 - 24/06/19". The interface includes a menu with options: "1-Select", "2-End ticket", "5-Display updates", and "Work". A "Subset by" field is present. The main area displays a table of active tickets with the following columns: Opt, Order, Ticket, User, Reason, Scope, Job, Start time, and End time. A single ticket is listed with the following details: Opt: \*, Order: ADHOC, Ticket: AH0000066, User: JOE, Reason: Determine interface issue, Scope: \*USER, Job: JOE, Start time: 24/06/19 17:23, and End time: 25/06/19 17:23. At the bottom, there are function key instructions: "F3=Exit", "F5=Refresh", "F12=Cancel", "F17=Top", and a "Bottom" label.

Opt	Order	Ticket	User	Reason	Scope	Job	Start time	End time
*	ADHOC	AH0000066	JOE	Determine interface issue	*USER	JOE	24/06/19 17:23	25/06/19 17:23

The screen displays the following fields for each ticket:

- **Order:** The work order under which it was submitted, or "\*ADHOC" for ad hoc tickets.
- **Ticket:** The ticket's ID number or name.
- **User:** The user to whom the ticket was issued.
- **Reason:** The free-form reason that the ticket was created.
- **Scope:** Whether the ticket was issued for a "\*JOB", a "\*USER", or for "\*ALL".
- **Start Time:** The date and time at which the ticket was started.
- **End Time:** The date and time at which the ticket is set to expire.

To display detailed information on a ticket, type "1" in the **Opt** field for the ticket and press **Enter**. The **Display Details** screen appears.

```

                                Display Details
Work order . . . . . *ADHOC
Ticket . . . . . AH000093
User . . . . . JR
Reason . . . . . reas070

Scope . . . . . *USER
Job . . . . . JR
Start time . . . . . 2019-07-07-10.08.20.332000
End time . . . . . 2019-07-08-10.08.20.332000
File list . . . . . *BYFILE
File . . . . . *ALL
Library . . . . . *ALL
Approved . . . . . A
Approver . . . . . JR

F3=Exit  F12=Cancel

```

The Display Details screen contains these additional fields:

- **File list:** If the ticket refers to a file list (as shown in "Working with File Lists" on page 23), the name of that list. To select from existing lists, press the **F4=Prompt** key. If the field is set to "**\*BYFILE**", the ticket refers to the file and library shown in the File and Library fields that follow.
- **Approved:** Set to "A" if the ticket has been approved.
- **Approver:** The username of the user who approved the ticket.

## Ending Active Tickets

To **end active tickets**, enter "41" from the command line from the **Safe-Update Main Menu**. The **Work with Active Tickets** screen (shown in "Displaying Active Tickets" on page 61) appears.

Opt	Order	Ticket	User	Reason	Scope	Job	Start time	End time
*	ADHOC	AH0000066	JOE	Determine interface issue	*USER	JOE	24/06/19 17:23	25/06/19 17:23

To **end a ticket**, type "2" in the **Opt** field for that ticket and press **Enter**.

To **exit** the screen, press the **F3=Exit** key. The **Safe-Update Main Menu** reappears.



# Displaying History and Updates

Within Safe-Update, you can run queries to see current and past tickets and the updates what were done using them.

```
JCSAFUPD                               Safe Update                               iSecurity
                                     Regulate File Editors Usage       System:  S520

Protect                                Reporting & Working
 1. Protect Physical files              41. Active Tickets
 2. Pending Permission Requests         42. Display history      WRKSUHST
 5. Definitions                         43. Display updates     WRKBYTKT

Tickets by Work-Order                  Related Products/Options
11. Work with Work-Orders               61. Application Journal
12. Set Work-Order Ticket SETWOTKT      62. Display File Journal DSPDBJRN
                                         63. Display Journal     DSPAPCRJ

Ad-Hoc Tickets
21. Set Ad-Hoc Ticket SETAHTKT

General Tickets Activities              Maintenance
31. Display Ticket DSPTKT               81. System Configuration
32. End Ticket ENDTKT                  82. Maintenance Menu
                                         89. Base Support

Selection or command
===> _____

F3=Exit  F4=Prompt  F9=Retrieve  F12=Cancel
F13=Information Assistant  F16=AS/400 main menu
Type option number or command.
```

To display a history of Safe-Update tickets, type "42" on the command line and press **Enter**. The **Display Safe-Update History (WRKSUHST)** screen (shown in "Displaying Ticket History" on the next page) appears.

