

This is the tutorial for IBM's Fault Analyzer for z/OS[®], one of the IBM zSeries[®] problem determination tools.

- **Introduction**
 - Fault Analyzer overview
- **Fault Analyzer files**
 - Fault history files
 - Program side files and compiler listings
- **Real-time abend processing**
 - Real-time fault analysis



- **Using the on-line interface**
 - Opening a fault history file and using a view
 - Getting help
 - Finding and matching fault entries
 - Getting information about a fault entry
 - Customizing the columns displayed

In this section you will learn about Fault Analyzer's online interface. You will see the basics, like how to open a fault history file and how to get help. You will see easy ways to work with different fault history files, some hints and tips for working with the list of fault entries, and how to customize the display.

The online interface



```
File Options View Services Help
IBM Fault Analyzer - Fault Entry List                               Line 1 Col 1 80
Command ==> _____ Scroll ==> CSR

Fault History File or View : 'FAULTANL.V10R1.HIST'

{The following line commands are available: ? (Query), V or S (View saved
report), I (Interactive reanalysis), B (Batch reanalysis), D (Delete), H
(Duplicate history), C (Copy fault entry), M (Move fault entry), X (XMIT fault
entry).}
```

Fault_ID	Job/Tran	User_ID	Sys/Job	Abend	Date	Class	Dups	Time
F00878	DNET845X	DNET845	DEMOMVS	S0C7	2010/02/23	A		01:03:13
F00877	DNET0179	DNET017	DEMOMVS	U0001	2010/02/23	A		00:05:10
F00876	ENQ1	DDS1256	CICSAOR1	AED3	2010/02/23	A		00:08:54
F00875	ENQ1	DDS1256	CICSAOR1	AED3	2010/02/23	A		00:08:54
F00874	ENQ1	DDS1256	CICSAOR1	AEI2	2010/02/23	n/a		00:08:54
F00873	WKIYA64R	DNET017	DEMOMVS	U0136	2010/02/22	A	1	21:03:40
F00872	DNET845Y	DNET845	DEMOMVS	S0C7	2010/02/22	A		20:01:51
F00871	DNET845P	DNET845	DEMOMVS	S0C7	2010/02/22	A		20:01:04
F00870	DNET246F	DNET246	DEMOMVS	S0C7	2010/02/22	A		19:58:58
F00869	DNET845X	DNET845	DEMOMVS	S0C7	2010/02/22	A		19:14:42
F00868	DDS00013	DDS0001	DEMOMVS	U0001	2010/02/22	n/a		18:58:29

Available line commands are shown

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When you start the on-line interface, this panel is displayed. Near the top you see the name of a fault history file that has been opened, and below it is a list of entries in that fault history file. The most recent abend is at the top of the list, and the oldest is last. Notice that a list of available one-letter line commands is displayed. To use a line command, you just enter the letter next to an entry. For example, to do an interactive reanalysis, you type in an "I" next to a fault entry, and press enter.

Opening your fault history file



File Options View Services Help

IBM Fault Analyzer - Fault Entry List Line 1 Col 1 80
Command ==> Scroll ==> CSR

Fault History File or View : 'FAULTANL.V10R1.HIST'

Overtype the name and press ENTER to open a different history file

Table: ? (Query), V or S (View saved), B (Batch reanalysis), D (Delete), H (Help), M (Move fault entry), X (XMIT fault entry) .)

Fault_ID	Job/Tran	User_ID	Sys/Job	Abend	Date	Class	Dups	Time
F00878	DNET845X	DNET845	DEMOMVS	S0C7	2010/02/23	A		01:03:13
F00877	DNET0179	DNET017	DEMOMVS	U0001	2010/02/23	n/a		00:25:46
F00876	ENQ1	DDS1256	CICSAOR1	AED3	2010/02/23	n/a		00:22:54
F00875	ENQ1	DDS1256	CICSAOR1	AED3	2010/02/23	n/a		00:18:39
F00874	ENQ1	DDS1256	CICSAOR1	AEI2	2010/02/23	n/a		00:08:54
F00873	WKIVA64R	DNET017	DEMOMVS	U0196	2010/02/23	n/a		01:00:40
F00872	DNET845Y	DNET845	DEMOMVS	S0C7	2010/02/23	n/a		01:00:40
F00871	DNET845P	DNET845	DEMOMVS	S0C7	2010/02/23	n/a		01:00:40
F00870	DNET246F	DNET246	DEMOMVS	S0C7	2010/02/23	n/a		01:00:40
F00869	DNET845X	DNET845	DEMOMVS	S0C7	2010/02/23	n/a		01:00:40
F00868	DDS00013	DDS0001	DEMOMVS	U0001	2010/02/22	n/a		18:58:29

Batch and online faults can be in the same history file. This is controlled by the installer.

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To open a different fault history file, you just type in its name, and press enter. It opens the file and displays the list of fault entries from that file.

Access your fault history file list



The screenshot shows the main window of the IBM Fault Analyzer for z/OS. At the top, there is a menu bar with 'File', 'Options', 'View', 'Services', and 'Help'. The 'File' menu is open, displaying a list of ten options. Option 1, 'Last Accessed Fault History Files or Views...', is circled in red. A callout box points to this option with the text 'You can see a list of history files you have used before'. Another callout box points to the 'File' menu with the text 'Bring down the File menu' and 'Select option 1'. Below the menu, a table displays a list of fault history files with columns for Class, Dups, and Time. A yellow 'Enter' key icon is positioned over the bottom right of the table.

