

Application  
**Explorer**

CANSYS



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## Introduction

Over time, computer applications tend to get cluttered with unnecessary or unused processes. These may include old versions of processes that are no longer referenced, replaced processes, temporary “one-use” processes, and other types of extraneous junk that is simply taking up disk space. The resulting mix can be confusing and difficult to sort out.

Application Explorer is a collection of utilities developed to help unravel the confusion of these kinds of APPX applications. It runs on APPX version 4.2 or higher and is available for most RISC and Intel based APPX platforms.

The major display capabilities of Application Explorer include

- View and/or print the process tree for a specific Application/Process
- View all processes in a selected application, sorted by the PCF file used.
- View a comprehensive cross reference of all the processes in a selected application, with the options to drill up or down to show what other processes they call or that call them.

Application Explorer is also capable of producing lists and reports including

- Produce a hyperlinked list of all processes in a specific application that are not referenced. There is the option to search for process references in any other applications of the same version as well as the application originally selected. From this list you can drill down to the process, or delete the process.
- Produce a report or view a hyperlink list of the occurrences of specified constants or character strings. In the hyperlink view, there is the option to drill down to the specific location in the object where the constant occurred. Areas searched for the constants are screen images, ILF statements and Data Dictionary Field default values and headings. Multiple applications within the same version can be searched at one time.
- Produce a report or view a hyperlink list of the occurrences of specified ILF Command/Constant combinations. For example, you could search for all occurrences of a REWRITE on the TAP

PARAM file, or for all occurrences where you are using SET to put the constant "19" into a field. In the hyperlink view, there is the option to drill down into the object to the specific ILF statement where the occurrence is located. Multiple applications within the same version can be searched at one time.

- Produce a report of the differences found in two versions of an application by comparing the data dictionaries. The program checks for files that are in one version and not the other, fields that are in a file in one version and not the other, and fields that are a different size or format in the two versions.
- Produce a report of the files in a selected database or application, showing the path to where each file is located and the disk space it uses.

## Installation

### Overview

The source files are shipped in a compressed, tar'ed format for Unix based platforms, and Zip format for Windows based platforms.

Installation consists of defining application AXE in the APPX system administration files, associating Application Explorer with a database, extracting the source files into the source file directory, and entering your Application Explorer Registration. Optionally, you can hook the DISPLAY AUDIT INFO process in 0AD so that Application Explorer is available while you are in Application Design (See Step 4).

## Installation Steps

### Overview

First, you need to decide with which database Application Explorer will be associated. If you are using Direct Process 1 to call up a menu, then associate AXE with the same database that is attached to Direct Process 1. If you are not using Direct Process 1 for anything, you might consider using Application Explorer as your Direct Process 1 menu, in which case you can choose any database. Note that choosing the Database will also choose the version for you. For example, if you decide to associate AXE with Database ABC, and Database ABC uses version '20' of the applications, then AXE must be installed in version '20'.

Next, you need to decide from which menu you will access AXE. If you are using Direct Process 1, you might consider putting it on that menu as a hidden option. The Direct Process 1 menu is accessible to designers from within the design environment, and by putting on that menu, it will be easy for them to get to it. Your Direct Process 1 menu option should run a MENU in application AXE. It is not necessary to specify which menu, as APPX will automatically run the LIVE OPERATIONS menu in AXE.

If you are not using Direct Process 1 for anything, you might consider putting AXE as the Direct Process 1 menu. See step 3 for details on how to do this.

You can also hook Appx's DISPLAY AUDIT INFO process so that Application Explorer is just a mouse click or keystroke away. See Step 4 for more information on how to do this.

## Detailed Steps

### Step 1 Add Application Explorer to the System Administration Files

1. From the APPX main menu, choose
  - 3) System Administration
  - 3) Database/Applications
  - 1) Applications
2. Go into ADD mode and add one record as follows:

Application Version	Description	Database
AXE <preferred version>	Application Explorer	<preferred database id>

3. At the Design File Management menu, run 'Create Files'.
4. Press END to return to the menu.
5. Choose:—2) Database/Applications.
6. Add Application Explorer as a related application to your preferred Database. Make sure you set the Operational Phase to LIVE OPERATIONS.
7. Press ENTER to return to the menu.



Application Explorer does not use any disk files, so it is not necessary to run the File Create Step in Database Management for the application.

8. Press END until you return to the main APPX menu.

### Step 2 Extract Source Files to Proper Directories

1. Copy the compressed AXE file to the %APPXPATH%/<preferred version>/AXE directory. %APPXPATH% refers to the 'root' directory of APPX. This is normally set as part of installing APPX.
2. Uncompress the files

For Unix platforms (do this as either the root user or user 'appx')

```
# uncompress axetar
# tar xvf axetar
```

```
# chown appx *  
# chmod u+rw *
```

For Windows platforms

```
>CD %APPXPATH%\DATA\<preferred version>\AXE  
>START AXE.ZIP
```

For Linux platforms

```
# cd $APPXPATH\<preferred version>\AXE  
# unzip axe.zip
```

When you extract the files, make sure they are extracted to the proper directory. WinZip should default to the current directory, which is the correct one.

### Step 3 Add Application Explorer to the Direct Process 1 Menu

If you are going to use Application Explorer from the Direct Process 1 menu, the next step is to modify your menu to include this choice. If you are not using Direct Process 1 for anything, you might consider using AXE as your Direct Process 1 menu.

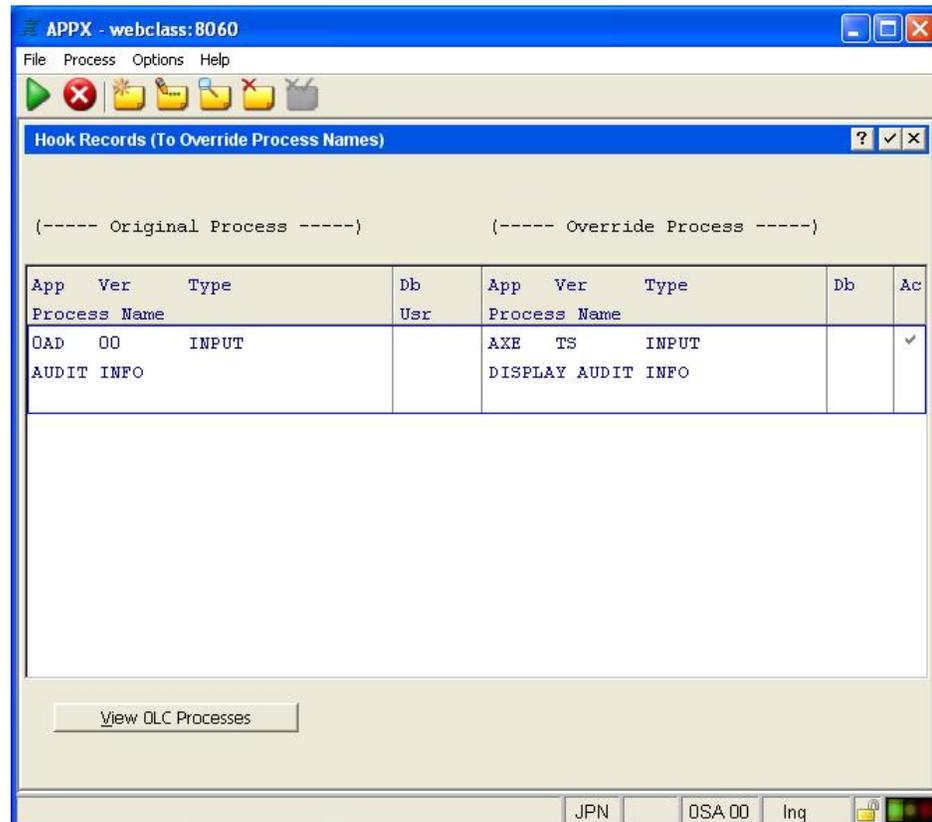
1. From the main APPX menu, go to
  - 3) System Administration
    - 1) System Setup
    - 3) System Parameters.
2. Under Direct Process 1, fill in the database you used in the first step  
AXE for the application id  
MENU for the process type  
APPLICATION EXPLORER as the process name.
3. Press enter to save the record. This change will not take affect until you log out and in again.

Application Explorer can now be accessed by pressing GO 1.

This is an optional step that will make using Application Explorer easier. We will replace the standard 0AD process that displays the audit dates for a File/Field/Process with one from Application Explorer. The new process will still display the audit information,

but will also have some buttons to quickly jump into Application Explorer.

Go to System Administration/Runtime Configuration/Hook Records, and add a record with the following information:



We are replacing 0AD/00/INPUT/AUDIT INFO with AXE/<version>/INPUT/DISPLAY AUDIT INFO. Remember you have to log off & on again for the hook record to take affect.

The next time you call up the audit info via Option 98, you will see the audit information as usual, and there will be some options that give you quick access to Application Explorer functions.

Step 5 Enter your Application Explorer Registration

The final step is to enter the Registration for Application Explorer.

1. From the main APPX menu, choose
  - 3) System Administration
    - 1) System Setup, and then
      - 1) System Registration.

If the information on this screen is the same as the Registration you received with Application Explorer

2. Press ENTER to get to the Product Registrations.

If there are differences between your screen and the printed Registration, enter the information from the printed registration

3. Press ENTER to get to the Product Registrations.

Once you are on the Product Registration screen

4. Confirm that the other products listed agree with the printed version. If there are any differences, rekey the registration information.

Once you have completed this, or confirmed that no changes were required

5. Press ADD
6. Enter the information from the CWL/AXR line on the printed registration.



***The Data Dictionary compiles using the standard representation for negative numbers in Packed Decimal fields. If you are using the Vision or CISAM interface, you may have overridden this by setting the environment variable APPX\_PD\_SIGNS to 'FD'. In this case you will have to reprocess the Data Dictionary to avoid OVERFLOW errors.***

***To process the Data Dictionary, from the main APPX menu choose  
System Administration  
Databases/Applications  
Design File Management***

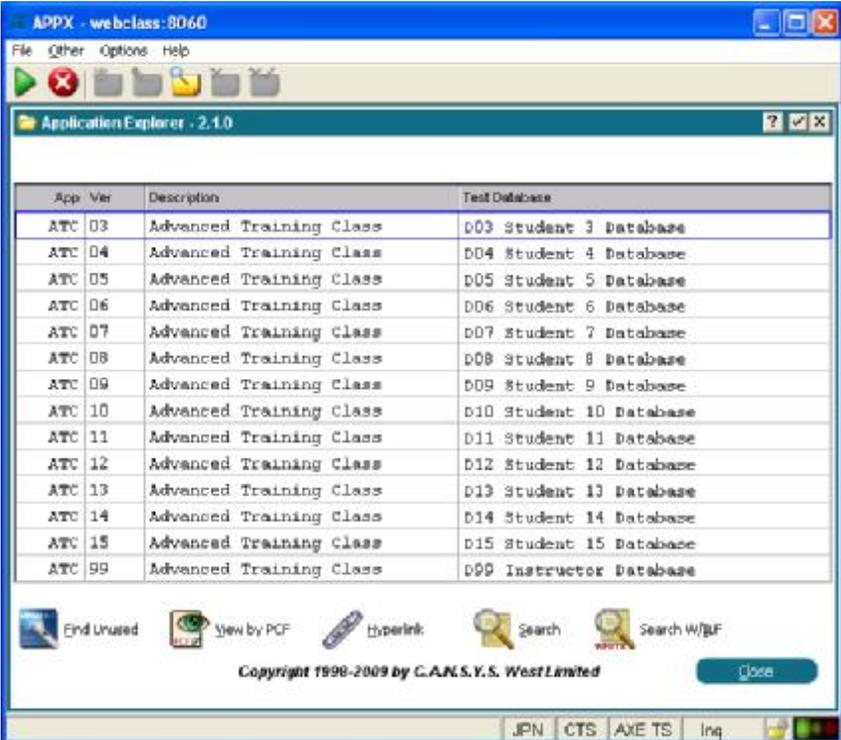
***Fill in the application id and version as appropriate, then choose  
Process Data Dictionary from the menu.***

## Live Operations

### Overview

When you access Application Explorer the first time, a splash screen will be displayed for a few seconds, and the license terms will be displayed. You must accept the license terms before using Application Explorer. If the splash screen does not disappear by itself, just press Return to get to the license screen.

Once the license terms have been accepted, the following list is displayed:



App	Ver	Description	Test Database
ATC	03	Advanced Training Class	D03 Student 3 Database
ATC	04	Advanced Training Class	D04 Student 4 Database
ATC	05	Advanced Training Class	D05 Student 5 Database
ATC	06	Advanced Training Class	D06 Student 6 Database
ATC	07	Advanced Training Class	D07 Student 7 Database
ATC	08	Advanced Training Class	D08 Student 8 Database
ATC	09	Advanced Training Class	D09 Student 9 Database
ATC	10	Advanced Training Class	D10 Student 10 Database
ATC	11	Advanced Training Class	D11 Student 11 Database
ATC	12	Advanced Training Class	D12 Student 12 Database
ATC	13	Advanced Training Class	D13 Student 13 Database
ATC	14	Advanced Training Class	D14 Student 14 Database
ATC	15	Advanced Training Class	D15 Student 15 Database
ATC	99	Advanced Training Class	D99 Instructor Database

This is a list of all the applications installed on your system. The usual Appx options are available, ie, you can press Change to go to key entry mode to start the list at a different location, or use F3 to create a dynamic index on any field.

