

Using Natural Libraries

Natural objects stored in the Natural system files FNAT and FUSER are grouped into logical constructs called libraries. A Natural library is used to organize objects according to functional criteria. For example, a library can consist of a set of objects that perform a particular task. If Natural Security is installed, a library can also be used to restrict object access to a particular group of users such as administrators.

A Natural application can access objects in multiple libraries depending on how the environment is set up.

All operations on a library are performed with Natural menu functions or corresponding commands. See also the section *Using Commands and Menu Functions*.

Related Topics:

- *Natural System Files - Natural System Architecture* documentation
- *Libraries in System Files - Natural System Architecture* documentation
- *Library Maintenance - Natural Security* documentation

This section covers the following topics:

- Objects Contained in a Library
 - Library Types
 - Steplib Libraries
 - Search Sequence for Object Execution
 - Default Library Assignment
 - Logging on to a Library
 - Creating a Library
 - Listing Libraries
 - Listing Objects in a Library
 - Printing a List of Objects
 - Finding Objects in a Library
 - Copying, Moving and Renaming Libraries
 - Deleting Objects in a Library
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Objects Contained in a Library

A library contains object modules (source object and cataloged object, if applicable) of the following types of Natural object: program, subprogram, subroutine, copycode, helproutine, class, text, recording, map, local data area, global data area, parameter data area, command processor source, error message, dialog, debug environment, adapter and resource.

Related Topics:

- *Cataloged Object*
- *Source Object*

Library Types

This section describes the types of Natural library provided:

- User Library
- System Library

User Library

A user library contains objects of a user application which are specific to this application and which are required to run the application. A user library is contained in the FUSER system file.

System Library

A system library is maintained by Software AG. It is contained in the FNAT system file.

A system library contains all objects required to run a Natural system application.

In addition, there are system libraries that contain objects of the type program, which are provided for demonstration purposes: see *Example Libraries* in the section *Natural Main Menu*.

Note that you cannot log on to the system libraries SYSLIB and SYSLIBS. They are reserved for internal use by Software AG. If you try to log on to either library, you will receive the following message:
Libraries SYSLIB and SYSLIBS reserved for system usage.

Important:

Do not store any user-specific objects in a Natural system library. User-specific objects can be overwritten when Software AG installation datasets (for example, system maintenance upgrades, new versions or fix tapes) are loaded into the system files.

Steplib Libraries

A steplib is a Natural user library or system library that is concatenated with the current user or system library. A steplib can be used as a single storage location for multiple objects that are shared by different applications. This avoids redundant storage of identical objects and helps organize applications.

A steplib is a library in which Natural searches when an object is not found in the current library (see also the following section). The standard steplibs are the libraries SYSTEM in the FUSER and the FNAT system files.

Related Topics in the Parameter Reference Documentation:

- *STEPLIB - Additional Steplib Library*
- *BPSFI - Object Search First in Buffer Pool*

This section covers the following topics:

- Additional Steplibs with Natural Security
- Additional Steplibs without Natural Security
- Checking the Steplib Setting

Additional Steplibs with Natural Security

If Natural Security is active, you can define additional steplibs in the security profile of each library. The entries in a library security profile override any definitions made outside Natural Security. These steplibs are searched for an object before the standard steplibs SYSTEM (FUSER and FNAT).

Related Topic:

- *Steplibs - Natural Security* documentation

Additional Steplibs without Natural Security

If Natural Security is not active, you can specify one additional steplib with the Natural profile parameter STEPLIB at session start. In addition, you can define further steplibs by using one of the Application Programming Interfaces (for example, USR1025N or USR3025N) that are supplied for this purpose in the Natural system library SYSEXT.

These steplibs are searched for an object before the standard steplibs SYSTEM (FUSER and FNAT).

Checking the Steplib Setting

To check the steplib setting of your current library

1. Enter the following system command:

```
TECH
```

The **TECH** window appears.