	Class	Dups	Time
F00878	DNET845X	DNET845	DEMOMVS SOC7 2010/02/23 A 01:03:13
F00877	DNET0179	DNET017	DEMOMVS U0001 2010/02/23 n/a 00:25:46
F00876	ENQ1	DDS1256	CICSAOR1 AED3 2010/02/23 n/a 00:22:54
F00875	ENQ1	DDS1256	CICSAOR1 AED3 2010/02/23 n/a 00:18:39
F00874	ENQ1	DDS1256	CICSAOR1 AEI2 2010/02/23 n/a 00:08:54
F00873	WKIYA64R	DNET017	DEMOMVS U0136 2010/02/22 A 1 21:03:40
F00872	DNET845Y	DNET845	DEMOMVS SOC7 2010/02/22 A 20:01:51
F00871	DNET845P	DNET845	DEMOMVS SOC7 2010/02/22 A 20:01:04
F00870	DNET246F	DNET246	DEMOMVS SOC7 2010/02/22 A
F00869	DNET845X	DNET845	DEMOMVS SOC7 2010/02/22 A
F00868	DDS00013	DDS0001	DEMOMVS U0001 2010/02/22 n/a

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On your system you may have more than one fault history file, for example, you may have test and production history files, online and batch, even perhaps even different history files for different applications. Fortunately, you do not have to remember the names of all of the different files, because you can see a list of history files that you have used before. Bring down your file menu, select option 1: "Last accessed fault history files and views", and press enter.

Select a history file

IBM

```
File Options View Services Help
----- Last Accessed Fault History Files or Views -----
I
C Enter the number corresponding to one of the following
F previously accessed fault history files or views and
  press Enter:
  3 1. 'FAULTANL.V10R1.HIST'
    2. 'DNET845.FA.HIST'
    3. 'FAULTANL.V9R1.HIST'
    4.
    5.
    6.
    7.
    8.
    9.
   10.

      Select the history file, by
      number, from the list

Line 1 Col 1 80
Scroll ==> CSR

(View saved
Delete), H
), X (XMIT fault

Dups Time
1 21:03:40
20:01:51
20:01:04

F00872 DNET845Y DNET845 DEMOMVS SOC7 2010/02/22 A
F00871 DNET845P DNET845 DEMOMVS SOC7 2010/02/22 A
F00870 DNET246F DNET246 DEMOMVS SOC7 2010/02/22 A
F00869 DNET845X DNET845 DEMOMVS SOC7 2010/02/22 A
F00868 DDS00013 DDS0001 DEMOMVS U0001 2010/02/22 n/a

Enter
```

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A list of fault history files that you used before is displayed. Select one by typing it's number, press Enter...

Selected history file is opened



The selected history file is opened

```
File Options View Services Help
IBM Fault Analyzer - Fault Entry List Line 1 Col 1 80
Command ==> Scroll ==> CSR
Fault History File or View : 'FAULTANL.V9R1.HIST'

{The following line commands are available: ? (Query), V or S (View saved
report), I (Interactive reanalysis), B (Batch reanalysis), D (Delete), H
(Duplicate history), C (Copy fault entry), M (Move fault entry), X (XMIT fault
entry).}
```

Fault_ID	Job/Tran	User_ID	Sys/Job	Abend	Date	Class	Dups	Time
F04931	DDS02843	DDS0284	DEMOMVS	U0001	2009/11/11	n/a		18:01:09
F04930	DNET249X	DNET249	DEMOMVS	U4093	2009/11/11	A		17:54:48
F04929	DDS02843	DDS0284	DEMOMVS	U0001	2009/11/11	n/a		17:53:18
F04928	DNET7943	DNET794	DEMOMVS	U0001	2009/11/11	n/a		09:56:03
F04926	DDS14293	DDS1429	DEMOMVS	U0001	2009/11/11	n/a		08:32:15
F04925	DNET7943	DNET794	DEMOMVS	U0001	2009/11/11	n/a		08:13:17
F04924	MS0031	MS003	DEMOMVS	U4038	2009/11/11	A		05:07:36
F04923	MS0031	MS003	DEMOMVS	U4091	2009/11/11	A		05:06:28
F04922	DNET945R	DNET945	DEMOMVS	S0C7	2009/11/10	A	33	21:09:44
F04921	DNET3111	DNET311	DEMOMVS	S0CB	2009/11/10	A		21:06:55
F04920	X442721A	DNET172	DEMOMVS	SB37	2009/11/10	A		18:32:45

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and it opens the selected fault history file.

- **Special shortcuts to history files (views) can be defined**
 - A view is a shortcut to one history file, or a concatenation of multiple history files
 - Views are defined by the installer
 - Some installers prefer not to define views
- **A single view can access multiple history files**
 - If a view is defined as a concatenation of history files, all fault entries from all files in the concatenation will display on the fault entry list panel

There may be special file shortcuts called “views” defined on your system. A view is a list of one or more fault history files, and they are defined by the person who configures fault analyzer on your system. A view can reference a single history file, or it can be a concatenation of multiple history files.

Select the list views option



Put the cursor
on the File pull
down menu
and press
ENTER

Select option 4

File Options View Services Help

4. 1. Last Accessed Fault History Files or Views...
2. Last Accessed Fault History File Entries...
3. Clear Last Accessed Information
4. List Views...
5. Analyze MVS Dump Data Set...
6. Fault History File Properties...
7. New Fault History File Allocation...
8. Change Fault History File...
9. Format CICS Auxiliary Trac... t...
10. Exit Fault Analyzer

Enter

```
F00002 DNET074S DNET074 DEMOMVS SAM1 S0C7
F00001 DNET074S DNET074 DEMOMVS SAM1 S0C7
```

To see a list of views, bring down the file menu, and select the "list views" option.