At the bottom of the screen are several options that are available (described below), and under the 'Other' pull down menu are some additional functions.



***If the application you selected is locked, a lock icon will be displayed beside the Application Id. If the Application is locked,***

***the records in the STMT (ILF Statement) file will be encrypted, and this program will be unable to examine them even if you have the Application Design lock. As a result, exploring that Application with AXE will not be reliable. To run this process accurately on a locked application, it should first be unlocked.***

To use any of the functions in Application Explorer, first select the application you want to work with in the scrolling list, then click one of the following buttons:

### Find Unused

This option produces a list of all processes that are not referenced in a selected application. This same information is available by running an APPX Cross Reference. However, the APPX Cross Reference would have to be run for all processes and the resulting printout searched for '\* Not Referenced \*' messages, which is time consuming and prone to error. This is much faster and more accurate.

This option also searches for references to the processes from the selected application in any or all of the other applications in the same version. Thus, if a process in your specific application is run only from a menu in another application, the process will not be listed as unreferenced, as long as you include the second application in your search.

There is an option to select a process and drill down into the actual application design for that process. You can also delete processes from the displayed list.

This program also checks for the following references:

- Direct Process 1 or 2
- Default Input Processes
- Initial Processes for Users
- Application Initial Setup, Live Operations and Recovery Processing menus.
- Output Foundation Processes

### View by PCF

This utility scans the Processes in a selected Application and shows you all the processes (including INPUTs, OUTPUTs, UPDATEs, etc) sorted by the Process Control File name. There is an option to select a process and drill down into the actual application design for that process. This menu item is a fast and efficient way to find processes in a particular application that affect a specific PCF. The Hyperlink View does this as well, but it also cross references the entire application. This View by PCF utility is much quicker.

### Hyperlink View

This option builds an internal cross reference of a selected Application/Version, and then displays a scrolling list of all the processes in that application. You can also choose to include any other applications within the same version as your first application. From the displayed list, you have the option to drill up to see what other processes call a given process, and what processes call them, and so on up the process tree. You can also drill down the process tree, and see what child processes a given process calls, and what child processes they call, etc. You can change directions at any point. There are no limits to the levels you can go up or down the process tree. There also are options to drill down to the location in a process where another process is called, or to select a process and drill down into the actual application design for that process.

### Search

This option will search through selected applications for occurrences of one or more specified character strings, or constants. Character strings could include process, file or field names. Three specific areas are searched - screen images, ILF statements and data dictionary field defaults and headings. The program then prints or displays a list of all occurrences of the constants that were found and where they were found. From the list display, there is an option to drill down to the actual location of each occurrence in the application design of a process.

### Search W/ILF

This option will search through the ILF Code in selected applications for occurrences of one or more combinations of an ILF command and character string/constants. The program then prints or displays a list of all occurrences of the constants that were found and where they were found. From the list display, there is an option to drill down to the actual location of each occurrence in the application design of a process.

The following options are available under the 'Other' pull down menu:

### Compare Data Dictionary

This option allows you to select two versions of an application, and then compares the data dictionaries of the two versions. It then prints a report of the differences it finds. The situations for which the program checks are: Files that are in one version but not the other, Fields that are in a file in one version but not the other, and Fields where the size or format differs between the two versions.

### Disk Usage

It allows you to select a database and/or application, and then prints a report that shows you where each file in the application or database is located on your system, and how much disk space it is using. This is extremely useful for those installations that make extensive use of FMS groups to place files in different file systems or drives. It's easy to lose track of where everything is, and how much space it occupies. This report also allows you to sort by FMS group so you can see what databases and applications are stored in a particular FMS group.

### Explode Processes

This option allows you to specify an application or process and "explode" it, i.e., drill down through the levels of the processes that it calls. For example, you can point this at the main menu of an application, and drill down through all the menu choices, the JOBS they call, the children processes the JOBS call, the automatic or optional children they call, etc. There is also an option to select a process and drill down into the actual application design for that process.

This “explode” function is also available in Hyperlink View, but there are three main differences between the menu items.

First, the Hyperlink allows you to drill both up a process tree (to see parent processes) and down (to see child processes), while Explode Processes is concerned only with child processes.

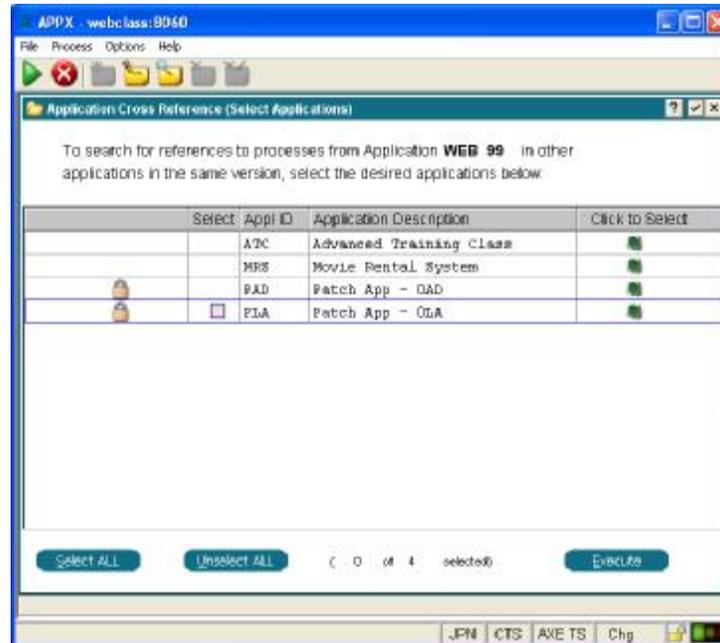
Second, Explode Processes does not span multiple applications like the Hyperlink, so it is much faster.

Finally, the Explode Processes allows you to print a complete indented map of your process; the Hyperlink View does not.

## Using Application Explorer

### Find Unused Processes

When selected, this screen is displayed:



This allows you to specify any additional applications in which to search for references to the processes from your Application/Version.

For example, you may have one or more processes in your application that are run only from menus in another application. If you check only your own application, the processes will be shown as unused. Therefore, you would want to also select to search the second application for references to your application's processes.



***If there are no other applications in this version, this screen will be skipped and the system will begin processing your application.***

The information at the top of the screen confirms the Application/Version you are investigating. Below it is the list of the other existing applications in that same version.



***Your original application is not shown on the list because it will always be searched. Only other applications display).***

## Select

This field is a Yes/No checkbox indicating whether to include the application on this line in the search for references. To select/unselect specific applications, position the cursor on the desired line and press ENTER. Click in the checkbox to set the flag as desired. Press ENTER again to confirm the change and move to the next line.

## Appl Id

This field shows the 3-character ID of the application on that line.

## Description

This field displays the description for that application.

## Click to Select

As an alternative to selecting applications via the 'Select' column, you can also click this button to select or unselect an application. The advantage this offers is that you do not have to select the record first, simply click on any displayed application to select or unselect it.

## Select ALL

Use this button to select all the applications listed.

## Unselect ALL

Use this button to unselect all the applications listed.



***This does not affect your original application. It will always be selected).***

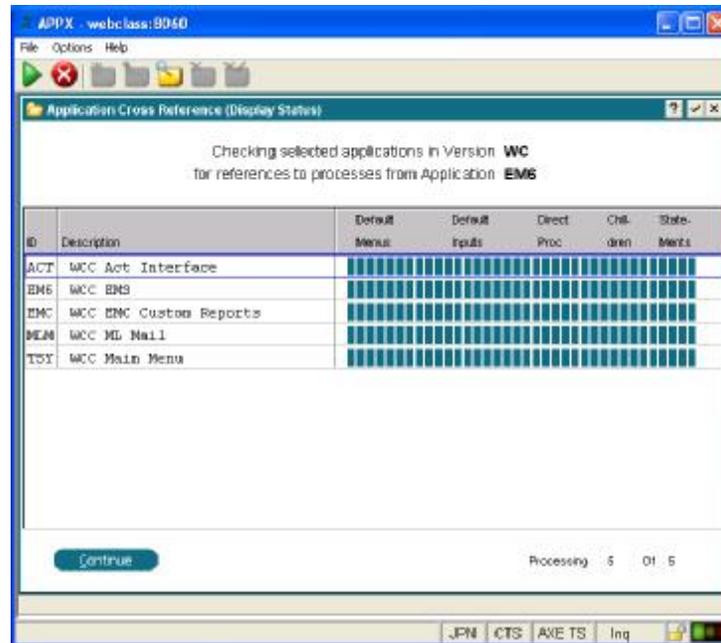
## xx of yy Selected

This displays the number of applications out of the total listed that you have selected.

## Execute

Click this button when you have completed your selections and wish to continue. Page and scroll up and down the list to make your selections.

The next screen displays the ongoing status of the program as it searches through the applications you have selected.



The top section confirms the program is searching for references to the processes from your original application in the selected applications of the same version as you specified.

Each selected application (including your original application) appears on a new line on the status screen as it is processed. The information on the line updates as the program progresses through its stages. The previously processed applications move up the screen until they roll off the top of the list.

#### ID

The 3-character ID of the application currently being processed displays on the last line. The ID of an application that has finished processing displays on the previous line.

#### Description

This is the description of the application on this line.

A progress bar shows the progression through the stages of processing an application.

#### Default Menu

This stage checks for references in your original application's PARAM file specifications for Initial Setup Menu, Live Operations Menu and Recovery Processing Menu. Because these specifications

do not allow menus from a different application to be entered, this stage only needs to be done once for your original application. The program also checks the System Administration USER file for Initial Processes for users. However, since there is only one System USER file, this check is again done only once, when the original application is processed.

#### Default Inputs

This stage checks the data dictionary of the application for references in the specifications of the files' Default Input Processes. Since these specifications do not allow processes from different applications, this step is done only once for the original application.

#### Direct Proc

This stage checks processes in all the selected applications for references in the Direct Process 2 specifications. It also checks the application's PARAM files for references in their Direct Process 2 specifications. Finally, it checks the System PARAM file for references in the Direct Process 1 specification.

#### Children

This stage examines the processes of each selected application for references to processes from your original application as Optional or Automatic Children. It also checks for references to processes as Output Foundation Processes.

#### Statements

This indicates the stage that examines the ILF code for each selected application for references to processes from your original application.

#### Processing xx of yy

If the list of selected applications is longer than one page, the status lines scroll down to the bottom of the screen. After that point, each new application keeps appearing on the last line and the previous data rolls up. This prevents you from seeing how many applications are still to be processed. This counter lets you know how many of the total number of selected applications (including your original one) have been processed.

When all selected applications have been completely processed, the screen redisplay begins at the first application and the 'Continue' button is enabled. At this point, you can page or scroll up and down the list to view it.



***If the application you selected is locked, the records in the STMT (ILF Statement) will be encrypted, and this program will be unable to examine them even if you have the Application Design lock. As a result, there may be child processes that are called in the ILF code but will still be displayed here as unreferenced. To run this process accurately on a locked application, it should first be unlocked.***

When you wish to continue to display the Unused Processes, click the 'Continue' button. The following screen then displays the list of Unused Processes that were found.

Type	Name	Description	Delete?
MENU	CUSTOM REPORTS	Custom Reports	ⓧ
MENU	INVOICE PROCESSING	Invoice Processing	ⓧ
INPUT	(TEMP) CATER3		ⓧ
INPUT	(TEMP) INVOICE3		ⓧ
INPUT	(TEMP) MRS2		ⓧ
INPUT	(TEMP) NOTES		ⓧ
INPUT	(TEMP) RESER1		ⓧ
INPUT	(TEMP) RESER11		ⓧ
INPUT	(TEMP) RESER2		ⓧ
INPUT	(TEMP) ROOM1		ⓧ
INPUT	(TEMP) WAIT	Wait List	ⓧ
INPUT	(VIEW) CONTACTS	Contacts	ⓧ
INPUT	(VIEW) EBOOK		ⓧ
INPUT	(VIEW) ERRLOG	Error Log	ⓧ
INPUT	(VIEW) INVLIST1		ⓧ
INPUT	(VIEW) INVOICE2		ⓧ

## Delete

Click this button to delete the process. You will be taken to Application Design for the process, and you will be in Delete mode. To actually delete the process, you will have to click the 'Ack Del' button in Application Design. This is a convenient way to remove processes that are no longer required.

## Print report

This option will print or display the list of the unused processes displayed on this screen. A Disposition screen will be displayed, prior to the report printing. When the report has printed, or you press END from the report display, the program will return to this screen.