To display a history of operations done under Safe-Update tickets, type "43" and press **Enter**. The **Work with Operations by Ticket** screen (shown in "Displaying Ticket Updates" on page 70) appears.

# Displaying Ticket History

To display a history of Safe-Update tickets, type "42" on the command line of the Safe-Update Main Menu and press Enter. The Display Safe-Update History (WRKSUHST) screen appears.

```

Display Safe-Update History (WRKSUHST)

Type choices, press Enter.

Display last minutes . . . . . *BYTIME      Number, *BYTIME
Active tickets . . . . . *ALL        *ALL, *YES, *NO
Starting date and time:
  Starting date . . . . . *PRVYEARS   Date, *CURRENT, *YESTERDAY...
  Starting time . . . . . 000000       Time
Ending date and time:
  Ending date . . . . . *CURRENT      Date, *CURRENT, *YESTERDAY...
  Ending time . . . . . 235959       Time
Scope of ticket . . . . . *ALL        *ALL, *JOB, *USER
User . . . . . *ALL          Name, generic*, *ALL
Reason includes the text . . . . .
Work order type . . . . . *ALL        *ALL, *WRKORD, *ADHOC
Work order:
  From order . . . . . *FIRST       Character value, *FIRST
  To order . . . . . *LAST        Character value, *ONLY, *LAST
Number of records to process . . *NOMAX      Number, *NOMAX
More...
F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel  F13=How to use this display
F24=More keys
  
```

With this screen, you can specify the information for a query about your Safe-Update tickets.

The screen contains the following fields:

- **Display last minutes:** To look at tickets for a period of time leading up to the present, enter the number of minutes. To use the fields for the Starting and Ending date and time, set this to `*BYTIME`.
- **Active tickets:** Specify whether you want to see
  - `*ALL`: All tickets
  - `*YES`: Only tickets that are currently active
  - `*NO`: Only tickets that are currently inactive

- **Starting date and time:** To see tickets within a certain range of time:
  - **Starting date:** Either a date in your system's standard date format or a text value representing a time. Press the **F4=Prompt** key in this field to see a list of these values.
  - **Starting time:** A time on that date, in HHMMSS format.
- **Ending date and time:** To see tickets within a certain range of time:
  - **Ending date:** Either a date in your system's standard date format or a text value representing a time. Press the **F4=Prompt** key in this field to see a list of these values.
  - **Ending time:** A time on that date, in HHMMSS format.
- **Scope of Ticket:** Whether the ticket could be used only by its current `*JOB`, its current `*USER`, or `*ALL` users.
- **User:** If the **Scope of Ticket** field is set to `*USER`, the name of the user, generic name of the group, or `*ALL`.
- **Reason includes the text:** A string that must appear within the free-form Reason value for the ticket.
- **Work order type:** Specify whether you want to see
  - `*WRKORD`: Tickets set under work orders
  - `*ADHOC`: Ad-hoc tickets
  - `*ALL`: All tickets
- **Work order:** A range of work orders. Leave these as `*FIRST` and `*LAST` to show all work orders. If the **Work order** type is set to `*WRKORD` or `*ADHOC`, all ad hoc tickets will be included.
- **Number of records to process:** The maximum number of records to process. Set to `*NOMAX` to process all records,
- **Output:** Where the output should appear:
  - `*`: Screen
  - `*PRINT`: Print
  - `*OUTFILE`: Send output to a file. If this is chosen, more fields appear to specify the file location.