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Select a view from the list

A **view** is a concatenation of one or more fault history files.

Views are defined by your systems programmer or installer.

```

View List
Command ==> _____

Line commands: S (Select), B (Browse).

  Name      Description
  -
  -
  S TEST     TEST FAULT HISTORY FILES

*** Bottom of data.

```

Enter

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In this example, there are three views. One is a concatenation of all the test fault history files, another one is a concatenation of all the production fault history files, and the third one shows all of the fault entries for both test and production. Remember that views are defined by your systems programmer, so you may or may not have views on your system.

A "B" line command will browse the view, showing the history files that it accesses. Here, a view named "test" is selected by typing "S" next to it and pressing enter.

The view is opened and displayed



The selected view is opened

```
File Options View Services Help
IBM Fault Analyzer - Fault Entry List          Line 1 Col 1 80
Command ==>                                Scroll ==> HALF

Fault History File or View : (TEST) TEST FAULT HISTORY FILES

(The following line commands are available: ? (Query), V or S (View saved
report), I (Interactive reanalysis), B (Batch reanalysis), D (Delete), H
(Duplicate history), C (Copy fault entry), M (Move fault entry), X (XMIT fault
entry).)

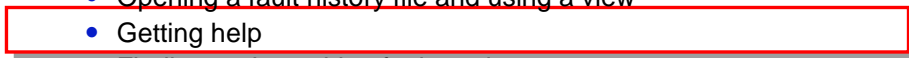
Fault_ID Job/Tran Job_ID Dups User_ID Sys/Job Abend Date Class
---
F04931 DDS02843 STC18810          DDS0284 DEMOMVS U0001 2009/11/11 n/a
F04930 DNE
F04929 DD
F04928 DNE
F04926 DD
F04925 DNET7943 STC18546          DNET794 DEMOMVS U0001 2009/11/11 n/a
F04924 MS0031  JOB18458          MS003  DEMOMVS U4038 2009/11/11 A
F04923 MS0031  JOB18457          MS003  DEMOMVS U4091 2009/11/11 A
F04922 DNET945R JOB18270          33 DNET945 DEMOMVS SOC7 2009/11/10 A
F04921 DNET3111 JOB18266          DNET311 DEMOMVS SOCB 2009/11/10 A
F04920 X442721A JOB18155          DNET172 DEMOMVS SB37 2009/11/10 A
```

Tip: You can also open a view by entering the view name in parentheses, like this: **(TEST)**

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That opened the selected view, and fault analyzer displays all of the fault entries from all of the history files that the view references. Here is a tip: if you already know the name of a view that you want to use, open it by entering the view name in parentheses.

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Next you will see how to get help about commands and features.

Press the F1 key for help



```
File Options View Services Help
IBM Fault Analyzer - Fault Entry List          CHARS 'dnet845' found
Command ==> _____ Scroll ==> CSR

Fault History File or View : 'FAULTANL.V10R1.HIST'

{The following line commands are available: ? (Query), V or S (View saved
report), I (Interactive reanalysis), B (Batch reanalysis), D (Delete), H
(Duplicate history), C (Copy fault entry), M (Move fault entry), X (XMIT fault
entry).}
```

Fault_ID	Job/Tran	User_ID	Sys/Job	Abend	Date	Class	Dups	Time
— F00878	DNET845X	DNET845	DEMOMVS	S0C7	2010/02/23	A		01:03:13
— F00877	DNET0179	DNET017	DEMOMVS	U0001	2010/02/23	n/a		00:25:46
— F00876	ENQ1	DDS1256	CICSAOR1	AED3	2010/02/23	n/a		00:22:54
— F00875	ENQ1	DDS1256	CICSAOR1	AED3	2010/02/23	n/a		00:18:39
— F00874	ENQ1	DDS1256	CICSAOR1	AEI2	2010/02/23	n/a		00:08:54
— F00873	WKIYA64R	DNET017	DEMOMVS	U0136	2010/02/22	A	1	21:03:40
— F00872	DNET845Y	DNET845	DEMOMVS	S0C7	2010/02/22	A		20:01:51
— F00871	DNET845P	DNET845	DEMOMVS	S0C7	2010/02/22	A		1:04
— F00870	DNET246F	DNET246	DEMOMVS	S0C7	2010/02/22	A		8:58
— F00869	DNET845X	DNET845	DEMOMVS	S0C7	2010/02/22	A		4:42
— F00868	DDS00013	DDS0001	DEMOMVS	U0001	2010/02/22	n/a		18:58:29

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Press the F1 key to get help.

The help panel is displayed, scroll down



Fault Entry List Help

Command ==>

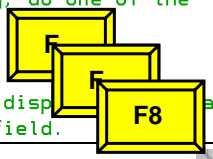
More: +

The Fault Entry List display shows the fault entries contained in the currently selected history file or view. The columns shown depends on the current fault entry list column configuration which is available by selecting the Column Configuration option from the View action-bar pull-down menu.

A note nnn history files might have updates pending might be displayed on the line following the history file or view name input field. This indicates that the most recent updates to one or more history files could not be obtained immediately, and is a performance enhancement to prevent lengthy and possibly unnecessary delays in the display of the fault entry list. If the most recent updates are required, then press Enter again to perform a refresh of the display. By placing the cursor on the number of history files (nnn in the sample above), and pressing Enter, a display is presented with the names of the affected history files.

To select a different fault history file or view for display, do one of the following:

- Type a different history file or view name
- To specify a history file name or view name to be displayed, enter its name in the Fault History File or View field.