## Jump to Process

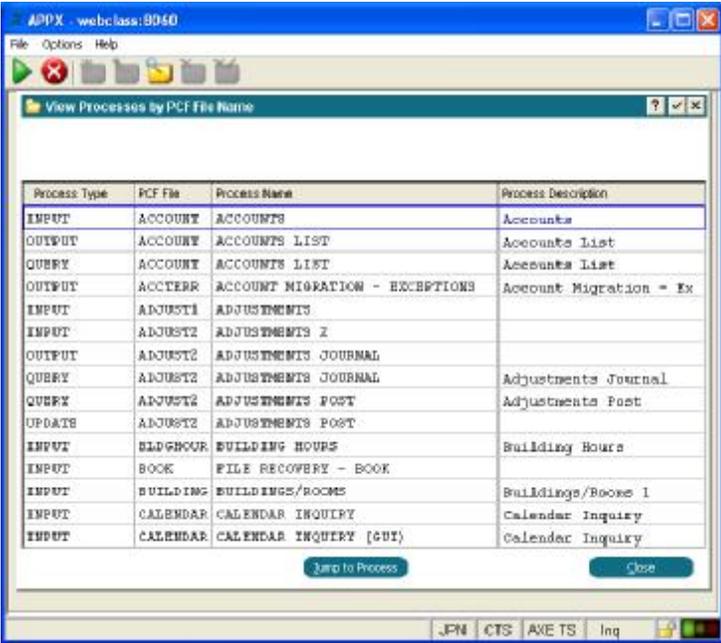
You can scroll up and down the list of displayed processes. If you position on any one of the processes and click this button, the program will take you into the application design for that process. However, if the application is locked and you do not have design rights, this option will not function.

The following is a sample of the Unused Processes Report.

App Process		Date Add		Us Add Date Mod		Us Mod	
Id	Type	Process Name					
AXE INPUT	FILE MANAGER		12/08/1999 22:00 26	JPN	12/08/1999 22:00 26	JPN	
AXE SUBROUTINE	DRILL DOWN (PARENT) (OLD)		12/08/1999 22:00 26	JPN	12/08/1999 22:00 26	JPN	

## View Processes by PCF

Application Explorer will identify the processes in the selected application, sort them by Process Control File and display them on the following screen:



Process Type	PCF File	Process Name	Process Description
INPUT	ACCOUNT	ACCOUNTS	Accounts
OUTPUT	ACCOUNT	ACCOUNTS LIST	Accounts List
QUERY	ACCOUNT	ACCOUNTS LIST	Accounts List
OUTPUT	ACCTERR	ACCOUNT MIGRATION - EXCEPTIONS	Account Migration - Ex
INPUT	ADJUST1	ADJUSTMENTS	
INPUT	ADJUST2	ADJUSTMENTS Z	
OUTPUT	ADJUST2	ADJUSTMENTS JOURNAL	
QUERY	ADJUST2	ADJUSTMENTS JOURNAL	Adjustments Journal
QUERY	ADJUST2	ADJUSTMENTS POST	Adjustments Post
UPDATE	ADJUST2	ADJUSTMENTS POST	
INPUT	BLDGHOOR	BUILDING HOURS	Building Hours
INPUT	BOOK	FILE RECOVERY - BOOK	
INPUT	BUILDING	BUILDINGS/ROOMS	Buildings/Rooms 1
INPUT	CALENDAR	CALENDAR INQUIRY	Calendar Inquiry
INPUT	CALENDAR	CALENDAR INQUIRY (GUI)	Calendar Inquiry

On this screen, you can page up and down to view the list of processes. Alternatively, press your INQUIRY MODE key to specify a specific value in the PCF field. You can use SCAN on this field to view the available PCF's. If you do enter a specific value and press ENTER, the processes will be displayed, still in PCF sequence but beginning at the PCF you specified. If you leave the field blank, the entire list will display.

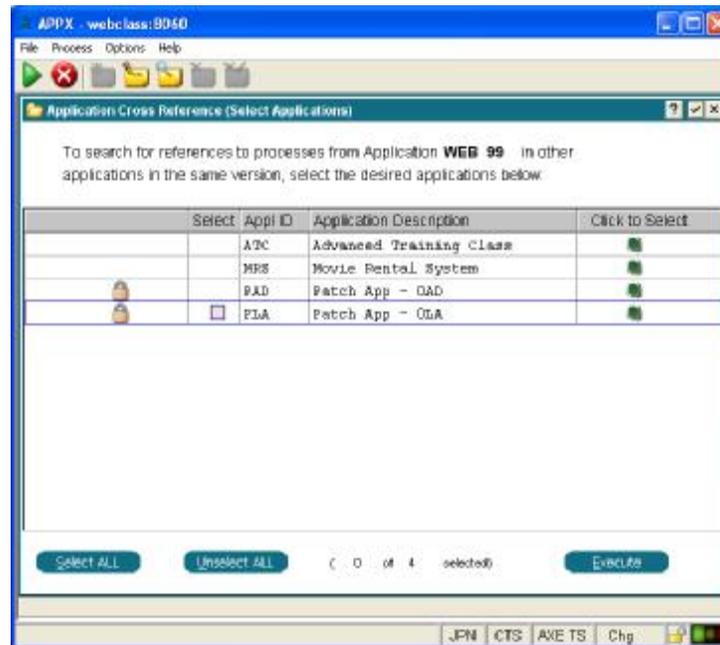
### Jump to Process

You can scroll up and down the list of displayed processes. If you position on any one of the processes and click this button, the program will take you into the application design for that process. When you END from the application design, you will return to this screen. However, if the application is locked and you do not have design rights, this option will not function.

Click the 'Close' button to exit this screen.

## Hyperlink View

When selected, this screen is displayed:



At the top of the screen, the information confirms the Application/Version whose processes you are investigating. Below it is a list of the other existing applications in that same version.



***If there are no other applications in this version, this screen will be skipped and the system will begin processing your application.***



***Your original application is not shown on the list because it will always be searched.***

Select

This field is a Yes/No checkbox indicating whether to include the application on this line in the search for references. To select/unselect specific applications, position the cursor on the desired line and press ENTER. Click in the checkbox to set the flag as desired. Press ENTER again to confirm the change and move to the next line.

Appl Id

This field shows the 3-character ID of the application on that line.

### Description

This field displays the description for that application.

### Click to Select

As an alternative to selecting applications via the 'Select' column, you can also click this button to select or unselect an application. The advantage this offers is that you do not have to select the record first, simply click on any displayed application to select or unselect it.

### Select ALL

Use this button to select all the applications listed.

### Unselect ALL

Use this button to unselect all the applications listed.



***This does not affect your original application. It will always be selected.***

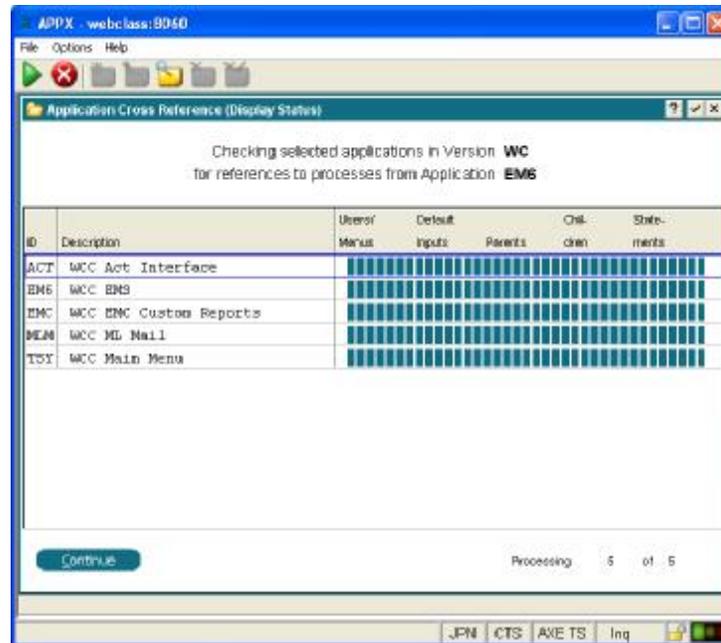
### xx of yy Selected

This displays the number of applications out of the total listed that you have selected.

### Execute

Click this button when you have completed your selections and wish to continue. Page and scroll up and down the list to make your selections.

The next screen displays the ongoing status of the program as it searches through the applications you have selected.



The top section confirms the program is searching for references to the processes from your original application in the selected applications of the same version you specified.

Each selected application (including your original application) appears on a new line on the status screen as it is processed. The progress bar updates as the program progresses through its stages. The previously processed applications move up the screen until they roll off the top of the list.

#### ID

The 3-character ID of the application currently being processed displays on the last line. The ID of an application that has finished processing displays on the previous line.

#### Description

This is the description of the application on this line.

The following fields are indicators showing the progression through the stages of processing an application.

#### Users/Menu

This indicates a process stage that checks three different places for references to processes in any of your selected applications. First, it checks the Direct Process 1 specification in the System Parameter

(SYSPARAM) file. It then checks the PARAM file for each selected application for references in the specifications for Initial Setup Menu, Live Operations Menu and Recovery Processing Menu. Finally, the program checks the System Administration USER file for Initial Processes for users.

### Default Inputs

This stage checks the data dictionary of each selected application for references in the specifications of the files' Default Input Processes.

### Parents

This stage finds all the processes in all the selected applications. It also checks these processes for references in their Direct Process 2 specifications. Finally, it checks each selected application's PARAM file for references in its Direct Process 2 specifications.

### Children

This stage examines the processes of each selected application to determine which are called as Optional or Automatic Children. It also checks for references to processes as Output Foundation Processes.

### Statements

This indicates the stage that examines the ILF code for each selected application for references to processes.

### Processing xx of yy

If the list of selected applications is longer than one page, the status lines scroll down to the bottom of the screen. After that point, each new application keeps appearing on the last line and the previous data rolls up. This prevents you from seeing how many applications are still to be processed. This counter lets you know how many of the total number of selected applications (including your original one) have been processed.

When all selected applications have been completely processed, the screen redisplay begins at the first application and the 'Continue' button is enabled. At this point, you can page or scroll up and down the list to view it.



***If the application you selected is locked, the records in the STMT (ILF Statement) will be encrypted, and this program will be unable to examine them even if you have the Application Design lock. As a result, there may be child processes that are called in the ILF code but will still be displayed here as unreferenced. To run this process accurately on a locked application, it should first be unlocked.***

The first screen of the Hyperlink display lists all the processes from the application originally selected on the first screen, as shown below:

Process Type	Process Name	PCF	No. Of Parents
MENU	CUSTOM REPORTS		****
MENU	EVENT MANAGEMENT		3
MENU	EVENT MANAGEMENT (GUI)		4
MENU	FILE MAINTENANCE		1
MENU	FM (CATTERING)		1
MENU	FM (FACILITIES)		1
MENU	FM (GLOBAL)		1
MENU	FM (SALES & BILLING)		1
MENU	FM (SYSTEM ADMINISTRATION)		1
MENU	HELP		1
MENU	INITIAL SETUP		1
MENU	INVOICE PROCESSING		****
MENU	MONTHLY PROCESSING		1
MENU	RECOVERY PROCESSING		2

Each line of this screen shows one process with its type, name, PCF file (if there is one) and the number of parent processes that call it (“\*\*\*\*” means that there are no parent processes).

You can scroll or page up and down as usual to view all the records in the list. Alternatively, you can press your INQUIRY MODE key and then key in a specific process type and name at which to position the list. To explore a process further, simply position your cursor on the appropriate line and press ENTER. Once you select the desired process, you have four choices of action to pursue.

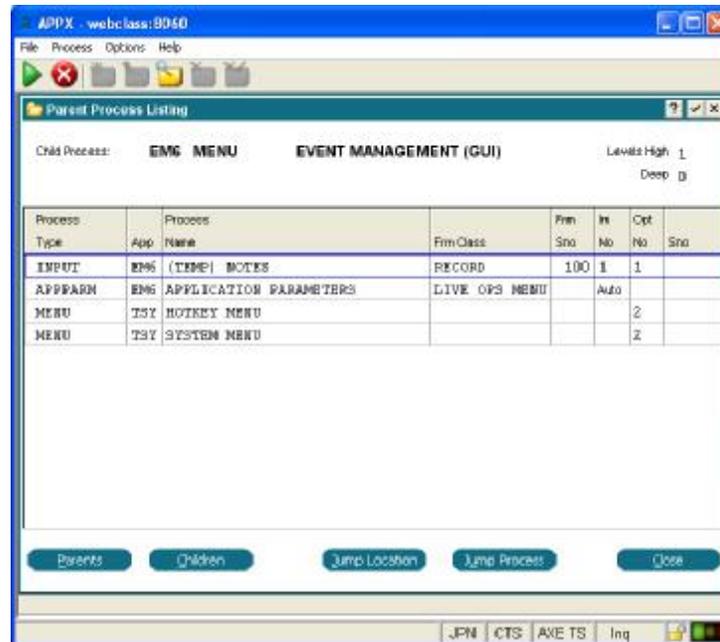
- Parents
- Children

- Jump to Process/Location
- Close

Below are the detailed explanations of these options.

## Parents

This option will display a screen showing all the processes (i.e., parents) that call the process you selected on the previous screen, as in the example below.



### Child Process

This displays the name of the process you selected on the previous screen. It is the file whose parent processes are currently displayed.

### Levels High

This field shows the number of levels you have progressed up the process tree, i.e., the number of times you have shown the parent processes that call a given process. It is incremented by 1 each time you select click the 'Parents' button. There are no limits as to the number of levels to which you can go.

### Levels Deep

This field shows the number of levels you have progressed down the process tree, i.e., the number of times you have shown the child processes called by a given process. It is incremented by 1 each time

you click the 'Children' button. There are no limits as to the number of levels to which you can go.

The fields below describe the parent processes listed in the lower half of the screen.

### Process Type

This shows the type of the process on this line. Besides the usual types (i.e., MENU, JOB, INPUT, OUTPUT, QUERY, INQUIRY, STATUS, SUBROUTINE, and UPDATE), there are several others that may display:

**SYSPARM** This displays when a process was called by Direct Process 1 on the System Parameter File.

**APPPARM** This displays when a process is called by Direct Process 2, Live Operations Menu, Initial Setup Menu or Recovery Menu on an application's Parameter File.