2. Scroll down the window by choosing ENTER repeatedly until the **Steplib** column appears.

Related Topic:

- *TECH - System Commands* documentation

Search Sequence for Object Execution

This section describes the sequence in which Natural libraries and system files are searched for a requested object that is to be executed from either a user library or a system library.

Note:

If the profile parameter `BPSFI` is set to `ON` (the default setting is `OFF`), objects are searched for in the buffer pool first.

The search sequence for a user-written object to be executed from a user library is as follows:

1. The current library in the FUSER system file as defined by the system variable `*LIBRARY-ID`.
2. The steplib (in sequence) as specified in the Natural Security profile for the current library or in the steplib table.
3. The default steplib as defined by the system variable `*STEPLIB`.
4. The library `SYSTEM` in the FUSER system file.
5. The library `SYSTEM` in the FNAT system file.

The search sequence for a Natural object to be executed from a system library is as follows:

1. The current "SYS" library in the FNAT system file as defined by the system variable `*LIBRARY-ID`.
2. The steplib (in sequence) as specified in the Natural Security profile for the current library or in the steplib table.
3. The library `SYSLIBS` in the FNAT system file, which contains objects shared by system commands and utilities.
4. The library `SYSTEM` in the FNAT system file.
5. The library `SYSTEM` in the FUSER system file.

Since the FUSER system file is searched last, you must provide an object that is used in both the FUSER and the FNAT system files (for example, a user-exit routine for a Natural utility) only in one location, namely in FUSER.

Related Topics in the System Variables Documentation:

- `*LIBRARY-ID`
- `*STEPLIB`

Default Library Assignment

When you start a Natural session, you are logged on to a library assigned by Natural. A Natural screens usually provides a field (for example, **Library** or **LIB=**) that indicates the name (ID) of your library, that is, the current library (for example, `LIB=SYSTEM`) where Natural objects are stored and from which they are retrieved .

▶ To find out your current library

- Enter the following system command:

```
TECH
```

The **TECH** window appears. The library where you are currently logged on is listed in the **Library** field.

The default library ID assigned by Natural is `SYSTEM` if the Natural profile parameter `AUTO` is set to `OFF`. You can change the default library ID at session startup by setting `AUTO` to `ON`. `AUTO=ON` initiates an automatic logon to the library that corresponds to your user ID. However, different rules apply if you log on to Natural under Natural Security as described in the *Natural Security* documentation.

You may have to log on to another library to perform a maintenance function or work on a different application as described in *Logging on to a Library*.

Related Topics:

- *TECH - System Commands* documentation
- *AUTO - Parameter Reference* documentation
- *Logging On - Natural Security* documentation

Logging on to a Library

When you create or maintain Natural objects or execute a Natural program inside a specific library, you may have to switch libraries and first log on to the library or steplib (see *Steplib Libraries*) that contains (or is to contain) the object.

You usually use the system command `LOGON` to log on to a library. However, different rules apply if you log on to Natural under Natural Security as described in the *Natural Security* documentation.

After a successful logon to a library that does not contain any objects, the confirmation message reads: `This library is empty.`

Note:

The system command `LOGON` does not consider objects of the types error message and debug environment. Therefore, the confirmation message only refers to all object types other than error messages and debug environments. You can find out whether a library contains error messages or debug environments, for example, by using the `SYSMAIN` utility, or the utilities `SYSERR` and the debugger respectively.

You can also find out whether a library is empty (except for error messages and/or debug environments) by using the system command `LIST` described in *Listing Objects in a Library*.

The library to which you are logged on remains active until you log on to another library or terminate your Natural session.

▶ To log on to a library

1. Enter the following system command:

```
LOGON library-ID
```

where *library-ID* is the name (ID) of the library you want to access.

Or:

From the Natural **Main Menu** or its subordinate menus:

In the top right-hand corner of the screen, in the **Library** field, replace the library ID displayed with another library ID (see also *Example of a Menu Function* in the section *Using Commands and Menu Functions*).

2. Choose ENTER.

If the library ID you entered complies with the library naming conventions, the following confirmation message appears: `Logon accepted to library library-ID`.