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The help panel is displayed. Scroll down by pressing the F8 key.

A list of available commands is shown



Command ==> More: - +

field from the Column Attributes display, or use the RESET primary command.

The following Fault Analyzer specific primary commands can be issued from this display:

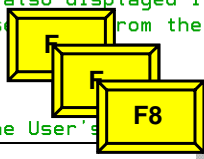
COLS Brings up the Fault Entry List Column Configuration display which facilitates the tailoring of information shown in the fault entry list display. This display is also available by selecting the Column Configuration option from the View action-bar pull-down menu.

COPY data-set-name
Copies the current display to the specified data set name.

If no data set name is specified, a pop-up panel is displayed that permits its specification. This pop-up panel is also displayed if the Copy Current Display to Data Set option is selected from the Services action-bar pull-down menu.

FIND argument
Locates text in the current display. Refer to the User's Guide for details.

Commands



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The help panels show a list of available commands. Scroll down further.

A list of available line commands is shown



Command ==> More: - +

VIEWS █ Displays a list of view that can be selected.

Issuing the VIEWS command performs the same function as if the **List Views** option is selected from the **Files** action-bar pull-down menu.

The following line commands can be entered against individual fault entries:

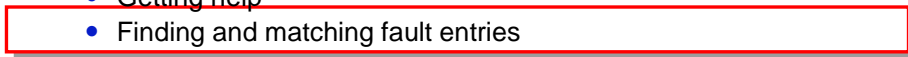
- ? Display information about the entry. An overview of fault and history file entry details is displayed.
- V or S View the real-time report for the fault entry. This report was saved in the fault history file at the time when the fault occurred.
- I Initiate interactive reanalysis of the fault. This is only possible if a minidump or MVS dump is available.
- B Initiate batch reanalysis of the fault. This is only possible if a minidump or MVS dump is available.

F3

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And a list of available line commands is shown. You can press the F1 key for help from most of the panels in Fault Analyzer. Press F3 to exit.

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Next you will see how to find and match fault entries in the list.

Locate a fault entry with a find command



IBM Fault Analyzer - Fault Entry List

Command ==> f dnet845 **Enter**

CHARS 'dnet845' found
Scroll ==> CSR

Command ==> _____

Fault History File or View : 'FAULTANL V1204_HIST'

{The following line commands are available: R (Refresh report), I (Interactive reanalysis), B (Batch reanalysis), D (Delete), H (Duplicate history), C (Copy fault entry), M (Move fault entry), X (XMIT fault entry).}

Fault_ID	Job/Tran	User_ID	Sys/Job	Abend	Date	Class	Dups	Time
— F00878	DNET845X	DNET845	DEMOMVS	S0C7	2010/02/23	A		01:03:13
— F00877	DNET0179	DNET017	DEMOMVS	U0001	2010/02/23	n/a		00:25:46
— F00876	ENQ1	DDS1256	CICSAOR1	AED3	2010/02/23	n/a		00:22:54
— F00875	ENQ1	DDS1256	CICSAOR1	AED3	2010/02/23	n/a		00:18:39
— F00874	ENQ1	DDS1256	CICSAOR1	AEI2	2010/02/23	n/a		00:08:54
— F00873	WKIYA64R	DNET017	DEMOMVS	U0136	2010/02/22	A	1	21:03:40
— F00872	DNET845Y	DNET845	DEMOMVS	S0C7	2010/02/22	A		20:01:51
— F00871	DNET845P	DNET845	DEMOMVS	S0C7	2010/02/22	A		20:01:04
— F00870	DNET246F	DNET246	DEMOMVS	S0C7	2010/02/22	A		19:58:58
— F00869	DNET845X	DNET845	DEMOMVS	S0C7	2010/02/22	A		19:14:42
— F00868	DDS00013	DDS0001	DEMOMVS	U0001	2010/02/22	n/a		18:58:29

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Use the find command to locate a string in any column

The first challenge that most people have in fault analyzer is quickly finding the abend they are looking for in the list. And there are a couple of easy ways to do it: the Find command, and by matching.

Use a Find command to search for text in any column shown on the display. The format is as shown here, F space and then the text that want to find. For example, you can search for any part of a job name, user ID, transaction name, and others.

"Match" by overtyping a value



File Options View Services Help

IBM Fault Analyzer - Fault Entry List Line 1 Col 1 80
Command ==> Scroll ==> CSR

Fault History File or View : 'FAULTANL.V1004_HIST'

{The following line commands are available (The following line commands are available report), I (Interactive reanalysis), B (Duplicate history), C (Copy fault entry entry).}

Overtyping any item to "MATCH" a value.

The * wildcard can be used.

Fault_ID	Job/Tran	User_ID	Sys/Job	Abend	Date	Class	Dups	Time
F00878	DNET845X	DNET1*	DEMOMVS	S0C7	2010/02/23	A		01:03:13
F00877	DNET0179	DNET017	DEMOMVS	U0001	2010/02/23	n/a		00:25:46
F00876	ENQ1	DDS1256	CICSAOR1	AED3	2010/02/23	n/a		00:22:54
F00875	ENQ1	DDS1256	CICSAOR1	AED3	2010/02/23	n/a		00:18:39
F00874	ENQ1	DDS1256	CICSAOR1	AEI2	2010/02/23	n/a		00:08:54
F00873	WKIYA64R	DNET017	DEMOMVS	U0136	2010/02/22	A	1	21:03:40
F00872	DNET845Y	DNET845	DEMOMVS	S0C7	2010/02/22	A		20:01:51
F00871	DNET845P	DNET845	DEMOMVS	S0C7	2010/02/22	A		20:01:04
F00870	DNET246F	DNET246	DEMOMVS	S0C7	2010/02/22	A	1	
F00869	DNET845X	DNET845	DEMOMVS	S0C7	2010/02/22	A	1	
F00868	DDS00013	DDS0001	DEMOMVS	U0001	2010/02/22	n/a	1	

Enter

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Another way to find the entry you are looking for is by “matching”. An easy way to do it is to overtype the data area of any column with the text you want to match. You can even use an * as a wild-card. In this example, the first few characters of a job name is entered, followed by an asterisk. Then enter is pressed.