**USER START** This displays when a process is called from the Initial Process on the System USER file.

**DEF INP** This displays when a process is called by the Default Input Process for a file.

### App

This displays the Application in which the process exists. It will be in the same version you specified on the first screen.

### Process Name

This is the name of the process.

### Frame Class

This indicates the frame class from which the child process is called. Frame classes differ depending on the parent process type and will usually be the normal values such as RECORD, PAGE-START, REPORT-END, etc). However, if the child is not called by another process, this field may display a different explanatory value such as Direct Proc 1, INIT PROC, LIVE OPS MENU, etc.

### Frm Sno

This field indicates the sequence number of a frame in the parent process if the child is an automatic child called from that frame, if the child is an optional child called from an image within the

frame, or if the child is called from ILF code within the frame- or image-level event point. If the frame sequence number is blank, the child was called from an event point higher than frame-level (e.g., Start-of Process, Post PCF Read, Etc).

#### **Im No**

If the child process is an optional child called from an image or is called from ILF code in an image-level event point, this field will show the number of that image. If it was called at frame-level from ILF code or as an automatic child, this field will show "AUTO".

#### **Opt No**

If the child process is an optional child called from an image, or if it is called from a menu item, this field will indicate the option number used to call the process. If it is called through image-level ILF code, the Option Number will be blank. If it is called at frame-level (i.e., the Image Number displays as "AUTO"), this field will be blank.

#### **Sno**

If the child process is called as an automatic child from a frame in the parent process, this field will show the sequence number of the automatic child. In all other cases, this field will be blank.

#### **Event Point**

When you are positioned on a parent process that calls the displayed child process from an ILF Statement, then the name of the Event Point displays below the list of parent processes and above the 'Parent' button. It shows you the event point in which the selected parent process calls the child.

#### **Parents**

You can change the direction you are proceeding through the process tree at any time by clicking this button or the 'Children' button on this and any subsequent screen. The level counters will keep track as you explore deeper and/or higher levels. Click 'Close' to exit each level. This will back the display up through the previous levels, decrementing the appropriate level counter by one for each level.

## Children

You can change the direction you are proceeding through the process tree at any time by clicking this button or the 'Parents' button on this and any subsequent screen. The level counters will keep track as you explore deeper and/or higher levels. Click 'Close' to exit each level. This will back the display up through the previous levels, decrementing the appropriate level counter by one for each level.

## Jump Location

If you position your cursor on a process and click this button, the program will take you to the location in the process from which the child process is called. If the application of the process is locked, and you do not have design rights, this option will not function.

## Jump Process

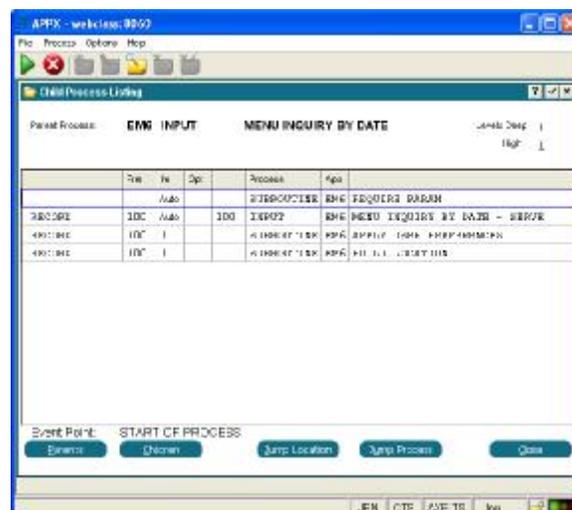
If you position your cursor on a process and click this button, the program will take you to the application design for the process. If the application of the process is locked, and you do not have design rights, this option will not function.

## Close

Click to exit the current level.

## Children

This option will display a screen showing all the processes (ie., children) that are called by the process you selected on the previous screen, as in the example below:



**Parent Process**

This displays the name of the process you selected on the previous screen. It is the file whose child processes are currently displayed.

**Levels High**

This field shows the number of levels you have progressed up the process tree, i.e., the number of times you have shown the parent processes that call a given process. It is incremented by 1 each time you select click the 'Parents' button. There are no limits as to the number of levels to which you can go.

**Levels Deep**

This field shows the number of levels you have progressed down the process tree, i.e., the number of times you have shown the child processes called by a given process. It is incremented by 1 each time you click the 'Children' button. There are no limits as to the number of levels to which you can go.

**Frame Class**

This field indicates the class of the frame of the parent process from which the child process is called. Frame classes will differ depending on the type of the parent process.

**Frm Sno**

If the child process is an automatic child called from a frame in the parent process, this field will indicate the sequence number of that frame. There will also be a frame sequence number if the child is an optional child called from an image within the frame, or if it is a child called from any ILF code within a frame- or image-level event point. A blank sequence number means the child was called at a point higher than frame-level (eg., Post PCF Read, etc.)

**Im No**

This field shows the number of the calling image for an optional child called from an image or a child called from ILF code in an image-level event point,. If it is called at frame-level in ILF code or as an automatic child, this field will show the word "AUTO".

**Opt No**

If the child process is an optional child called from an image, or if it is called from a menu item, this field shows the option number used to call the process. If it is called through image-level ILF code, the Option Number will be blank. If it is called at frame-level (ie., Image Number displays as "AUTO"), this field will be blank.

**Sno**

If the child process is called as an automatic child from a frame in the parent process, this field will show the sequence number of the automatic child. In all other cases, this field will be blank.

**Process Type**

This shows the type of the process on this line.

**App**

This displays the Application in which the process exists. It will be in the same version you specified on the first screen.

**Process Name**

This is the name of the process.

**Event Point**

When you are positioned on a child process called by the displayed parent process from an ILF Statement, this field displays below the list of child processes. It shows you the event point in which the selected child process is called by the parent.

**Parents**

You can change the direction you are proceeding through the process tree at any time by clicking this button or the 'Children' button on this and any subsequent screen. The level counters will keep track as you explore deeper and/or higher levels. Click 'Close' to exit each level. This will back the display up through the previous levels, decrementing the appropriate level counter by one for each level.

**Children**

You can change the direction you are proceeding through the process tree at any time by clicking this button or the 'Parents' button on this and any subsequent screen. The level counters will

keep track as you explore deeper and/or higher levels. Click 'Close' to exit each level. This will back the display up through the previous levels, decrementing the appropriate level counter by one for each level.

### Jump Location

If you position your cursor on a process and click this button, the program will take you to the location in the parent process from which the process is called. If the application of the process is locked, and you do not have design rights, this option will not function.

### Jump Process

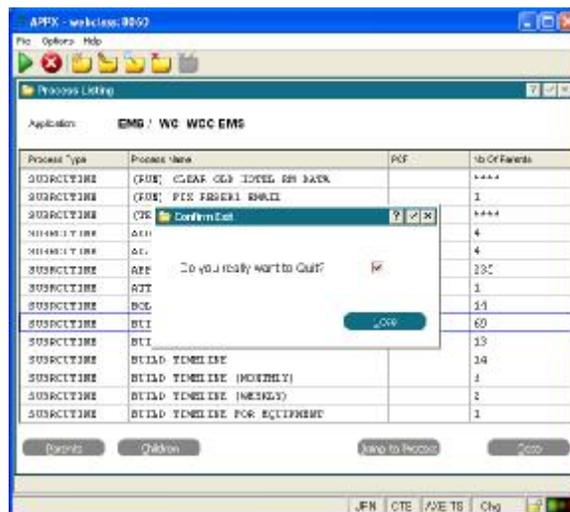
If you position your cursor on a process and click this button, the program will take you to the application design for the process. If the application of the process is locked, and you do not have design rights, this option will not function.

### Close

Click this to exit the current level.

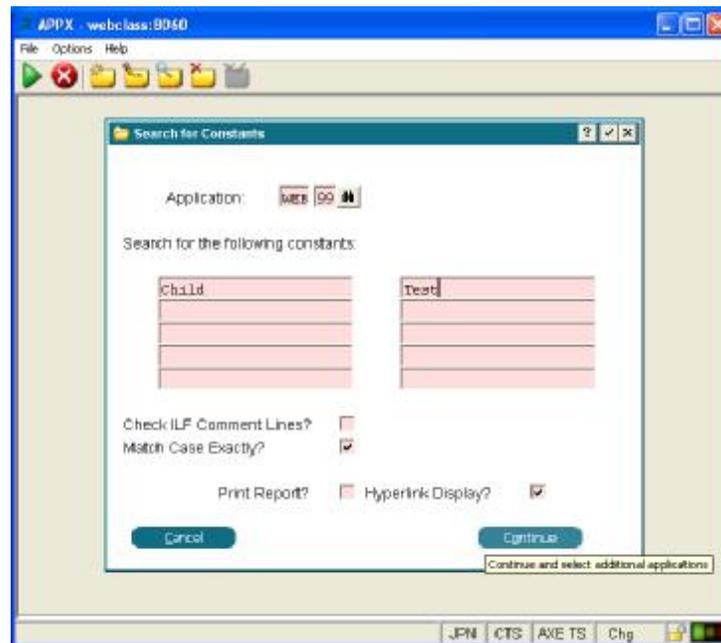
### Exit Hyperlink Display

When you have exited all the levels through which you have explored, the screen will return to the original list of processes for the selected application. To exit the Hyperlink Display, click 'Close' on this screen and then confirm whether or not you really want to exit the program, as shown below:



## Search for Constants

When this menu item is selected, this is the first screen to display:



### Application

In this field, specify the application and version you want to search. You can use the SCAN key to see a list of the existing Application/Versions. This field will default to the Application that was selected on the Application list.

### Constants

Enter up to ten character strings (constants) for which to search. These may be a combination of any alphanumeric characters, including imbedded blanks. Use an underscore ( \_ ) to represent leading or trailing blanks (eg., \_note , credit\_ , \_cr\_ ).



***There are some limitations to this search utility.***

***1) ILF statements are not stored in the same format in which they are displayed on the screen in application design. There are no spaces stored between the various “fields” in the statement. For example, in a SET command, the destination field may display as “AXE PARENT PROC TYPE”, with a space between the application “AXE” and the field name “PARENT PROC TYPE”. However, it is stored in the STMT record as “AXEPARENT PROC TYPE”. Therefore, if you wanted to search for the field “PARENT***

***PROC TYPE” from Application “AXE”, you would have to key it as stored in the STMT record in order for the search program to recognise it.***

***2) If you are searching for constants in ILF Statements that also reference Token fields, they may not always be recognised by the search program. Although application design displays the values of constants the way we key them (eg., SET --- OPTION = CANCEL), they are often stored as numeric values that are relevant to the particular ILF Command. In the example above, you may want to find all the places where “--- OPTION” is set to “CANCEL”, so you tell the program to search for the constant “CANCEL”. However, because “--- OPTION” is a TOKEN field, APPX stores the “CANCEL” string as a numeric value that APPX recognises, but the search program will not. Therefore, the program will not find any hits based on your request. You would have to know the specific APPX numeric code and search for that instead.***

#### Check ILF Comment Lines?

If check this box, the program will include all comment lines in the ILF Code of the selected application when searching for the specified constants. If leave this box blank, any comment lines will be ignored.

#### Match Case

##### Exactly?

Uncheck this box to find all occurrences of a specific constant regardless of case. If you do that, it does not matter how you key in the constants. To find only occurrences of a specific combination of lower and upper case characters, check this box and key the constant(s) exactly as for what you want to search.

#### Print Report?

Check this box to produce a printed list of the constant occurrences found.

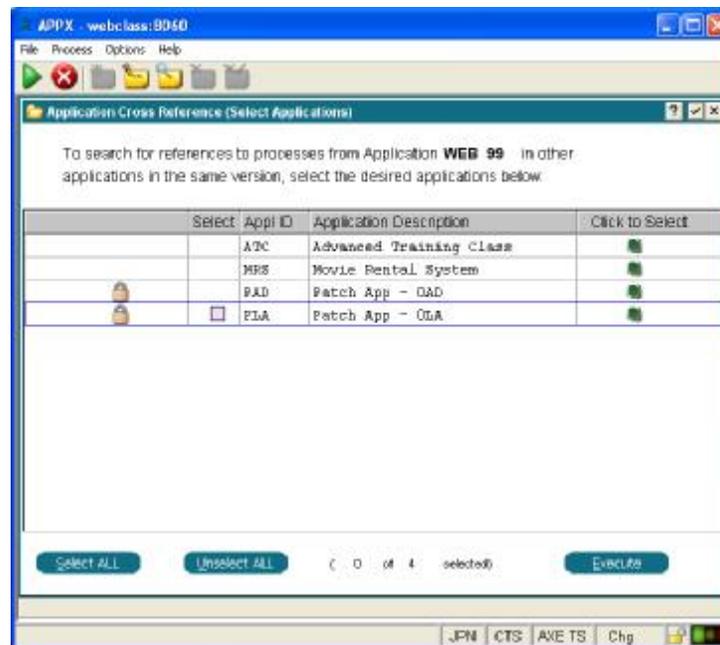
#### Hyperlink Display

Check this box to display the list of occurrences on your screen and use the available option to drill down into the actual processes where the constants are found.