Related Topics:

- *LOGON and LOGOFF - System Commands* documentation
- *Logging On - Natural Security* documentation

Creating a Library

You create a library by using either the system command `LOGON` for an empty library where you create an object, or the move or copy function of a Natural utility when transferring objects.

▶ To create a library

- If you use the system command `LOGON`, proceed as described in *Logging on to a Library*. Specify a library ID (see also *Library Naming Conventions*) that logs you on to a library that does not contain any objects. In this library, create at least one cataloged object or one source object.

Or:

If you want to move or copy objects from an existing library to a new one, proceed as described in *Moving, Copying and Renaming Libraries*.

Listing Libraries

You can obtain a list of all libraries available in your current Natural system environment, for example, by using the SYSMAIN utility.

The instructions in this section are examples of listing libraries by using either SYSMAIN menu functions or a corresponding command.

▶ To list all libraries using menu functions

1. From the Natural **Main Menu**, choose **Maintenance and Transfer Utilities**.
2. Choose ENTER.

The **Maintenance and Transfer Utilities** screen appears.

3. Select **Transfer Objects to Other Libraries**.

Or:

Enter the following system command:

```
SYSMAIN
```

4. Choose ENTER.

The **Main Menu** of the SYSMAIN utility similar to the example below appears:

```

17:33:01          ***** NATURAL SYSMAIN UTILITY *****          2009-05-20
User SAG              - Main Menu -

          Code  Object                                Code  Function

          A    Programming Objects                    C    Copy
          D    Debug Environments                     D    Delete
          E    Error Message Texts                    F    Find
          P    Profiles                                L    List
          R    Rules                                    M    Move
          S    DL/I Subfiles                           R    Rename
          V    DDMS                                     ?    Help
          ?    Help                                    .    Exit
          .    Exit

Object Code .. A          Function Code .. _

Command ===>

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help Menu Exit Copy Del Find List Move Ren

```

- In the **Object Code** field, enter an A (default setting) to list all libraries that contain Natural objects except error messages and debug environments (for error messages, enter an E, for debug environments a D).

In the **Function Code** field, enter an L (for **List**).

- Choose ENTER.

The **List Programming Objects** screen appears.

- In the **Code** field, enter an A to search for libraries that contain all types of object module: cataloged objects and source objects.

In the **Source Library** field, enter an asterisk (*) to search for all libraries.

(For valid name ranges, see *Specifying a Range of Names* in the *SYSMAIN Utility* documentation.)

Leave all other input fields unchanged.

- Choose ENTER.

The **Library Selection** screen appears with a list of all libraries available in the current system file.

Choose ENTER to scroll down the list, PF11 to scroll right and PF12 to scroll left.

From the **Library Selection** screen, you can select a particular library and list the objects contained in that library. For further information on the **Library Selection** screen, see *Related Topic* below.

▶ **To list all libraries using a command**

1. Enter the following system command:

```
SYSMAIN LIST ALL * IN LIBRARY *
```

2. Choose ENTER.

The **Library Selection** screen appears with a list of all libraries available in the current system file.

Related Topic:

- *Listing and Selecting Libraries - SYSMAIN Utility* documentation

Listing Objects in a Library

You can obtain a list of objects contained in a library by using either the system command LIST or the corresponding function of the Natural utility SYSMAIN or the Object Handler.

Note:

The system command LIST does not process objects of the types error message and debug environment. You can list error messages or debug environments, for example, by using the SYSMAIN utility.

This section describes how to obtain a list of objects by using LIST.

▶ **To list objects using LIST**

1. Enter the following system command:

```
LIST *
```

where asterisk (*) specifies that all source objects and cataloged objects are to be listed (see also: *object-name-range* in LIST in the *System Commands* documentation).