To show the ticket history that you have specified, press **Enter**. The history listing appears:

Display Safe-Update History 01/01/18 - 07/07/19

Type options, press Enter. Subset by . . . \_\_\_\_\_

1=Select 5=Display updates

Work

Opt	Order	Ticket	User	Reason	Scope	Job	Start time	End time
-	*ADHOC	AH0000093	JR	reas070	*USER	JR	07/07/19 10:08	08/07/19 10:08
-	100	W0000056	JR	res272	*USER	JR	03/07/19 17:26	07/07/19 10:06
-	100	W0000055	JR	res272	*USER	JR	03/07/19 16:06	03/07/19 16:16
-	100	W0000054	JR	res272	*USER	JR	03/07/19 14:36	03/07/19 16:04
-	100	W0000053	JR	res272	*USER	JR	03/07/19 12:35	03/07/19 14:34
-	*ADHOC	AH0000091	AU	RES	*USER	AU	01/07/19 11:08	03/07/19 12:35
-	100	W0000051	JR	res272	*USER	JR	01/07/19 11:33	03/07/19 12:32
-	*ADHOC	AH0000092	VICTOR	QQQ	*USER	VICTOR	02/07/19 12:03	03/07/19 12:03
-	100	W0000052	JR	res272	*JOB	503605/JR/A2S520	01/07/19 15:01	02/07/19 15:01
-	*ADHOC	AH0000090	AU	asd	*USER	AU	01/07/19 10:41	02/07/19 10:41
-	*ADHOC	AH0000089	JR	REAS301	*USER	JR	30/06/19 11:35	30/06/19 12:24
-	*ADHOC	AH0000088	JR	reas300	*USER	JR	30/06/19 09:59	30/06/19 11:34
-	*ADHOC	AH0000087	JR	REAS277	*USER	JR	27/06/19 18:04	28/06/19 18:04
-	*ADHOC	AH0000086	JR	res268	*USER	JR	26/06/19 15:46	27/06/19 15:46
-	*ADHOC	AH0000084	JR	res265	*USER	JR	26/06/19 15:40	26/06/19 15:43
-	*ADHOC	AH0000085	JR	res268	*JOB	491652/JR/A2S520	26/06/19 15:40	26/06/19 15:41

More...

F3=Exit F5=Refresh F12=Cancel F17=Top

For each ticket, the screen shows the following fields:

- **Work Order:** The number of the work order under which the ticket was issued. For ad-hoc tickets, the field shows "\*ADHOC".
- **Ticket:** The ticket number
- **User:** The user to whom the ticket was issued.
- **Reason:** The free-form reason entered when the ticket was requested.
- **Scope:** The scope of the ticket, either \*USER or \*JOB.
- **Job:** If the scope of the ticket was \*JOB, the job identifier. If the scope was \*USER, the user to whom it was issued.
- **Start Time:** The time at which the ticket became effective.
- **End Time:** The time at which the ticket ended.

To see updates to files made under a ticket, enter "5" in the **Opt** field for that ticket. The **Work with Operations by Ticket** screen appears, as shown in "Displaying Ticket Updates" on the next page.

To see more details about a ticket, enter "1" in the **Opt** field for that ticket. The **Display Details** screen appears, as shown in "Displaying Active Tickets" on page 61.

## Displaying Ticket Updates

To display a history of updates done under Safe-Update tickets, type "43" on the command line of the **Safe-Update Main Menu** and press **Enter**. The **Work with Operations by Ticket** screen appears.

```
System: *LCL                Work with Operations by Ticket                24-06-19 18:07:09

Specify selection by name/generic*. Leave empty for all values.

Starting date/time.  23-06-19   0:00:00
Ending date/time   .  24-06-19   23:59:59
Ticket   . . . . .  _____
Work-Order . . . .  _____
Secured file . . .  _____          enter part of text
Reason   . . . . .  _____          enter part of text

File/Library/Member _____
Program/Library . .  _____
Performed by . . .  _____
Job/User/Num . . .  _____

Events Fr-To . . .  _____
Operation . . . . .  -              U=Upd, I=Ins, D=Dlt
Environment . . . .  -              I=Int, B=Bch

F3=Exit   F12=Cancel
```

To see all updates, press **Enter**.

To specify which updates to display, enter values into the relevant fields:

- **Starting date/time:** The date and time of the first update to display.
- **Ending date/time:** The date and time of the last update to display.
- **Ticket:** The ID of the ticket.
- **Work-Order:** The ID of the work order.
- **Secured File:** All or part of the name of a file affected by the update.
- **Reason:** Part of the reason given for the ticket.
- **File/Library/Member:** The names of the files, libraries, and members that the ticket affected.