Matching entries are displayed



File Options View Services Help

IBM Fault Analyzer - Fault Entry List Line 1 Col 1 80
Command ==> Scroll ==> CSR

Fault History File or View : 'FAULTAN

{The following line commands are available: R (Report), I (Interactive reanalysis), B (Duplicate history), C (Copy fault entry), M (Move fault entry), X (XML fault entry).}

Now only matching entries are displayed: User_ID =_DNET1*
The column header is highlighted.

Fault_ID	Job/Tran	User_ID	Sys/Job	Abend	Date	Class	Dups	Time
F00832	DNET1083	DNET108	DEMOMVS	U0001	2010/02/19	n/a		10:31:50
F00831	DNET1081	DNET108	DEMOMVS	S0CB	2010/02/19	A		10:31:07
F00818	DNET1523	DNET152	DEMOMVS	U0001	2010/02/19	A		15:10:48
F00773	DNET187T	DNET187	DEMOMVS	S0C7	2010/02/09	A		15:12:40
F00770	X442722X	DNET172	DEMOMVS	S0C1	2010/02/09	A		15:11:07
F00769	X442722X	DNET172	DEMOMVS	S0C4	2010/02/09	A		12:08:53
F00768	X442722X	DNET172	DEMOMVS	S0C4	2010/02/09	A		12:07:33
F00767	X442722X	DNET172	DEMOMVS	S0C4	2010/02/09	A		11:50:07
F00766	X442722X	DNET172	DEMOMVS	S0C1	2010/02/09	A		11:48:51
F00765	X442722X	DNET172	DEMOMVS	S0C4	2010/02/09	A		
F00764	X442722X	DNET172	DEMOMVS	S0C1	2010/02/09	A		

Tip: You can MATCH on more than one column

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Now only entries with a matching job name are displayed. You can even match on more than one column.

"Match" by cursor selecting a value in any column



File Options View Services Help

IBM Fault Analyzer - Fault Entry List Line 1 Col 1 80
Command ==> Scroll ==> CSR

Fault History File or View : 'FAULTANL'

{The following line commands are available:
R (Report), I (Interactive reanalysis), B (Batch reanalysis), D (Delete), M (Duplicate history), C (Copy fault entry), X (XMIT fault entry).}

Fault_ID	Job/Tran	User_ID	Sys/Job	Abend	Date	Class	Dups	Time
F00832	DNET1083	DNET108	DEMOMVS	U0001	2010/02/19	n/a		10:31:50
F00831	DNET1081	DNET108	DEMOMVS	S0CB	2010/02/19	A		10:31:07
F00818	DNET1523	DNET152	DEMOMVS	U0001	2010/02/18	n/a		15:18:48
F00773	DNET187T	DNET187	DEMOMVS	S0C7	2010/02/10	A		06:53:22
F00770	X442722X	DNET172	DEMOMVS	S0C1	2010/02/09	A		15:16:02
F00769	X442722X	DNET172	DEMOMVS	S0C4	2010/02/09	A		15:12:40
F00768	X442722X	DNET172	DEMOMVS	S0C4	2010/02/09	A		15:11:07
F00767	X442722X	DNET172	DEMOMVS	S0C4	2010/02/09	A		12:08:53
F00766	X442722X	DNET172	DEMOMVS	S0C1	2010/02/09	A		12:08:53

F1=Help F3=Exit F4=MatchCSR F5=RptFind F6=Actions F7=Up
F8=Down F10=Left F11=Right F12=MatchALL

F4

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Another way to match is to put your cursor on an existing value, and press the "match cursor" function key, F4. Here the cursor is placed on an abend code, S0C7, and F4 is pressed.

Results of matched values are displayed



```
File Options View Services Help
IBM Fault Analyzer - Fault Entry List
Command ==>
Fault History File or View : FAULT
{The following line commands are available: ? (Query), V or S (View saved report), I (Interactive reanalysis), B (Batch reanalysis), D (Delete), H (Duplicate history), C (Copy fault entry), M (Move fault entry), X (XMIT fault entry).}

```

Fault_ID	Job/Tran	User_ID	Sys/Job	Abend	Date	Class	Dups	Time
F00773	DNET187T	DNET187	DEMOMVS	S0C7	2010/02/10	A		06:53:22
F00649	DNET1081	DNET108	DEMOMVS	S0C7	2010/01/30	A		17:15:00

** Bottom of data.

F1=Help F3=Exit F4=MatchCSR F5=RptFind F6=Actions F7=Up
F8=Down F10=Left F11=Right F12=MatchALL

Only matching entries are displayed:
User_ID = DNET1* and
Abend = S0C7

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Now only abends that match both the job name and the abend code are shown.