Click the 'Cancel' button cancel this process, or click 'Continue' begin processing.

The program will search for usage of the specified constants in the process images, ILF Code statements and data dictionary field default values for the specified Application/Version. It will search this Application/Version only, unless additional applications are specified on the next screen.

The next screen displays all other existing applications for the same version as specified on the previous screen. You can now specify any additional applications in which to search for the specified constants.



At the top of the screen, the information confirms the Application/Version whose processes you are investigating. Below it is a list of the other existing applications in that same version.



***If there are no other applications in this version, this screen will be skipped and the system will begin processing your application.***



***Your original application is not shown on the list because it will always be searched.***

**Select**

This field is a Yes/No checkbox indicating whether to include the application on this line in the search for references. To select/unselect specific applications, position the cursor on the desired line and press ENTER. Click in the checkbox to set the flag as desired. Press ENTER again to confirm the change and move to the next line.

**Appl Id**

This field shows the 3-character ID of the application on that line.

**Description**

This field displays the description for that application.

**Click to Select**

As an alternative to selecting applications via the 'Select' column, you can also click this button to select or unselect an application. The advantage this offers is that you do not have to select the record first, simply click on any displayed application to select or unselect it.

**Select ALL**

Use this button to select all the applications listed.

**Unselect ALL**

Use this button to unselect all the applications listed.



***This does not affect your original application. It will always be selected.***

**xx of yy Selected**

This displays the number of applications out of the total listed that you have selected.

**Execute**

Click this button when you have completed your selections and wish to continue. Page and scroll up and down the list to make your selections.

The next screen displays the ongoing status of the program as it searches through the applications you have selected.



The top section simply confirms the version of the selected applications in which you are searching.

As each selected application is processed (including your original application), it appears on a new line on the status screen. The information on the line will be updated as the program progresses through its stages. The previously processed applications move up the screen until they roll off the top of the list.

## ID

The ID of the application currently being processed is on the last of the displayed lines. The previous lines show the IDs of applications that are finished processing.

## Description

This is the description of the application on this line.

The following fields indicate the progression through the stages of processing an application.

## Statements

This indicates the stage that searches the application's ILF code statements.

## Images

This indicates the stage that searches the application's screen images.

## DD Defaults

This indicates the stage that searches the field default values and headings in the application's data dictionary.

## Processing xx of yy

If the list of selected applications is longer than one page, the status lines scroll down to the bottom of the screen. After that point, each new application just keeps appearing on the last line and the previous data rolls up. This prevents you from seeing how many applications are still to be processed. This counter lets you know how many of the total number of selected applications (including your original one) have been processed.

When all selected applications have been completely processed, the screen redisplay beginning at the first application and the 'Continue' button is enabled. At this point, you can page or scroll up and down the list to view it. Click 'Continue' when you are ready to proceed.

If you did not check the Hyperlink Display option on the first screen, the program will proceed to the step that prints the Search for Constants Report. If checked Hyperlink Display option, the program will now show the following screen.



***If the application you selected is locked, the records in the STMT (ILF Statement) will be encrypted, and this program will be unable to examine them even if you have the Application Design lock. As a result, there may places where constants are used in the ILF code that are not displayed here. To run this process accurately on a locked application, it should first be unlocked.***

Type	Constant	App	Type	Name
I	Test	MRB	MENU	COLOR MENU
I	Test	MRB	MENU	TEST MENU

### Type

This field indicates where the occurrence of the constant was found. A “D” indicates that the constant occurred as a default value for a field in the data dictionary. An “I” indicates the constant occurred in an image. An “S” indicates the constant occurred in an ILF statement, and an “H” indicates that it was found in a heading.

### Constant

This field shows to which of your specified constants the occurrence refers.

### App

This field is the application in which the occurrence of the constant appears.

### Type

This field is the process type (eg., Input, Output, etc.) in which the occurrence of the constant appears.

### Name

This field is the name of the process in which the occurrence of the constant appears.

## Jump to this Hit

You can scroll up and down the displayed list of occurrences. If you position your cursor on a specific line and take this option, the program will take you to the exact location in the application design where this constant occurs. From there you can modify the process if desired. Exiting the application design will return you to this screen.

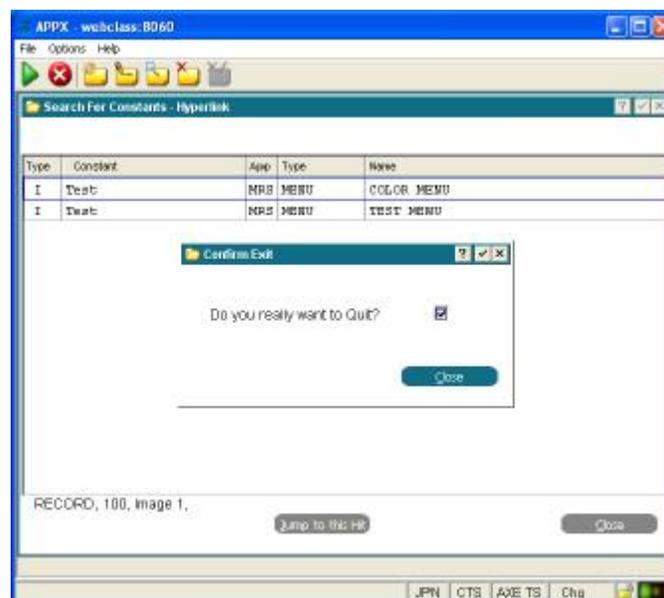


**As you move from line to line on this screen, you will notice a line at the bottom of the list displaying additional information. For “I” (Image) type occurrences, the line will display the Frame Type, Frame Number and Image Number where the occurrence is located. For “S” (Statement) type occurrences, the displayed information will be the same, with the addition of the Event Point. No information is displayed on this line for “D” or “H” (Data Dictionary Default Value and Heading) types.**



**For Heading types, it is not possible for Application Explorer to take you directly to the Heading. Instead, you will be taken to the field, and you will have to press Enter to get to the screen that displays the heading.**

Click ‘Close’ on this screen to display a prompt asking you to specify if you really want to end the display:



Clear the checkbox if you want to return to the Hyperlink Display.

If you did not check the Print Report prompt on the first screen, clicking 'Close' at this point will end the program. If you checked the Print Report prompt, the Search For Constants Report will print.

Below are samples of sections of the Report that may print.

```

12/20/2009 13:52 46.16                               Application Explorer Test DB                               LDN Page:      2
                                                    Search for Constants
                                                    Image References
App      Process      Process      Frame      Frame      Alt Row
Id  Ver  Type      Name      Class      Seq No  Img  No  Text
=====
=
Found Constant: Child
AXE 00  INPUT      EXPLODE PROCESS (HYPER) 2 RECORD 150 1 2 1) Parents 2) Children 94) Jump Process
      EXPLODE PROCESS (HYPER) 3 PAR RECORD 100 1 2 Child Process:
      RECORD 150 1 2 1) Parents 2) Children END) Exit 94)
      EXPLODE PROCESS (HYPER) 4 CHLD RECORD 100 1 1 Child Process Listing
      RECORD 100 1 4 Children: Frm Im Opt Process App
      RECORD 150 1 2 1) Parents 2) Children END) Exit 94)
      EXPLODE PROCESS 2      RECORD 100 1 1 Child Process Listing
      RECORD 150 1 2 1) Children 2) Print 94) Jump Location
    
```

```

12/20/2009 13:52 46.16                               Application Explorer Test DB                               LDN Page:      1
                                                    Search for Constants
                                                    ILF References
App      Process      Process      Frame      Frame      Alt  Opt  Chld Event      Hit
Id  Ver  Type      Name      Class      Seq No  Img  No  Seq Point      Count
=====
Found Constant: Child
AXE 00  INPUT      EXPLODE PROCESS (HYPER) 4 CHLD RECORD 200 2      PRE-DISPLAY      1
      EXPLODE PROCESS 2      RECORD 200 2      PRE-DISPLAY      1
      SEARCH FOR CONSTANTS - HYPER RECORD 200 1      PRE-DISPLAY      2

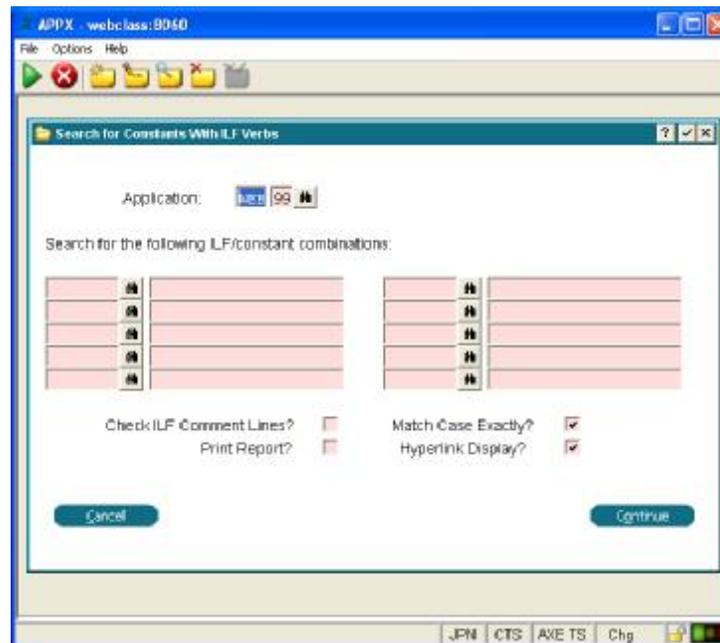
Found Constant: TEST
AXE 00  SUBROUTINE TRIM TRAILING /      RECORD      START OF PROCESS      1
    
```

```

12/20/2009 13:52 46.16                               Application Explorer Test DB                               LDN Page:      3
                                                    Search for Constants
                                                    Data Dictionary Defaults
App      File      Sequence Field      Default
Id  Ver  Name      Number Name      Domain      Value
=====
Found Constant: TEST
AXE 00  TEST      100 TEST FIELD1      TEST FIELD 1
    
```

## Search for Constants Within ILF

When this menu item is selected, this is the first screen to display:



### Application

In this field, specify the application and version you want to search. You can use the SCAN key to see a list of the existing Application/Versions. This field will default to the Application that was selected on the Application list.

### ILF/Constants

Enter up to ten combinations of ILF Commands and character strings (constants) for which to search. The ILF commands (left field of each combo) must be keyed in uppercase and must be correctly and fully spelled out. The constants (right field in each combo) may be a combination of any alphanumeric characters, including imbedded blanks. Use an underscore ( \_ ) to represent leading or trailing blanks (eg., \_note , credit\_ , \_cr\_ ).

***There are some limitations to this search utility.***



***1) ILF statements are not stored in the same format in which they are displayed on the screen in application design. There are no spaces stored between the various “fields” in the statement. For example, in a SET command, the destination field may display as***

***“AXE PARENT PROC TYPE”, with a space between the application “AXE” and the field name “PARENT PROC TYPE”. However, it is stored in the STMT record as “AXEPARENT PROC TYPE”. Therefore, if you wanted to search for SET commands where the destination field (or source, for that matter) is “PARENT PROC TYPE” in Application “AXE”, you would have to key it as stored in the STMT record in order for the search program to recognise it.***

***2) If you are searching for constants in ILF Statements that also reference Token fields, they may not always be recognised by the search program. Although application design displays the values of constants like we key them (eg., SET --- OPTION = CANCEL), they are often stored as numeric values that are relevant to the particular ILF Command. In the example above, you may tell the program to search for the constant “CANCEL” in a SET command. However, because “--- OPTION” is a TOKEN field, APPX stores the “CANCEL” string as a numeric value that APPX recognises, but the search program will not. Therefore, the program will not find any hits based on your request. You would need to know the specific APPX numeric code and search for it instead.***



***Most ILF commands are stored in upper case, but some can be in either upper or lower case. Application Explorer will automatically search for both***

#### Check ILF Comment Lines?

If check this box, the program will include all comment lines in the ILF Code of the selected application when searching for the specified constants. If leave this box blank, any comment lines will be ignored.

#### Match Case Exactly?

Uncheck this box to find all occurrences of a specific constant regardless of case. If you do that, it does not matter how you key in the constants. To find only occurrences of a specific combination of lower and upper case characters, check this box and key the constant(s) exactly as for what you want to search.

## Print Report?

Check this box to produce a printed list of the constant occurrences found.

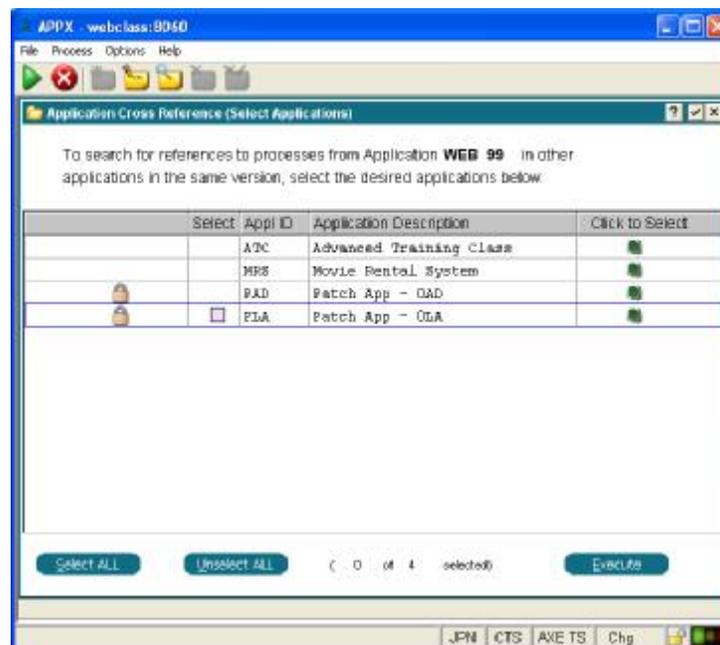
## Hyperlink Display

Check this box to display the list of occurrences on your screen and use the available option to drill down into the actual processes where the constants are found.