- **Program/Library:** The programs and libraries that the ticket allowed to operate on the files.
- **Performed by:** The user who performed the update
- **Job/User/Num:** The jobs, users, and task numbers that could use the ticket.
- **Events Fr-To:** A range of system events that the updates were between.
- **Operation:** Enter **U** for updates, **I** for Inserts, or **D** for deletions.
- **Environment:** Enter **I** for Interactive or **B** for Batch.

When you have set all the needed fields, press **Enter**. The **Work with Operations by Ticket** screen displays a listing of the relevant tickets.

```

System: *LCL                Work with Operations by Ticket                18/06/19 - 24/06/19
Type options, press Enter.   File _____ Ticket _____
1=Header  5=Data  U=Undo     Program _____ Order _____
                                User _____

Opt      Ticket      Reason      Secured file
- 18/06/19 12:45 AH0000064 ce tano      DEMO ITEM MASTER FILE
- 20/06/19 14:47 WO0000043 Update customer name      DEMO ITEM MASTER FILE

                                Bottom

F3=Exit  F5=Refresh  F11=View 2  F13=Repeat  F14=Clear Repeat
F15=Subset      F17=Top      F18=Bottom

```

When it first appears, the listing shows the first few fields for each ticket.

To **cycle among further screens**, showing the rest of the fields, press the **F11** key. The **Opt** field for making selections remains in the leftmost column of each of the screens.

To **display the header information** about a ticket, type "1" in the **Opt** field for that ticket and press **Enter**. The **Header of Operations by Ticket** screen appears.

```

System: *LCL                Header of Operation by Ticket                24/06/19 18:22:13

Ticket . . . . . W00000043 For Work-Order
Event ID . . . . . 2526 20/06/19 14:47

Secured file . . . . . DEMO ITEM MASTER FILE
Operation . . . . . Update
Library-File Member, RRN.

Job . . . . . 487362 VICTOR      QPADEV000S Type INT

Reason . . . . . Update customer name

F3=Exit  F12=Cancel  PgDn=Data

```

This screen gathers together the fields of information about the ticket on a single screen.

To **display the changes made to data** under this ticket, press the **PgDn (Page Down)** key or type "5" in the **Opt** field for the record on the **Work with Operations by Ticket** screen and press **Enter**. The **Display Database Updates** screen appears.

```

Display Database Updates                RRN: 3
                                         UP Update
Date-Time .: 2019-07-07-10.08.20      Object . . .: ITMPRICE
Program . .: *CHGFC Library .: SMZ1      Library .: SMZ1DTA
Job . . . .: A2S520/JR/520003 INT      Member . .: DEMOPF
IP address : *NONE
User . . . .: JR JOURNAL

Field          After value          Before value
Item number    ILAN22                          ILAN22
Item vendor    18.                             18.
Qty On Order   351.                             135.

Bottom

F3=Exit  F9=132/80  F12=Cancel  F13=All fields

```

For each operation, the screen shows the field that was affected and its value before and after the change.

Many data updates can be undone. See "Undoing Ticket Updates" on the next page for information on undoing them.

# Undoing Ticket Updates

Updates done via tickets can be undone, though some restrictions exist.

To **attempt to undo an update**, type "u" in the **Opt** field for a ticket shown on the **Work with Operations by Ticket** screen (shown in "Displaying Ticket Updates" on page 70) and press **Enter**. The **Confirm Undo of a Record Change** screen appears.

```
Confirm Undo of a Record Change

Type choices, press Enter.

File . . . . . DEMOPF
  Library . . . . . VICTOR
Member . . . . . DEMOPF
RRN . . . . .      1
Operation . . . . . UP

Changed in job . . . QPADEV000S
By user . . . . . VICTOR
Date and Time . . . 2019-06-20-14.47.15.706448

*Undo is risky. It is based on RRN (Relative Record Number).
*It is impossible if Reorganize (RGZPFM) took place.

Proceed with Undo . _          Y=Yes, N=No

F12=Cancel
```

The screen shows information about the update and a reminder that undoing them is risky.