Use a RESET command to refresh the list



```
File Options View Services Help
IBM Fault Analyzer - Fault Entry List 1 1 80
Command ==> reset > CSR
Fault History File or View : 'FAULTAN

{The following line commands are available: ? (Query), V or S (View saved
report), I (Interactive reanalysis), B (Batch reanalysis), D (Delete), H
(Duplicate history), C (Copy fault entry), M (Move fault entry), X (XMIT fault
entry).}
```

Fault_ID	Job/Tran	User_ID	Sys/Job	Abend	Date	Class	Dups	Time
F00773	DNET187T	DNET187	DEMOMVS	S0C7	2010/02/10	A		06:53:22
F00649	DNET1081	DNET108	DEMOMVS	S0C7	2010/01/30	A		17:15:00

** Bottom of data.

F1=Help F3=Exit F4=MatchCSR F5=RptFind F6=Actions F7=Up
F8=Down F10=Left F11=Right F12=MatchALL

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To see all entries again, use a Reset command, a "Match All" command, or just press F12. Here a RESET command is entered.

RESET command results



```
File Options View Services Help
IBM Fault Analyzer - Fault Entry List
Command ==> _____ Scroll ==> HALF
Fault History File or View : 'FAULTAN
{The following line commands are avail
report), I (Interactive reanalysis), B
(Duplicate history), C (Copy fault ent
entry).}
```

The **RESET** command will return the fault entry list and then issue a **REFRESH** command to bring in any new faults.

Fault_ID	Job/Tran	Dups	User_ID	Sys/Job	Abend	Date	Class	Time
— F00832	DNET1083		DNET108	DEMOMVS	U0001	2010/02/19	n/a	10:31:50
— F00831	DNET1081		DNET108	DEMOMVS	S0CB	2010/02/19	A	10:31:07
— F00818	DNET1523		DNET152	DEMOMVS	U0001	2010/02/18	n/a	15:18:48
— F00773	DNET187T		DNET187	DEMOMVS	S0C7	2010/02/10	A	06:53:22
— F00770	X442722X		DNET172	DEMOMVS	S0C1	2010/02/09	A	15:16:02
— F00769	X442722X		DNET172	DEMOMVS	S0C4	2010/02/09	A	15:12:40
— F00768	X442722X		DNET172	DEMOMVS	S0C4	2010/02/09	A	15:11:07
— F00767	X442722X		DNET172	DEMOMVS	S0C4	2010/02/09	A	12:08:53
— F00766	X442722X		DNET172	DEMOMVS	S0C1	2010/02/09	A	12:07:33

F1=Help F3=Exit F4=MatchCSR F5=RptFind F6=Actions F7=Up
F8=Down F10=Left F11=Right F12=MatchALL

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A reset re-displays all of the faults that were originally in the list, but it does not add new faults. And any time you press enter without a command entered, a refresh is done automatically, to bring any new faults into the list.

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- **Real-time abend processing**
 - Real-time fault analysis

- **Using the on-line interface**
 - Opening a fault history file and using a view
 - Getting help
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 - Getting information about a fault entry
 - Customizing the columns displayed



Next you will see how to get information about a fault entry.

A ? line command displays information about a fault entry



```

File Options View Services Help
IBM Fault Analyzer - Fault Entry List                               Line 81 Col 1 80
Command ==> |                                                    Scroll ==> CSR
Fault History File or View : 'FAULTANL.V10R1.HIST'

  Fault_ID Job/Tran Module CICS_Trn User_ID Sys/Job Abend Dups Date
  ---
  F03037 X442721E NSBPDISP n/a DNET172 DEMOMVS SOC1 2010/10/
  F03036 DNET4241 DFSDLBLO n/a DNET424 DEMOMVS U0929 3 2010/10/
  ? F03035 CDAT CDAT1 CDAT DNET047 CICSAOR5 ATND 2010/10/
  F03034 X442721E NSBPDISP n/a DNET172 DEMOMVS SOC1 2010/10/
  F03033 DNET047A n/a n/a DNET047 DEMOMVS S522 2010/10/
  F03032 DNET047A SAM2 n/a DNET047 DEMOMVS SOC7 2010/10/
  F03031 CEMT DFHAIP CEMT CICSUSER CICSAOR2 ATNI 2010/10/
  F03030 CEDA DFHAIP CEDA CICSUSER CICSAOR2 ATNI 2010/10/
  F03029 DNET2151 CUSVSAMP n/a DNET215 DEMOMVS U4038 2010/10/
  F03028 X442721E NSBPDISP n/a DNET172 DEMOMVS SOC1 2010/10/
  F03027 X442721E NSBPDISP n/a DNET172 DEMOMVS SOC1 2010/10/
  F03026 X442721E NSBPDISP n/a DNET172 DEMOMVS SOC1 2010/10/
  F03025 X442721E NSBPDISP n/a DNET172 DEMOMVS SOC1 2010/10/
  F03024 X442721E NSBPDISP n/a DNET172 DEMOMVS SOC1 10/
  F03023 X442721E NSBPDISP n/a DNET172 DEMOMVS SOC4 10/
  F03022 X442721E NSBPDISP n/a DNET172 DEMOMVS SOC1 2010/10/
  
```

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Enter a “?” line command next to a fault entry to see general information about it.

Result of a ? line command



```
File View Services Help
Fault Entry Information                               Line 1 Col 1 80
Command ==> |                                     Scroll ==> CSR
Fault ID. . . . . : F03035
User Name . . . . . : _____
User Title. . . . . : _____
Lock Flag . . . . . : _ (Not locked)
Abend Code. . . . . : ATND
POF Module Name . . . . . : CDAT1
POF Program Name. . . . . : CDAT1
POF Offset. . . . . : 836
Abend Date. . . . . : 2010/10/28
Abend Time. . . . . : 14:05:29
Job Name. . . . . : CICSAOR5
Job ID. . . . . : STC02272
Job Execution Class . . . . . : n/a
Job Type. . . . . : CICS
Job Step Name . . . . . : n/a
EXEC Program Name . . . . . : DFHSIP
User ID . . . . . : DNET047
Group ID. . . . . : ADMIN
System Name . . . . . : DEMOMVS
```

The ? line command displays information about a fault

F8

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It displays the job name, date and time, and other details. Scroll forward with F8.