Click the 'Cancel' button cancel this process, or click 'Continue' begin processing.

The program will search for usage of the specified ILF/Constant combinations in the ILF Code statements for the specified Application/Version. It will search this Application/Version only, unless additional applications are specified on the next screen.

The next screen displays all other existing applications for the same version as specified on the previous screen. You can now specify any additional applications in which to search for the specified constants.



The information at the top confirms the primary Application/Version in which you are searching. Below it is the list of the other existing applications in that same version.



***If there are no other applications in this version, this screen will be skipped and the system will begin processing your application.***



***Your original application is not shown on the list because it will always be searched. Only other applications are displayed).***

### Select

This field is a Yes/No checkbox indicating whether to include the application on this line in the search for references. To select/unselect specific applications, position the cursor on the desired line and press ENTER. Click in the checkbox to set the flag as desired. Press ENTER again to confirm the change and move to the next line.

### Appl Id

This field shows the 3-character ID of the application on that line.

### Description

This field displays the description for that application.

### Click to Select

As an alternative to selecting applications via the 'Select' column, you can also click this button to select or unselect an application. The advantage this offers is that you do not have to select the record first, simply click on any displayed application to select or unselect it.

### Select ALL

Use this button to select all the applications listed.

### Unselect ALL

Use this button to unselect all the applications listed.



***This does not affect your original application. It will always be selected.***

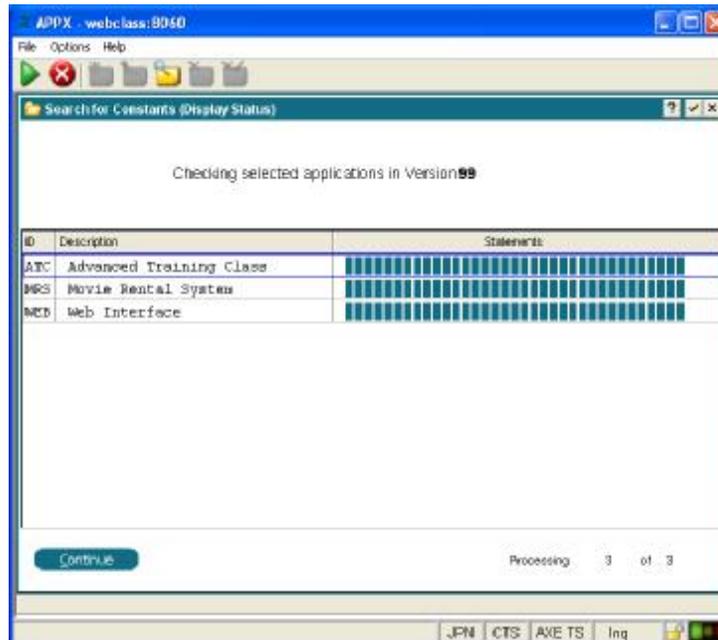
### xx of yy Selected

This displays the number of applications out of the total listed that you have selected.

### Execute

Click this button when you have completed your selections and wish to continue. Page and scroll up and down the list to make your selections.

The next screen displays the ongoing status of the program as it searches through the applications you have selected.



The top section confirms the version of the selected applications in which you are searching.

As each selected application is processed (including your original application), it appears on a new line on the status screen. The information on the line will be updated as the program progresses through its stages. The previously processed applications move up the screen until they roll off the top of the list.

**ID**

The ID of the application currently being processed is on the last of the displayed lines. The previous lines show the IDs of applications that are finished processing.

**Description**

This is the description of the application on this line.

**Statements**

This indicates how much progress the program has made searching the application's ILF code statements.

**Processing xx of yy**

If the list of selected applications is longer than one page, the status lines scroll down to the bottom of the screen. After that point, each new application just keeps appearing on the last line and the previous data rolls up. This prevents you from seeing how many applications are still to be processed. This counter lets you know how many of the total number of selected applications (including your original one) have been processed.

When all selected applications have been completely processed, the screen redisplay begins at the first application and the 'Continue' button is enabled. At this point, you can page or scroll up and down the list to view it. Click 'Continue' when you are ready to proceed.

Press END to continue to view the Hyperlink Display and/or print the Report.

If you did not check the Hyperlink Display option on the first screen, the program will proceed to the step that prints the Search for Constants Report. If checked Hyperlink Display option, the program will now show the following screen.

Type	Constant	App	Type	Name
S	NEB	WEB	INPUT	TDR SCROLLER
S	NEB	WEB	INPUT	TDR SCROLLER
S	NEB	WEB	INPUT	TDR SCROLLER
S	NEB	WEB	STRUCTURE	CLEAR USER PASSWORD
N	SPH	WEB	NO-ENTRY-RE	SPH HPPR4



***If the application you selected is locked, the records in the STMT (ILF Statement) will be encrypted, and this program will be unable to examine them even if you have the Application Design lock. As a result, there may be places where constants are used in the ILF code that are not displayed here. To run this process accurately on a locked application, it should first be unlocked.***

#### Type

This field indicates where the occurrence of the constant was found. The “S” indicates the constant occurred in an ILF statement.

#### Constant

This field shows to which of your specified constants the occurrence refers.

#### App

This field is the application in which the occurrence of the constant appears.

#### Type

This field is the process type (eg., Input, Output, etc.) in which the occurrence of the constant appears.

#### Name

This field is the name of the process in which the occurrence of the constant appears.

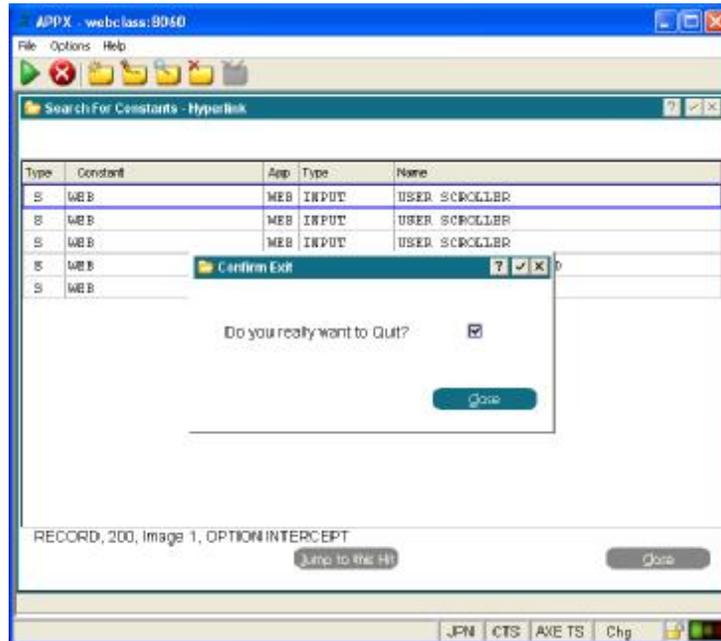
### Jump to this Hit

You can scroll up and down the displayed list of occurrences. If you position your cursor on a specific line and click this button, the program will take you to the exact location in the application design where this constant occurs. From there you can modify the process if desired. Exiting the application design will return you to this screen.



*As you move from line to line on this screen, you will notice a line at the bottom of the list displaying additional information. This information includes the Frame Type, Frame Number, Image Number and the Event Point where the constant occurred.*

Click 'Close' from this screen to display a prompt asking you to specify if you really want to end the display:



Clear the checkbox if you want to return to the Hyperlink Display.

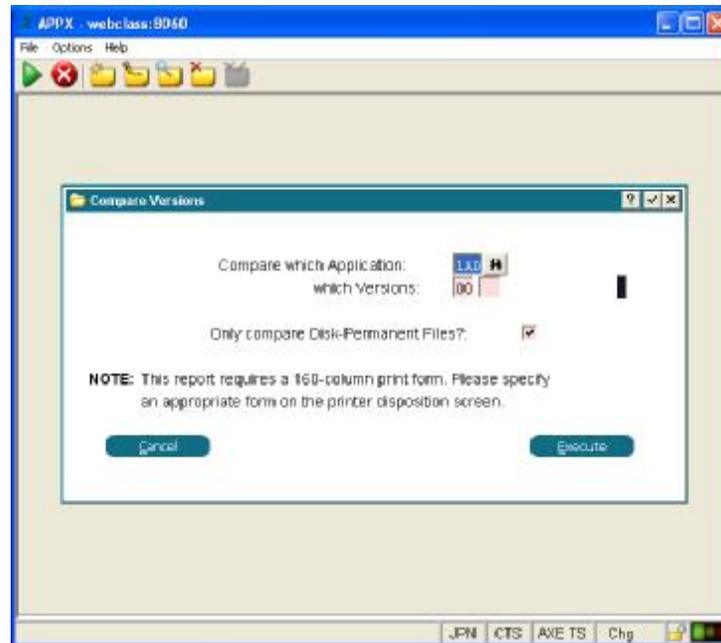
If you did not check the Print Report prompt on the first screen, clicking 'Close' at this point will end the program. If you checked the Print Report prompt, the Search For Constants Report will print.

Below is a sample Report.

App Id	Process Ver	Process Name	Frame Class	Frame Seq No	Alt Img	Opt No	Chld Seq	Event Point	Hit Count
Application Explorer Test DB									
12/20/2009 17:12 03.38									
Search for Constants									
ILF References									
Found Constant: Jump									
AXE 00	INPUT	EXPLODE PROCESS (HYPER) 2	RECORD	200	1			OPTION INTERCEPT	1
		SEARCH FOR CONSTANTS - HYPER	RECORD	300	1			OPTION INTERCEPT	1
		VIEW PROCESS BY PCF (SCROLL)	RECORD	200	1			OPTION INTERCEPT	1
		XREF UNUSED PROCESSES 2	RECORD	200	1			OPTION INTERCEPT	1
	SUBROUTINE	DRILL DOWN (CHILD)	RECORD					START OF PROCESS	2
		DRILL DOWN (PARENT)	RECORD					START OF PROCESS	2

## Compare Data Dictionary

When this menu item is selected, the first screen displayed prompts for the application and versions to compare:



### Compare Application

Enter the application for which versions you wish to compare the Data Dictionaries. You can use SCAN to see the existing applications. This field will default to the Application that was selected on the Application list.

### Which Versions

Enter the two versions of your application that you wish to compare. You can also use SCAN on this field to see the existing versions.

### Only Compare Permanent Files

Check this box to compare only permanent files. If you do that, the program will ignore all DISK-, MEMORY- and WORKING STORAGE files when comparing. Uncheck this box to compare the Data Dictionaries for all files and Work Fields in the selected application and versions.

Click 'Execute' to continue to the next screen, which is a Query Sort Order Selection for the Listing of FILE differences. On this screen you can specify the sequence in which the report data should print, as well as what subheading and subtotals to include.



***This report requires a print form that is at least 160 columns wide. You will need to specify an appropriately sized form on the printer disposition screen that appears after the query screens.***

Sort Level	Field Name	Occ	Subheading	Subtotal	Sort Order
1	User Add	STANDARD		NO	+
2	Application Version	NO		NO	+
3	File Name	NO		NO	+
4	User Mod	NO		NO	+

### Sort Level

The values in this column indicate the level at which the corresponding field is to be sorted, with "1" as the highest level, "2" as next highest, and so on. For example, in the screen above, the data would be sorted by Added By User ID first, then Application Version, then File Name, and then the Modified By User ID.

The Sort Level values can be changed for any of the fields. Any or all of the fields can be included in the sorting process. To exclude a field, simply blank out the sort level beside it. If you do change the sort levels from the default, pressing ENTER will redisplay the screen with the fields listed in the sort level sequence you have specified.

### Field Name

This column simply lists the names of the fields that can be included in the sort process.

## Subheading

This column allows you to specify whether to print a subheading for each field included in the sort process. If a field is not included (ie., has no sort level), no subheading will print for the field even if one is specified in this column. Use SCAN to select from the available subheading types.

## Subtotal

This column allows you to specify whether to print a subtotal for each field included in the sort process. If a field is not included (ie., has no sort level), no subtotal will print even if one is specified in this column. Use SCAN to see the available subtotal types.

## Sort Order

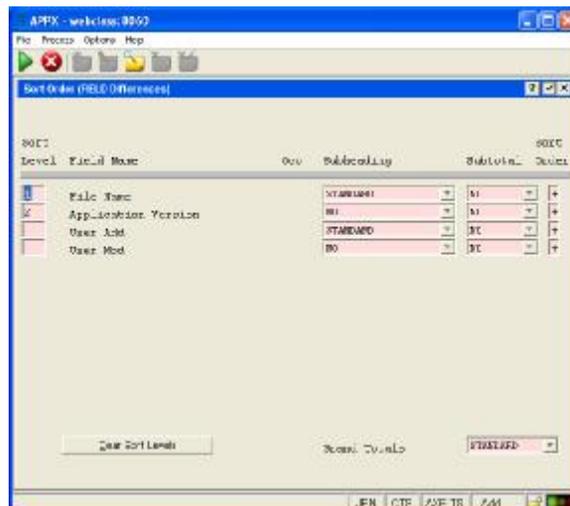
This column allows you to specify whether a field included in the sorting should be sorted in Ascending (+) or Descending (-) sequence.