To **proceed** with the update, type "Y" in the **Proceed with Undo** field and press **Enter**.

```
Confirm Undo of a Record Change

Type choices, press Enter.

.....
:                               Cannot Complete Undo Operation                               :
:                                                                                               :
: File . . . . . VICTOR/DEMOPF (DEMOPF)                                                       :
: RRN . . . . .      1                                                                           :
: Trying to undo . UP                                                                           :
:                                                                                               :
: Reason . . . . . 1 Record has changed since last update.                                   :
:                                                                                               :
: Perform any way. N          Y=Yes, N=No A=Yes to all                                       :
:                                                                                               :
:                                                                                               :
: F12=Cancel  F5=Display entire entry                                                         :
:                                                                                               :
:.....

F12=Cancel
```

If undoing the update fails, the **Cannot Complete Undo Operation** dialog appears.

The window explains why the update failed and asks whether Safe-Update should try the undo again. To retry the update, type "Y" in the **Perform anyway** field and press **Enter**.





```

File   Control  Layout  Mode  Subset  Print  Window  Special
-----
18 records      Change file SMZ1DTA/ITMPRICE      mbr: DEMOPF
Control. _      (T=Top B=Bottom S=Split K=Key F4)      Fmt: ITEMAS
1st.Fld. 1      (n Name 0 /n F4)      Vpt: *NEW
Sc :
Re : User JOE      Confirm Change to Sensitive Data      Event      2634
Re : Update
Nu :
*R :      Updating this sensitive file requires an active ticket.
:
:      Use the appropriate function key to set a ticket,
:      or press F3 to Exit without update.
:
: F3=Exit      F10=Set Work-Order Ticket      F11=Set Ad-Hoc Ticket
:
4.  L0002C LETTER-OPEN      40.      217.      2525.      64.52      881005.
5.  MP0022 MARK PEN,BLz      12.-      218.      24.      128.05      211231.
6.  MP0022 MARK PEN,RED      13.      343.      37.      84.00      941216.
7.  PP001F NOTEPAD-A4,M      15.      344.      25.      61.12      91231.
8.  P0100X PENCILS-#2      41.      345.      218.      51.11      960106.
9.  P01033 PENCILS-#3      21.      123.      380.      186.81      941233.
Description (F9=Prv.):      JP001

```

To set a ticket under an existing work order, press **F10**. The **Set Work-Order Ticket** screen (shown in "Setting Tickets under Work Orders" on page 57) appears.

To set an ad hoc ticket, press **F11**. The **Set Ad-Hoc Ticket** screen (shown in "Setting Ad-Hoc Tickets without Work Orders" on page 59) appears.

If the update also requires that the user enter a password, another dialog appears after the **Confirm Change to Sensitive Data** window.

Enter your system password. (Since Safe-Update uses an IBM API to handle and confirm your password, the password is not exposed to Safe-Update.)

```

File   Control  Layout  Mode  Subset  Print  Window  Special
-----
18 records      Change file SMZ1DTA/ITMPRICE      mbr: DEMOFF
Control. _      (T=Top B=Bottom S=Split K=Key F4)      Fmt: ITEMAS
1st.Fld. 1      (n Name 0 /n F4)      Vpt: *NEW
Sc :
Re : User JOE      Confirm Change to Sensitive Data      Event      2635
Re : Update
Nu :
*R : Updating this sensitive file requires an active ticket. But, before
   : setting a ticket, re-confirm your identity by entering again your
   : password . . . .
   :
   : F3=Cancel
   :
4.  L0002C LETTER-OPEN      40.      217.      2525.      64.52      881005.
5.  MP0022 MARK PEN,BLz      12.-      218.      24.      128.05      211231.
6.  MP0022 MARK PEN,RED      13.      343.      37.      84.00      941216.
7.  PP001F NOTEPAD-A4,M      15.      344.      25.      61.12      91231.
8.  P0100X PENCILS-#2      41.      345.      218.      51.11      960106.
9.  P01033 PENCILS-#3      21.      123.      380.      186.81      941233.
Description (F9=Prv.):      JP0001

```