Display of a ? line command after scrolling down



```
File View Services Help
-----
Fault Entry Information                               Line 15 Col 1 80
Command ==> █                                       Scroll ==> CSR
Job Type. . . . . : CICS
Job Step Name . . . : n/a
EXEC Program Name . . . : DFHSIP
User ID . . . . . : DNET047
Group ID. . . . . : ADMIN
System Name . . . . . : DEMOMVS
Application ID. . . . . : CICSACB5
CICS Transaction ID . . . . . : CDAT
CICS Task Number. . . . . : 00507
CICS Terminal ID. . . . . : 0031
CICS Terminal Netname . . . : TCP00031
IMS Program Name. . . . . : n/a
Accounting Information. . . . : n/a
Duplicate Count . . . . . : 0
Minidump Pages. . . . . : 609
History File Data Set Name. : FAULTANL.V10R1.HIST
MVS Dump Data Set Name. . . : n/a
MVS Dump Status . . . . . : n/a

*** Bottom of data.
```



The rest of the display is shown. The “?” line command is helpful when you have several abends that are similar to each other. For example, several CICS® transactions with the same transaction code. Use this information to find the right one.

Use an H (history) line command to get duplicate information IBM

When a duplicate abend occurs, the duplicate count is incremented, but a new fault entry is not created

An abend can be a duplicate if:
 - the duplicate suppression feature is on, and
 - it has the same abending program, abend code, offset, and compile timestamp as a previous abend

Commands are available: ? (Query), V or S (View saved report), I (Interactive reanalysis), B (Batch reanalysis), D (Delete), H (Duplicate history), C (Copy fault entry), M (Move fault entry), X (XMIT fault entry).

Fault_ID	Job/Tran	Module	CICS_Trn	User_ID	Sys/Job	Abend	Dups	Date	
—	F03117	CWBA	DFHSJCSL	CWBA	CICSUSER	CICSA0R2	ASJ1	5	2010/11/
—	F03116	DDS0200X	SAM2	n/a	DDS0200	DEMOMVS	S0C7		2010/11/
—	F03115	DNET047A	n/a	n/a	DNET047	DEMOMVS	S522		2010/11/
—	F03114	DDS0001A	MSTRUPDT	n/a	DDS0001	DEMOMVS	S0C7		2010/11/
—	F03113	DNET3111	CUSYSAM	n/a	DNET311	DEMOMVS	S0CB		2010/11/
—	F03112	DNET074A	SAM2	n/a	DNET074	DEMOMVS	S0C4		2010/11/
—	F03111	DNET074A	SAM2	n/a	DNET074	DEMOMVS	S0C7		2010/11/
H	F03110	FRXIVPC3	IGG019AH	n/a	DNET208	DEMOMVS	S001	2	2010/11/
—	F03109	X442721E	NSBPDISP	n/a	DNET172	DE	C1		2010/11/
—	F03108	S028CSDX	DFH0CBDC	n/a	SYS028	DE	C4		2010/11/
—	F03107	S028CSDX	DFH0CBDC	n/a	SYS028	DEMOMVS	S0C4	1	2010/11/

If the duplicate suppression feature is on, then Fault Analyzer may not store new fault entries for a program that abends more than once for the same reason. When that happens, Fault Analyzer keeps a count of how many duplicate abends occurred. If an entry has a duplicate count greater than zero, you can enter an “H” line command next to it to see a history of duplicate abends.

Result of an H (history) line command



```
File View Services Help
Fault Entry Duplicate History                               Line 1 Col 1 80
Command ==> |                                           Scroll ==> CSR
Most recent duplicate
  occurred. . . . . : 2010/11/02 20:56:01
Initial abend occurred. . . : 2010/11/02 20:26:22
Total duplicate count . . . : 2
Duplicate details in reverse chronological order: FAULTANL.V10R1.HIST(F03110)
Date      Time      Jobname  Job ID   System  Dup Type  User ID  Stepname
2010/11/02 20:56:01 FRXIVPC3 JOB00175 DEMOMVS  Normal   DNET208  S1
2010/11/02 20:35:37 FRXIVPC3 JOB00171 DEMOMVS  Normal   DNET208  S1
*** Bottom of data.
```

It shows a list of each of the duplicate abends and when they occurred.

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Next you will see how to customize the fault list to add or remove columns.

Customize column configuration

IBM

Enter a COLS command

```
File Options View Services Help
IBM Fault Analyzer - Fault Entry List
Command ==> cols
Fault History File or View : 'FAULTANL.V10R1.HIST'
Fault_ID Job/Tran User_ID Sys/Job Abend Date Time
F02673 P04B DDS1924 C1CSA0R1 AEI9 2010/10/07 01:02:27
F02672 P04B DDS1924 C1CSA0R1 AED3 2010/10/07 00:22:48
```

This is the standard default column configuration

Enter

or select "Column configuration" from the "View" drop-down menu

```
File Options View Services Help
IBM Fault Anal
Command ==>
Fault History
Fault_ID Jo
F02673 P0
F02672 P0
F02671 P00M
DDS1926 C1CSA0R1 AEI9 2010/10/06 12:21:27
```

6

- *. Add Blank Lines
- 2. Remove Blank Lines
- *. Add Help Text
- 4. Remove Help Text
- 5. Preferred formatting Width...
- 6. Column Configuration...
- 7. Refresh

Time

7 01:02:27

7 00:22:48

Enter

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You can customize the columns displayed on the fault entry list panel. Notice the default columns: fault id, job/tran, user id, and others. There are additional columns you can display. Either enter a "cols" command, or select "column configuration" from the "view" drop-down menu.