## Clear Sort Levels

This option blanks out all the sort levels, so you can re-key them as desired.

## Grand Totals

This field allows you to specify whether to print a final total at the end of the report. Use SCAN to select from the available Grand Total types. Press ENTER to continue to the Sort Order Selection for the Listing of FIELD differences.



The explanations of the fields on this screen are the same as for the Sort Order for FILE differences.

Press ENTER to continue once you have finished entering the data. The next screen is a normal print disposition screen and requires a print form that is at least 160 columns wide, therefore specify an appropriately sized form. Enter the specifications and press ENTER again to print the reports.



**There are currently two restrictions on the function of this process.**

- 1. Only the field “format” is compared when comparing field characteristics. This format also appears on a Data Dictionary listing as “X(25)”, “9(7)V2”, “CC-mm”, etc. In older versions of APPX, it was possible for a field “format” to be corrupted or missing so as not to match the actual structure of the field. Quite often, modifying the field would still not result in a change to the displayed format. In these cases, it is possible the program may not detect existing differences, or detect differences that actually do not exist.**
- 2. This version of Application Explorer detects neither changes in Group Header/Trailer composition nor addition/deletions of key fields. This is expected to be added in a future version.**

The following are samples of the two printed reports.

```

Application Explorer Test DB
12/20/2009 22:50 07.66                               LDN Page: 1
Compare Versions - File Differences

   File                                     Us           Us
  App V Name   Message                       Add Date Add   Mod Date Mod
=====
Added By: LDN Lisa Neron

  AXE TS TEST   Does not exist in Ver 00          LDN 03/10/1998 JPN 10/07/1998
    
```

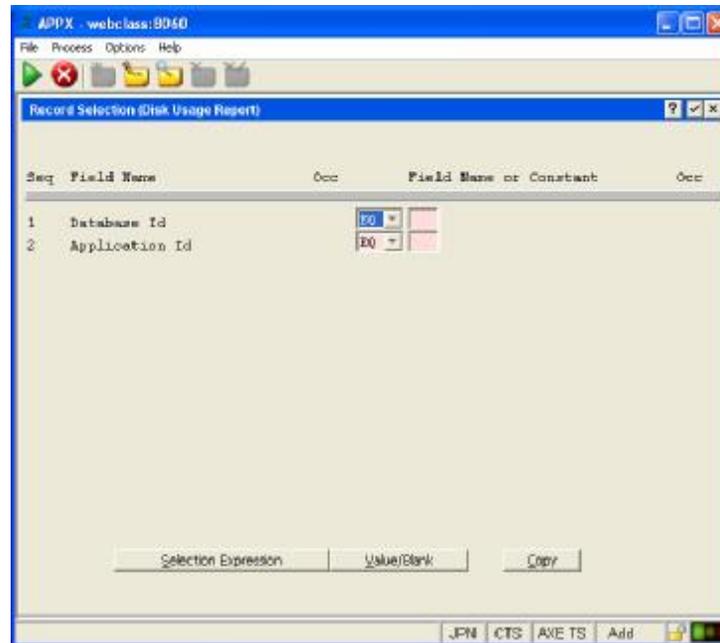
```

Application Explorer Test DB
12/20/2009 22:50 12.68                               LDN Page: 1
Compare Versions - Field Differences

   File                                     Us           Us
  App V Name   Name   Message                       Add Date Add   Mod Date Mod   Format   Format
=====
File Name: CHILD
  AXE 00 CHILD   CHILD FRM CLASS   Formats are different   JPN 08/26/1996 JPN 10/06/1999   X(15), Tbl   X(15)
File Name: CHLDHYP
  AXE 00 CHLDHYP CHLDHYP FRM CLASS   Formats are different   JPN 07/09/1997 JPN 10/06/1999   X(15), Tbl   X(15)
File Name: STMTXREF
  AXE 00 STMTXREF STMTXREF FRM CLASS   Formats are different   JPN 08/29/1997 JPN 10/06/1999   X(15), Tbl   X(15)
    
```

## Disk Usage Report

The first screen to display when this menu is selected is the record selection screen of a Query.



### Database ID

Enter the ID of the desired database. If you want to include a range of databases, you can change the relationship operator from EQ to any other of the normal values (eg., LT, GT, GE, LE, etc). Use SCAN on the operator field to see the possible values.

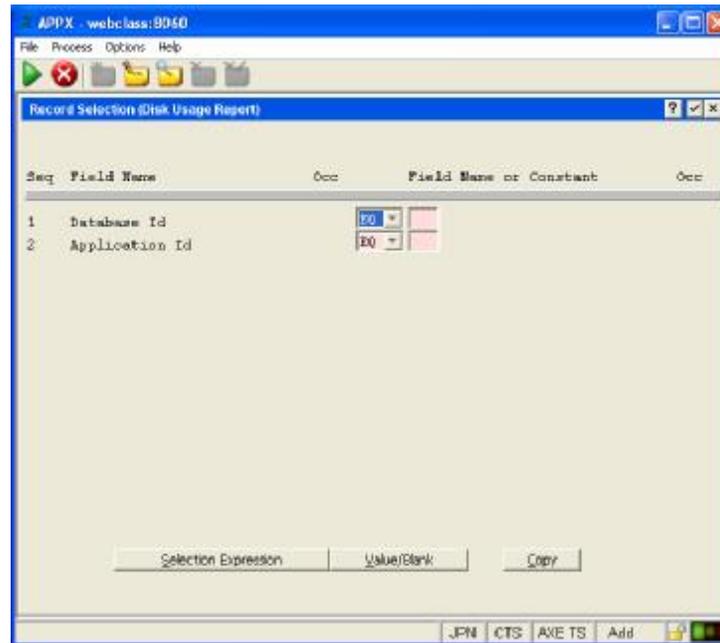
### Application ID

Enter the ID of the desired application. To include multiple applications, you can change the relationship operator from EQ to any other of the normal values (eg., LT, GT, GE, LE, etc). Use SCAN on the operator field to see the possible values.

The report will print the location and size of all files in the selected database(s) that are used in the specified application(s). If you enter database(s) and leave application blank, the report will include the files from the database(s) that are used in any application. If you leave database blank and enter application(s), the report will print files from any database(s) that are used in the application(s). If you leave both blank, the report will print all existing combinations of databases and applications.

After keying the desired database(s) and application(s), press ENTER to continue.

The next screen is the Sort Order Selection of the Query. On this screen you can specify the sequence that the report data should print, as well as what subheading and subtotals to include.



### Sort Level

The values in this column indicate the level at which the corresponding field is to be sorted, with “1” as the highest level, “2” as next highest, and so on. For example, in the screen above, the data would be sorted by Database ID first, and then the data within each database would be sorted by Application ID. The FMS path does not have a sort level beside it and does not affect the sort sequence in this case.

The Sort Level values can be changed for any of the fields. Any or all of the fields can be included in the sorting process. To exclude a field, simply blank out the sort level beside it. If you do change the sort levels from the default, pressing ENTER will redisplay the screen with the fields listed in the sort level sequence you have specified.

### Field Name

This column simply lists the names of the fields that can be included in the sort process.

**Subheading**

This column allows you to specify whether to print a subheading for each field included in the sort process. If a field is not included (ie., has no sort level), no subheading will print for the field even if one is specified in this column. Use SCAN to select from the available subheading types.

**Subtotal**

This column allows you to specify whether to print a subtotal for each field included in the sort process. If a field is not included (ie., has no sort level), no subtotal will print even if one is specified in this column. Use SCAN to see the available subtotal types.

**Sort Order**

This column allows you to specify whether a field included in the sorting should be sorted in Ascending (+) or Descending (-) sequence.

**Clear Sort Levels**

This option blanks out all the sort levels, so you can rekey them as desired.

**Grand Totals**

This field allows you to specify whether to print a final total at the end of the report. Use SCAN to select from the available Grand Total types.

Once you have entered the data on this screen, press ENTER to continue. The next screen is an APPX print disposition screen. Enter the desired specifications and press ENTER again to print the report.

## Below a sample Disk Usage Report:

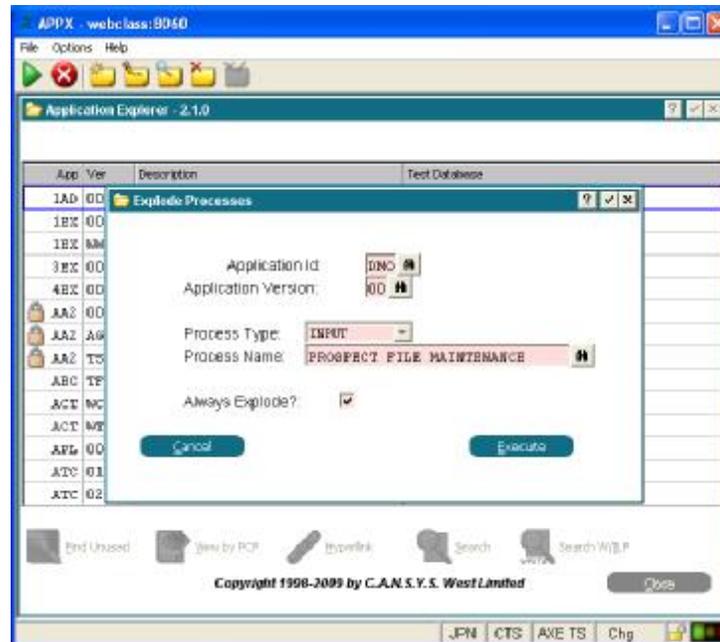
File Name	Fms Path	Data Size	Key Size	Total Size	
12/20/2009 11:25:37.29pm Example database LDN Page: 1					
Disk Usage Report					
Database Id: 1EX Example database					
Application Id: 1EX / 00 Example Application?					
ORDER1	Orders	/appx/data/1EX/1EX/	1,610	3,584	5,194
ORDER2	Order Line items	/appx/data/1EX/1EX/	988	3,584	4,572
PRODUCT	Products	/appx/data/1EX/1EX/	3,799	3,584	7,383
VENDOR	Vendors	/appx/data/1EX/1EX/	2,705	3,584	6,289
VNDR	Vendors	/appx/data/1EX/1EX/	512	3,584	4,096
-- Application Id Subtotals -->		9,614	17,920	27,534	
Application Id: AA2 / 00 Application Auditor 2000					
COMPLEX	Complexities	/appx/data/1EX/AA2/	680	3,584	4,264
DATEFLD1	Date Fields Header	/appx/data/1EX/AA2/	1,376	3,584	4,960
DATEFLD2	Date Fields Details	/appx/data/1EX/AA2/	128,966	128,512	257,478
DESAPP	Designer/Application	/appx/data/1EX/AA2/	572	3,584	4,156
DESIGNER	Designers	/appx/data/1EX/AA2/	968	3,584	4,552
ESTCOMM	Estimate Comments	/appx/data/1EX/AA2/	512	3,584	4,096
ESTIOBJ	Estimate Task Objects	/appx/data/1EX/AA2/	2,909	3,584	6,493
ESTITASK	Estimate Tasks	/appx/data/1EX/AA2/	6,221	3,584	9,805
OBJCOMP	Object Complexities	/appx/data/1EX/AA2/	2,132	3,584	5,716
OBJECT	Task Objects	/appx/data/1EX/AA2/	73,079	153,088	226,167
OBJECTCM	Task Object Comments	/appx/data/1EX/AA2/	93,631	17,920	111,551
PARAM	Parameters	/appx/data/1EX/AA2/	138	0	138
PRIORITY	Priorities	/appx/data/1EX/AA2/	896	3,584	4,480
PROJCOMM	Project Comments	/appx/data/1EX/AA2/	21,545	5,632	27,177
PROJECT	Projects	/appx/data/1EX/AA2/	3,212	13,824	17,036
REQCOMM	Request Comments	/appx/data/1EX/AA2/	17,954	3,584	21,538
REQUEST	Requests	/appx/data/1EX/AA2/	3,032	9,728	12,760
REQUER	Requesting Users	/appx/data/1EX/AA2/	1,688	5,632	7,320
STATUS	Statuses	/appx/data/1EX/AA2/	4,832	5,632	10,464
STMTXREF	Statements Cross Xrefed	/appx/data/1EX/AA2/	3,240	3,584	6,824
SYSTEM	Systems	/appx/data/1EX/AA2/	2,604	5,632	8,236
TASK	Tasks	/appx/data/1EX/AA2/	19,826	7,680	27,506
TASKCOMM	Task Comments	/appx/data/1EX/AA2/	23,687	3,584	27,271
TASKTIME	Task Time Entries	/appx/data/1EX/AA2/	722	3,584	4,306
VERSION	Application Versions	/appx/data/1EX/AA2/	757	3,584	4,341
-- Application Id Subtotals -->		415,179	403,456	818,635	
Application Id: AXE / 00 Application Explorer					
APPL	?? UNKNOWN ??	/appx/data/1EX/AXE/	743	3,584	4,327
TEST	?? UNKNOWN ??	/appx/data/1EX/AXE/	654	3,584	4,238
-- Application Id Subtotals -->		1,397	7,168	8,565	
-- Database Id Subtotals -->		426,190	428,544	854,734	
-- Grand Totals -->		426,190	428,544	854,734	



**In the sample report above, the File Description “?? UNKNOWN ??” indicates that a file was found in the Database/Application for which there was no corresponding entry in the Data Dictionary.**

## Explode Processes

When you select this menu item, the screen below is displayed. On it, you specify the application or process that you wish to explode.