2. Choose ENTER.

A **LIST Objects in a Library** screen similar to the example below appears with a list of source objects and cataloged objects available in the current library (in the example below: TEST) in the current system file:

```

12:22:23          ***** NATURAL LIST COMMAND *****          2009-05-20
User SAG          - LIST Objects in a Library -          Library TEST

Cmd  Name          Type          S/C  SM  Version  User ID  Date          Time
---  *             *             *   *   *       *       *             *
___  DBTEST        Program       S/C  S   4.2.01  SAG     2002-02-27   16:46:36
___  DEMOPROG       Program       S/C  S   4.1.02  SAG     2000-12-20   11:40:46
___  DEMOSPRG       Subprogram    S/C  S   4.1.02  SAG     2000-12-22   11:32:34
___  DEMOTEXT       Text          S     4.1.02  SAG     2000-12-20   13:59:26
___  EMP-L          Local         S/C     4.1.02  SAG     2002-07-29   12:46:43
___  EMPL          Program       S/C  S   4.1.02  SAG     2002-07-29   12:46:30
___  GDATEST        Global        S/C     4.1.03  SAG     2004-11-22   13:24:32
___  LDATEST        Local         S     4.2.01  SAG     2004-05-21   17:18:13
___  MAPTEST        Map           S/C  S   4.2.03  SAG     2000-12-20   11:40:46
___  PDATEST        Parameter     S/C     4.1.03  SAG     2004-05-05   11:46:24
___  PDATEST2       Parameter     S/C     4.1.03  SAG     2004-11-23   10:12:07
___  PROCTEST       Processor     S/C     4.2.01  SAG     2004-05-05   11:25:22
___  SUBRTEST       Subroutine    S/C  S   4.1.03  SAG     2002-07-23   14:37:16
___  TESTPGM        Subprogram    S     S   4.1.03  SAG     2000-12-20   11:40:45
                                           14 Objects found

Top of List.
Command ==>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Print Exit  Sort      --  -      +      ++      >      Canc

```

The list is sorted by the name of the object (**Name** column) and contains further information on the object such as the type of object (for example, Program), the type of object module (**S/C** column: S = source object, C = cataloged object) available and the ID of the user who created or modified the object.

From the **LIST Objects in a Library** screen, you can select an object for further processing such as listing the source code of an object or deleting objects from a library as described in *To delete objects using LIST* in the section *Deleting Objects in a Library*.

For further information on the **LIST Objects in a Library** screen and other options provided with LIST such as listing a particular range of object names or sorting the list of objects, see the related topics below.

Related LIST Topics in the System Commands Documentation:

- *object-name-range*
- *Explanation of the Column Headers*
- *Sorting the List of Objects*
- *Performing a Function on an Object*

Printing a List of Objects

You can print a list of objects contained in the current library in the current system file.

 **To print a list of objects**

1. Invoke the **LIST Objects in a Library** as described in Steps 1 and 2 in *Listing Objects in a Library*.
2. Choose PF2 (Print).

The **PRINT** window appears.

3. In the **Destination** field, enter a valid printer name (if required, ask your Natural administrator for a printer available in your current environment). If required, change the page size (the default setting is 60 lines).
4. Choose ENTER.

The **Printout Specification** screen appears where you can specify printer settings such as the amount of copies to be printed.

5. Choose ENTER.

The list of objects contained in the library is printed on the specified printer device.

Related Topics:

- *Printing Objects*
- *LIST - System Commands* documentation

Finding Objects in a Library

You can use the SYSMAIN utility or the system command SCAN to search for objects contained in a library.

- Searching for Objects using SYSMAIN
- Searching for Objects using SCAN

Searching for Objects using SYSMAIN

The following instructions are examples of finding objects by specifying search criteria by using either SYSMAIN menu functions or a corresponding command.

To find objects using menu functions

1. Invoke the **Main Menu** of the SYSMAIN utility as described in Steps 1 through 4 of *To list all libraries using menu functions*.
2. In the **Object Code** field, enter an A (default setting) to search for all types of object.

(Exceptions: for error messages, enter an E, for debug environments a D.)

In the **Function Code** field, enter an F (Find).
3. Choose ENTER.

The **Find Programming Objects** screen appears.

- In the **Code** field, enter an **A** to search for all types of object module: cataloged objects and source objects.

In the **Object Name** field, enter an asterisk (*) to search for all object names. Asterisk (*) is the default setting.