A list of available columns is displayed



```
File View Services Help
-----
Fault Entry List Column Configuration                Line 1 Col 1 80
Command ==> █                                     Scroll ==> CSR

Current Fault Entry List Column Configuration (Sample Data):

  Fault_ID Job/Tran User_ID Sys/Job Abend Date Time
  ---- F00249 IDIVPCOB FRED MVSA S0C7 2001/11/22 15:29:03

Column Configuration Settings:

{Below, you may change your Fault Entry List display column configuration. To
make a column visible, or to change its relative display position, enter a
non-zero positive value in the Order column; to hide a column, enter 0. The
resulting column configuration will be shown above.}

Order Column
1 ___ Fault_ID
2 ___ Job/Tran
3 ___ User_ID
4 ___ Sys/Job
5 ___ Abend
6 ___ Date
```

F8

A list of available columns is displayed. You can control which columns are shown, and the order in which they display. Press F8 to scroll down to see more columns.

Select columns you want in your fault list



```
File View Services Help
Fault Entry List Column Configuration          Line 21 Col 1 80
Command ==> |                               Scroll ==> CSR
7  Time
0  Appl_ID
0  Class
4  CICS_Trn
0  Dup_Date
0  Dup_Time
8  Dups
0  EXEC_Pgm
0  Group_ID
0  History_File_DSN
0  I_Abend
0  IMS_Pgm
0  Job_ID
0  Job_Type
0  Jobname
0  Lock
0  Minidump
3  Module
0  MD_Pages
0  MVS_Dump
```

Type a non-zero number to display a column

Type zero to remove a column from your display

Enter

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To add a column to the list, specify a non-zero number in the order. In this example, the CICS transaction will become the fourth column, and other columns are added. Press enter.

New columns were added to the list



```
File View Services Help
Fault Entry List Column Configuration Line 1 Col 1 80
Command ==> Scroll ==> CSR


Current Fault Entry List Column Configuration (Sample Data):

  Fault_ID Job/Tran Module CICS_Trn User_ID Sys/Job Abend Dups Date
  F00249 IDIVPCOB IDISCBL1 CSP011Z FRED MVSA S0C7 0 2001/11/

Column Configuration Settings:

{Below, you may change your Fault Entry List display column configuration. To
make a column visible, or to change its relative display position, enter a
non-zero positive value in the Order column; to hide a column, enter 0. The
resulting column configuration will be shown above.}

Order Column
1 Fault_ID
2 Job/Tran
3 Module
4 CICS_Trn
5 User_ID
6 Sys/Job
```



The new columns were added. Notice that an example line is displayed. Press F3 to exit from the column configuration panel.

The fault entry list has the new columns



File Options View Services Help

IBM Fault Analyzer - Fault Entry List Line 107 Col 1 80

Command ==> Scroll ==> CSR

Fault History File or View : 'FAULTANL.V10R1.HIST'

Fault_ID	Job/Tran	Module	CICS_Trn	User_ID	Sys/Job	Abend	Dups	Date
F02673	P04B	PH04C200	P04B	DDS1924	CICSAOR1	AEI9		2010/10/
F02672	P04B	DFHEDFX	P04B	DDS1924	CICSAOR1	AED3		2010/10/
F02671	P09M	PH09GDFM	P09M	DDS1926	CICSAOR1	AEI0	1	2010/10/
F02670	P09M	PH09GDFM	P09M	DDS1926	CICSAOR1	AEI0		2010/10/
F02669	DDS0284	FMNMAIN	n/a	DDS0284	DEMOMVS	S522		2010/10/
F02668	DDS1647L	SAM2	n/a	DDS1647	DEMOMVS	S0C7		2010/10/
F02667	P04A	DFHEDFX	P04A	DDS1934	CICSAOR1	AED3	2	2010/10/
F02666	P01A	DFHMCX	P01A	DDS1927	CICSAOR1	ABM0	11	2010/10/
F02665	P01A	DFHMCX	P01A	DDS1647	DEMOMVS	S0C7		2010/10/
F02664	P01A	DFHMCX	P01A	DNET074	DEMOMVS	S522		2010/10/
F02663	P01A	DFHMCX	P01A	DDS1647	DEMOMVS	S0C7		2010/10/
F02662	P01A	DFHMCX	P01A	DDS1647	DEMOMVS	S0C7		2010/10/
F02661	P01A	DFHMCX	P01A	DDS1647	DEMOMVS	S0C7		2010/10/
F02660	DNET074H	SAM2	n/a	DNET074	DEMOMVS	S0C7		2010/10/
F02659	DDS1647L	SAM2	n/a	DDS1647	DEMOMVS	S0C7		2010/10/
F02658	DDS0200H	SAM2	n/a	DDS0200	DEMOMVS	S0C7		2010/10/

Your column configuration is permanent, and is stored in your ISPF profile

You can scroll to the right (F11 key) to see the other columns

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Now the fault entry list has the new columns, and they are in the positions specified. This is a permanent configuration, and it is stored in your ISPF profile. If you have more columns than will fit on the screen, as in this example, you can scroll to the right and left with the F11 and F10 keys to see them all.

That is the end of this section, an introduction to the online interface.

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