### Application ID

Enter the Application in which the process you wish to explode exists. You can use the SCAN key to view the existing Applications/Versions on the system. This field will default to the Application that was selected on the Application list.

### Application Version

Enter the Version of the Application of the process to explode. You can use the SCAN key at this field as well to view the existing Applications/Versions on the system. This field will default to the Application that was selected on the Application list.

### Process Type

Enter the type of process you wish to explode. You can use the SCAN key to view the available process types (eg., MENU, INPUT, OUTPUT, QUERY, SUBROUTINE, UPDATE, etc.)

### Process Name

Enter the name of the process you wish to explode. If you do not know the exact name, the SCAN key will allow you to scan the processes for the Application/Version you specified above.

Click 'Cancel' on this screen end to the program and return to the menu without exploding the process.

Once you have specified which process to explode, click the 'Continue' button and the Child Process Listing screen will appear, showing all the processes called by your selected parent process.



***If the application you selected is locked, the records in the STMT (ILF Statement) will be encrypted, and this program will be unable to examine them even if you have the Application Design lock. As a result, there may be child processes that are called in the ILF code but that are not displayed here. To run this process accurately on a locked application, it should first be unlocked.***

Parent	Frame Class	Prn Sno	In No	Opt No	Process Sno	Process Type	App ID	Process Name
DINO INPUT PROSPECT FILE MAINTENANCE	RECORD	100	Auto		100	INPUT	DINO	PROSPECT ADDRESS
	RECORD	100	1			SUBROUTINE	DINO	DISPLAY PRIMARY CONTACT INFO
	RECORD	100	1			SUBROUTINE	DINO	SET WIDGET ATTRIBUTES
	RECORD	100	1			SUBROUTINE	DINO	ENHANCED SCROLLING BEHAVIOR
	RECORD	100	1			SUBROUTINE	DINO	FORMAT ADDRESS
	RECORD	100	1	1		INPUT	DINO	CONTACTS FILE MAINTENANCE
	RECORD	100	1	1		SUBROUTINE	DINO	DISPLAY PRIMARY CONTACT INFO
	RECORD	100	1	2		INPUT	DINO	MARKETING ACTIVITY
	RECORD	100	1	3		INPUT	DINO	SALES OPPORTUNITIES
	RECORD	100	1	50		INPUT	DINO	PROSPECT ADDRESS
	RECORD	100	1	60		SUBROUTINE	DINO	DISPLAY WEB PAGE
	RECORD	100	1	97		JOB	DINO	PROSPECT LISTING
	RECORD	100	1	98		INPUT	DINO	DISPLAY AUDIT INFO

### Parent

This field displays the application, process type and process name of the parent (ie., calling) process that you are exploding. The list of processes shown lower on the screen will be the child processes called by the parent. If you select one of the processes in the list and take the option to display its children, the screen redisplay the selected child process as the new parent process and then lists the child processes it calls.

### Levels Deep

This field tracks the number of times you have drilled down into a process tree. The first time this screen is displayed, it shows the

children processes called by the parent process you initially specified on the previous screen. At this point, the number of levels is zero. Each subsequent time you select one of the children processes and drill down into it, the level is incremented by one. Clicking 'Close' to exit from each level will reverse through all the processes through which you have drilled, reducing the level by one at each step. Clicking 'Close' when Levels Deep is zero will redisplay the previous screen to prompt for a new application and/or process.

In the lower part of the screen where the list of child processes appears, the following fields indicate the general area of the parent process from which the children are called.

#### Frame Class

If present, this field indicates the class of the frame of the parent process from which the child process on this line is called. Frame classes will differ depending on the type of the parent process. If the Frame Class is empty, the parent process is of a type that does not have frames, such as a MENU, JOB, QUERY, STATUS or SUBROUTINE.

#### Frm Sno

If the child process is an automatic child called from a frame in the parent process, this field will indicate the sequence number of that frame. There will also be a frame sequence number if the child is an optional child called from an image within the frame, or if it is a child called from any ILF code within a frame- or image-level event point. If the frame sequence number is blank, the child was called from an event point higher than frame-level (eg., Start-of Process, Post PCF Read, Etc).

#### Im No

If the child process is an optional child called from an image or is called from ILF code in an image-level event point, this field will show the number of the calling image. If the child was called at frame-level, whether as an automatic child or in ILF code, this field will show the word "AUTO".

**Opt No**

If the child process is an optional child called from an image, this field will indicate the option number used to call the process. If the child process is called through image-level ILF code, the Option Number will be blank. If the child was called at frame-level (ie., the Image Number displays as "AUTO"), this field will be blank.

**Sno**

If the child process is called as an automatic child from a frame in the parent process, this field will show the sequence number of the automatic child. In all other cases, this field will be blank.

The following fields indicate the specific child process that is being called.

**Process Type**

This field shows the type of the child process (ie., MENU, JOB, INPUT, etc).

**App Id**

This field shows the application of the child process. The version will be the same as the version for your initial process specified on the first screen.

**Process Name**

This field displays the name of the child process.

Although it is not shown on the previous screen, another field may display called "Event Point". You can see it on the example screens following.

**Event Point**

When you are positioned on a child process that is called from an ILF Statement, this field displays below the list of child processes. It shows you the event point in which the selected child process is called.

The following are the available actions to take from this screen.

**Children**

This button takes the selected child process and finds all the child processes it calls. The screen will then redisplay the selected child

process as the parent process, with its child processes listed below. The Levels Deep field will increase by one each time you drill down into a lower level file. There is no limit to the number of levels you may drill down.

To drill down into a child process

1. Position your cursor on that process
2. Press ENTER to select the child.

Click the 'Children' button to drill down into that process.

If there are no child processes called, a message will display saying "There are no Children for this Process."

#### Print

This button will print a hard copy map of all lower levels of child processes for the current parent process.

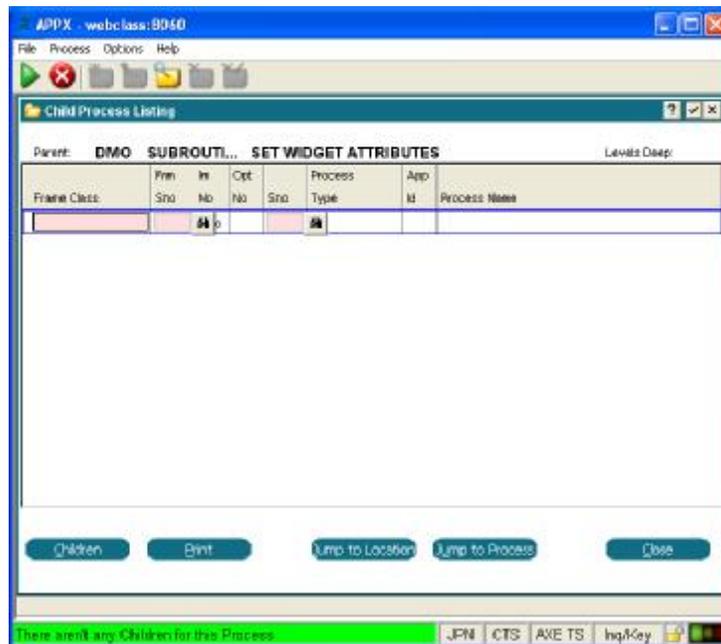
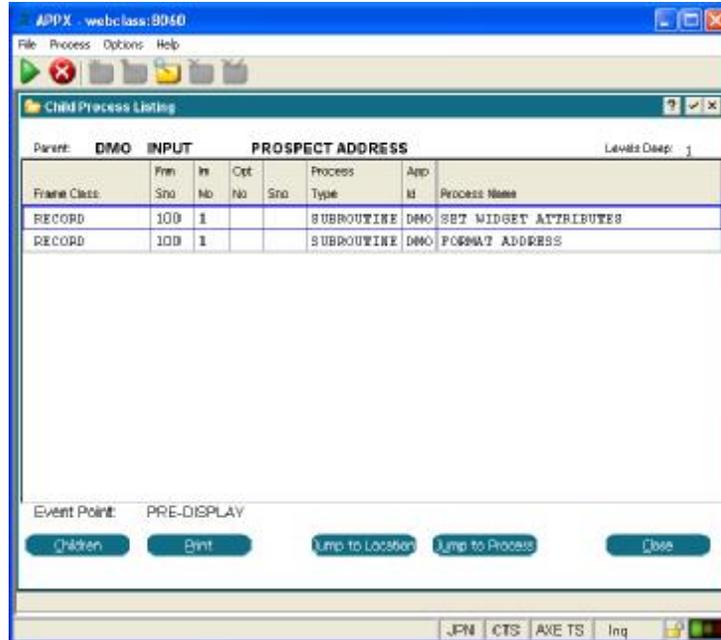
#### Jump to Location

If you position your cursor on a process and click this button, the program will take you to the location in the parent process from which this process is called. If the application of the process is locked, and you do not have design rights, this option will not function.

#### Jump to Process

If you position your cursor on a process and click this button, the program will take you to the application design for this process. If the application of the process is locked, and you do not have design rights, this option will not function.

The next few screens show further examples of drilling down:



This is a sample of the Exploded Process Listing run from the 'Print' Option on the Child Process Listing screen.

```

Application Explorer Test DB
12/15/2009 18:33 19                               LDN Page: 1
Exploded Process Listing - AXE 00 Application Explorer
=====

```

```

Parent Process: INPUT EXPLODE PROCESS
AXE/EXPLODE PROCESS 2 [INPUT/RELATED] ..... RECORD FRAME 100, AUTO CHILD 100
AXE/GET PROCESS TREE [SUBROUTINE/ILF] ..... ILF - START OF PROCESS
AXE/DRILL DOWN (CHILD) [SUBROUTINE/ILF] ..... RECORD FRAME 200, ILF - GLOBAL OPT INTERCEPT
  OAD/NAVIGATE API [SUBROUTINE/ILF] ..... ILF - START OF PROCESS
AXE/ENHANCED SELECT [SUBROUTINE/ILF] ..... RECORD FRAME 200, IMAGE 1, ILF - OPTION INTERCEPT
AXE/EXPLODE PROCESS 2 [INPUT/RELATED] ..... RECORD FRAME 200, IMAGE 1, OPT 1
AXE/EXPLODE PROCESS (PRINT) [JOB/RELATED] ..... RECORD FRAME 200, IMAGE 1, OPT 2
  ---/DISPOSITION [INPUT/RELATED] ..... Job Seq 50
    AXE/EXPLODE PROCESS (ALL) [OUTPUT/RELATED] ... Job Seq 100
      AXE/GET PROCESS TREE [SUBROUTINE/ILF] .... ILF - START OF PROCESS
        AXE/EXPLODE PROCESS (ALL) [OUTPUT/RELATED] RECORD FRAME 100, AUTO CHILD 100
          AXE/BLANK INDENT [SUBROUTINE/ILF] ..... RECORD FRAME 100, IMAGE 1, ILF - PRE-DISPLAY
            AXE/LOAD TOKEN TABLE [SUBROUTINE/ILF] ..... Job Seq 100
              AXE/EXPLODE PROCESS (PRINT) [OUTPUT/RELATED] . Job Seq 200
                AXE/ENHANCED SELECT [SUBROUTINE/ILF] ..... RECORD FRAME 200, IMAGE 2, ILF - OPTION INTERCEPT
                  AXE/EXPLODE PROCESS 2 [INPUT/RELATED] ..... RECORD FRAME 200, IMAGE 2, OPT 1
                    AXE/EXPLODE PROCESS (PRINT) [JOB/RELATED] ..... RECORD FRAME 200, IMAGE 2, OPT 2
                      ---/DISPOSITION [INPUT/RELATED] ..... Job Seq 50
                        AXE/EXPLODE PROCESS (ALL) [OUTPUT/RELATED] ... Job Seq 100
                          AXE/GET PROCESS TREE [SUBROUTINE/ILF] .... ILF - START OF PROCESS
                            AXE/EXPLODE PROCESS (ALL) [OUTPUT/RELATED] RECORD FRAME 100, AUTO CHILD 100
                              AXE/BLANK INDENT [SUBROUTINE/ILF] ..... RECORD FRAME 100, IMAGE 1, ILF - PRE-DISPLAY
                                AXE/LOAD TOKEN TABLE [SUBROUTINE/ILF] ..... Job Seq 100
                                  AXE/EXPLODE PROCESS (PRINT) [OUTPUT/RELATED] . Job Seq 200
                                    AXE/LOAD TOKEN TABLE [SUBROUTINE/ILF] ..... RECORD FRAME 100, AUTO CHILD 100, ILF - PRE-INVOCATION

```

Each lower level process is indented from its immediate parent (i.e., the one calling it).

The left-hand section of each line shows the process name, the process type (e.g., INPUT, JOB, MENU, etc.) and the invocation type (i.e., RELATED, DETACHED, SUBPROCESS, ILF).

The right-hand section of each line contains the information about where the process was called by its immediate parent.