(For valid name ranges, see *Specifying a Range of Names* in the *SYSMAIN Utility* documentation.)

In the **Source Library** field, enter the ID of the library, in which to perform the search.

In the **Criteria** field, replace **N** (No) by **Y** (Yes). **N** is the default setting.

Leave all other input fields unchanged.

- Choose **ENTER**.

The **Additional Criteria** window appears where you can enter additional search criteria as shown in the example below:

```

18:23:16          ***** NATURAL SYSMAIN UTILITY *****          2009-05-20
User SAG          - Find Programming Objects -

+-----+
!           --- Additional Criteria ---           !
!                                               !
! Object Type ..... PM_____ !
! Date/Time From .. 2006-05-09 _____ !
! Date/Time To .... 2009-05-01 _____ !
! User ID ..... SAG_____ !
! Terminal ID ..... _____ !
!                                               !
!                                               !
! Command ==> _____ !
Code .. !
Object Name .. +-----+

Source Library ... TEST_____ Database .... 10___ File .. 32___

Options                      Criteria .... Y

Command ==>

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
Help Menu Exit Copy Del Find List Move Ren Fsec Fdic Fnat

```

6. Enter one or more search criteria and choose ENTER.

The window is closed. A plus (+) sign in front of the **Criteria** field indicates when additional criteria other than the object type are specified in the window.

7. Choose ENTER again.

The **Find Selection** screen appears with a list of all source objects and cataloged objects that are available in the specified library in the current system file and that meet the specified search criteria. In the example above, all objects of the types P (program) and M (map) that were created or modified between 2006-05-09 and 2009-05-01 by the user SAG are listed.

8. Choose ENTER to scroll down the list until the following message appears: `Library has been successfully listed.`

From the **Find Selection** screen, you can select an object for further processing such as listing the source code of an object as described in *Selection Lists for Programming Objects* in the *SYSMAIN Utility* documentation.

Related Topic:

- *Using Menu Functions and Commands - SYSMAIN Utility* documentation

▶ To find objects using a command

1. Enter the following system command:

```
SYSMAIN FIND ALL * TYPE PN WITH USER user-ID IN library-ID
```

where:

ALL specifies that all source objects and cataloged objects are to be selected for the search.

Asterisk (*) specifies that all object names are to be selected for the search (see also: *Specifying a Range of Names* in the *SYSMAIN Utility* documentation).

PN specifies the types of object for which to search: P denotes program, N denotes subprogram.

library-ID is the ID of the library in which to search.

user-ID is the ID of the user for which to search.

2. Choose ENTER.

The **Find Selection** screen appears with a list of all source objects and cataloged objects of the types program and subprogram that were created or modified by the specified user.

Related Topic:

- *Keywords and Variables in Direct Commands - SYSMAIN Utility* documentation

Searching for Objects using SCAN

The following instructions are examples of finding objects by scanning their sources for a particular string of characters by using the system command `SCAN`.

Note:

The `SCAN` does not process objects of the types error message and debug environment. You can scan error messages by using the **Scan in messages** function of the Natural utility `SYSERR`.

▶ To scan sources using menu functions

1. Enter the following system command:

```
SCAN
```

2. Choose ENTER.

A **Scan Objects in Libraries** screen similar to the example below appears where you can specify an object range and a scan value:

```

18:24:53          ***** NATURAL SCAN COMMAND *****          2009-05-20
User SAG          - Scan Objects in Libraries -          Library TEST

                Code  Function
                T    Statistics
                L    List of Objects Containing Scan Value
                S    Object Lines with Scan Value
                ?    Help
                .    Exit

Code ..... L
Scan value ..... LOCAL_____
Replace value ... GLOBAL_____
Library ..... TESTLIB_
Object name ..... *_____          Selection list .. N
Object type(s) .. *_____
Absolute scan ... N          Trace ..... N

Command ===>

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Menu  Exit
    
```

In the **Code** field, enter an L (for **List of Objects Containing Scan Value**) and specify a scan value, a library and an object range; asterisk (*) selects all object names and object types.

In the **Replace value** field, you can enter a character string (for example, GLOBAL) that is to replace the specified scan value (for example, LOCAL).

3. Choose ENTER.

The **Select Objects for Library** screen appears for the specified library in the current system file with a list of all source objects that meet the specified search criteria. In the example above, all objects in the library TESTLIB that contain the character string LOCAL are selected.

From the **Select Objects for Library** screen, you can select an object and display or modify the source line that contains the scan value.

 **To scan sources using a command**

1. Enter the following system command:

```

SCAN FUNC=L,SVAL=scan-value,LIB=library-ID,*
    
```

where:

scan-value is the character string (for example, LOCAL) for which to scan sources.

library-ID is the ID of the library in which to search (for example, TESTLIB).

Asterisk (*) specifies that all source objects are selected for the search.

2. Choose ENTER.

Related Topic:

- *SCAN - System Commands* documentation

Copying, Moving and Renaming Libraries

You copy or move a library by copying or moving all Natural objects from a source library to an existing or a new target library.

Renaming a library requires the same steps as moving a library. Once all objects of a library have been moved to a new target library, the old library is deleted automatically.

You can copy or move single or multiple objects from one library to another by using either the SYSMAIN utility or the Object Handler. The instructions below are examples of copying or moving all objects with SYSMAIN by using either menu functions or corresponding commands.

To copy or move all objects using menu functions

1. Invoke the **Main Menu** of the SYSMAIN utility as described in Steps 1 through 4 of *To list all libraries using menu functions*.
2. In the **Object Code** field, enter an A (default setting) to select all types of object.

(Exceptions: for error messages, enter an E, for debug environments a D.)

In the **Function Code** field, enter a C (for **Copy**) or an M (for **Move**).

3. Choose ENTER.

Depending on the function code entered, either the **Copy Programming Objects** or the **Move Programming Objects** screen appears.

4. In the **Code** field, enter an A to select all types of object module: cataloged objects and source objects.

In the **Sel. List** (Selection List) field, replace Y (Yes) by N (No). Y is the default setting.

In the **Object Name** field, enter an asterisk (*) to select all object names. Asterisk (*) is the default setting.

(For valid name ranges, see *Specifying a Range of Names* in the *SYSMAIN Utility* documentation.)

In the **Source Library** field, enter the ID of the library that contains the objects to be copied or moved.

In the **Target Library** field, enter the ID of an existing or a new library to which you want to copy or move the objects.

Leave all other input fields unchanged.

5. Choose ENTER.

All source and cataloged objects are copied or moved between the specified source and target libraries in the current system file and the following message appears: `Function completed successfully`.

To copy or move all objects using commands

1. Enter one of the following system commands:

```
SYSMAIN COPY ALL * FM old-library TO new-library
```

(copies objects)

or

```
SYSMAIN MOVE ALL * FM old-library TO new-library
```

(moves objects)

where:

ALL specifies that all source objects and cataloged objects are to be selected.

Asterisk (*) specifies that all object names are to be selected
(see also: *Specifying a Range of Names* in the *SYSMAIN Utility* documentation).

old-library is the ID of the library that contains the objects to be copied or moved.

new-library is the ID of an existing or a new library (see also *Library Naming Conventions*).

2. Choose ENTER.

If the copy or move operation was successful, the command processed is displayed on the screen followed by the message: `Function completed successfully`.

For further information on the functions provided with the SYSMAIN utility such as replacing or renaming objects, refer to the *Utilities* documentation.

Deleting Objects in a Library

A library is only maintained in a Natural environment as long as it contains at least one source object or one cataloged object. If you delete all objects from a library, this library is no longer available.

You can delete single or multiple objects from a library by using the system command `LIST` or a Natural utility.

The instructions below are examples of deleting objects from the current library by using the system command `LIST`, and deleting objects from a different library by using the menu functions or commands of the `SYSMAIN` utility.

▶ To delete objects using `LIST`

1. Enter the following system command:

```
LIST *
```

where asterisk (*) specifies that all source objects and cataloged objects are to be listed (see also: *object-name-range* in *LIST* in the *System Commands* documentation).

2. Choose ENTER.

The **LIST Objects in a Library** screen appears with a list of source objects and cataloged objects available in the current library in the current system file.

3. In the **Cmd** column, next to the object(s) required, enter the following:

```
DE
```

as shown on the example screen below.

4. Choose ENTER.

A **DELETE** window similar to the example below appears:

```

12:22:23          ***** NATURAL LIST COMMAND *****          2009-05-20
User SAG          - LIST Objects in a Library -          Library TEST

Cmd  Name          Type          S/C  SM Version  User ID  Date          Time
---  *             *             *   * *      *       *           *
DE   DBTEST        Pr +-----DELETED-----+ 002-02-27  16:46:36
DE   DEMOPROG     Pr !                               ! 000-12-20  11:40:46
DE   DEMOSPRG     Su !   Please select one item:  ! 000-12-22  11:32:34
DE   DEMOTEXT     Te !                               ! 000-12-20  13:59:26
___  EMP-L        Lo !   _ Confirm each deletion  ! 002-07-29  12:46:43
___  EMPL         Pr !   _ Delete without confirmation ! 002-07-29  12:46:30
___  GDATEST      Gl !   _ Exit (no deletion)         ! 004-11-22  13:24:32
___  LDATEST      Lo !                               ! 004-05-21  17:18:13
___  MAPTEST      Ma +-----DELETED-----+ 000-12-20  11:40:46
___  PDATEST      Parameter      S/C    4.1.03  SAG      2004-05-05  11:46:24
___  PDATEST2     Parameter      S/C    4.1.03  SAG      2004-11-23  10:12:07
___  PROCTEST     Processor      S/C    4.2.01  SAG      2004-05-05  11:25:22
___  SUBRTEST     Subroutine     S/C    S 4.1.03  SAG      2002-07-23  14:37:16
___  TESTPGM      Subprogram     S      S 4.1.03  SAG      2000-12-20  11:40:45
                                           14 Objects found

Top of List.
Command ==>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help Print Exit Sort      --  -  +  ++      >  Canc
    
```

5. Mark an item by typing in any character next to the option required and choose ENTER:

Confirm each deletion invokes a window for each object to be deleted in which you type in the name of the object to confirm the delete operation.

Delete without confirmation immediately executes the delete operation(s).

Exit cancels the delete operation(s).

 **To delete objects using SYSMAIN menu functions**

1. Invoke the **Main Menu** of the SYSMAIN utility as described in Steps 1 through 4 of *To list all libraries using menu functions*.

2. In the **Object Code** field, enter an A (default setting) to select all types of object.

(Exceptions: for error messages, enter an E, for debug environments a D.)

In the **Function Code** field, enter a D (for **Delete**).

3. Choose ENTER.

The **Delete Programming Objects** screen appears.

4. In the **Code** field, enter an A to select all types of object module: cataloged objects and source objects.

In the **Sel. List** (Selection List) field, replace Y (Yes) by N (No). Y is the default setting.

In the **Object Name** field, enter an asterisk (*) to select all object names. Asterisk (*) is the default setting.

(For valid name ranges, see *Specifying a Range of Names* in the *SYSMAIN Utility* documentation.)

In the **Source Library** field, enter the ID of the library you want to delete.

Leave all other input fields unchanged.

5. Choose ENTER.

All source objects and cataloged objects are deleted from the specified library in the current system file and the following message appears: `Function completed successfully.`

To delete all objects using a SYSMAIN command

1. Enter the following system command:

```
SYSMAIN DELETE ALL * FM library-ID
```

where:

ALL specifies that all source objects and cataloged objects are to be selected.

Asterisk (*) specifies that all object names are to be selected
(see also: *Specifying a Range of Names* in the *SYSMAIN Utility* documentation).

library-ID is the ID of the library that contains the objects to be deleted.

2. Choose ENTER.

If the delete operation was successful, the command processed is displayed on the screen followed by the message: `Function completed successfully.`