

# SCAN

- For Mainframes
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## SCAN for Mainframes



The SCAN command is used to search for a string of characters within an object, with the option to replace the string with another string.

The object may be a single object, all objects beginning with a specified setting, or all objects within a library. The SCAN may also be restricted to a specific object type.

### **Note:**

The source work area is used by the SCAN command. Therefore, a SAVE or STOW command should be issued before using the SCAN command.

This section covers the following topics:

- General Rules
- Menu Options
- Direct Commands
- Subcommands
- SCAN under Natural Security

## General Rules

- If the library specified is SYSTEM, the library in the FUSER file will be scanned.
- If the name of the specified library begins with SYS but is not SYSTEM, the library in the FNAT file will be scanned.
- The replace option must not be used with maps and data areas.
- It is the user's responsibility to set upper/lower case before invoking the SCAN.
- A scan for a setting that contains lower-case characters or embedded blanks is only possible from the SCAN menu.

## Menu Options

When you enter the SCAN command, the SCAN menu will be displayed, providing the following:

Field	Input setting
Code	<p>T Statistics</p> <p>Returns the following information:</p> <ul style="list-style-type: none"> <li>the number of objects that were scanned;</li> <li>the number of objects in which the scan setting was found;</li> <li>the number of source-code lines in which the scan setting was found.</li> </ul> <p>L List Modules Containing Scan setting</p> <p>Displays a list of all objects in which the scan setting was found. From the list, you can select individual objects for further processing.</p> <p>S List Scan settings Found</p> <p>Displays one after another each source-code line in which the scan setting was found.</p> <p>See more details below.</p>
Scan setting	The string of characters to be scanned for.
Replace setting	The setting which is to replace the Scan setting.
Library	The ID of the library to be scanned. Default is the current library.
Object Name	<p>The object(s) to be scanned:</p> <p><i>blank</i> all objects</p> <p>* all objects</p> <p><i>setting</i>&gt; all objects whose names are greater than or equal to <i>setting</i></p> <p><i>setting</i>&lt; all objects whose names are less than or equal to <i>setting</i></p> <p>If you wish to scan within a certain range of objects, you can use asterisk notation (*) and wildcard notation (?) for the object name, in the same manner as described for the system command LIST.</p>
Selection List	Displays a list of objects from which you can select individual objects (by marking them with any character) for scan processing.
Object Type	<p>You can restrict the search to specific object types. For a selection list of possible types, enter a question mark (?) in this field.</p> <p>If you leave this field blank or enter an asterisk (*), objects of any type will be scanned.</p>
Absolute Scan	<p>If you enter any setting other than N or blank, the scan will be "absolute"; that is, the setting to be scanned for will be found in any form, even as part of a longer character string.</p> <p><b>Note:</b> In data areas, a scan is always absolute, regardless of the setting of this parameter.</p>
Trace	Y indicates that the trace facility is to be activated. The default is N.

## List Scan settings Found

If you wish, you can modify the lines by using the appropriate SCAN subcommands as described below.

Any object, except maps and data areas, may be modified by the SCAN editor. The object may also be edited using the program editor; this allows the modification of lines other than those containing matches found by the scan. Once the object has been edited, the object should be saved and the editor terminated. Scan processing can then be continued. Before the scan operation invokes another editor you will be prompted with a screen to confirm any updates previously made by the SCAN editor.

## Direct Commands

SCAN functions may be invoked direct, in either batch or online mode, by specifying the following keywords:

Keyword	Explanation
FUNC	Function code
SVAL	Scan setting
LIB	Library
RVAL	Replace setting
OBJ	Object name
TYPE	Object type
ABSOL	Absolute scan

### Examples of SCAN Command with Keywords:

```
SCAN FUNC=S,SVAL=setting,LIB=SYSTEM,OBJ=PGM0*,TYPE=S
```

```
SCAN FUNC=S,SVAL=setting,RVAL=setting,OBJ=PGM1
```

### Batch Mode

The SCAN command will process only one function per invocation to minimize the repercussions of invalid data being specified. Either keywords or positional parameters may be used. Positional parameters are specified as follows:

```
SCAN S,scan-setting,replace-setting,library,object-name,object-type,absolute
```

#### Note:

To scan for a setting that contains lower-case characters, you do not specify the *scan-setting* in the same line of the batch job as the scan command, but in a separate data line.

## Subcommands

The following subcommands can be entered in the command line(s) of the result screens generated by the scan operation:

Command	Function
<i>blank</i>	Continue with normal scan processing.
Q	Terminate scan processing.
.	
E	Edit the object using full-screen or line editor.
EDT	
<u>L</u> IST	List the object as it currently appears in the source work area.
LET	Ignore all line changes made after last ENTER.
I	Ignore the object currently being scanned, do not save any modifications, and continue with next object.
.D	Delete line. A <b>D</b> will appear next to the line to indicate that it has been deleted.
.L	Ignore any changes after last ENTER. Will also restore any line previously deleted with the line command <b>.D</b> .

## Editing Rules

- Lines that are marked with **L** cannot be modified.
- If the REPLACE option is used and/or an object is updated in the SCAN editor, the object will always be saved unless an **I**, **Q** or "." is specified before the next object is scanned.
- Lines containing PASSW, PASSWORD=, CIPHER=, or CIPH= will be ignored by the SCAN command.
- The line length of the source object in the SCAN editor is limited to 72 characters.

## **SCAN under Natural Security**

For you to be able to use the SCAN in a Natural Security environment, the system commands LIST, EDT, EDIT, and READ must be allowed in the current library's security profile. If the REPLACE option is to be used the system command SAVE must also be allowed.

Under Natural Security, the use of the SCAN command may be disallowed in some libraries.

## SCAN for UNIX/OpenVMS



### Note:

The source work area is used by the SCAN command. Therefore, the object currently in the source work area should be SAVED or STOWed before SCAN is used.

Any objects except maps, DDMs and data areas can be modified using the SCAN editor. You can also use the full screen editor to modify other lines than scanned lines. When the object is modified, save it and close the editor. You can then continue SCAN processing.

When you issue the SCAN command, a window is displayed. In this window, you can specify the following:

Field	Explanation
<b>Scan setting</b>	The setting to be searched for.
<b>Replace setting</b>	The setting which is to replace the scan setting.
<b>Delete setting</b>	Will cause the scan setting to be deleted (YES/NO).
<b>Object Name</b>	The object(s) to be scanned: <i>blank</i> or * All objects. <i>setting</i> * All objects whose names begin with <i>setting</i> .
<b>Object Type</b>	The type of object to be scanned: <b>P</b> - Programs <b>C</b> - Copycodes <b>N</b> - Subprograms <b>S</b> - Subroutines <b>H</b> - Helproutines <b>M</b> - Maps <b>G</b> - Global data areas <b>L</b> - Local data areas <b>A</b> - Parameter data areas <b>T</b> - Text <b>4</b> - Class * - objects of all types
<b>Absolute Scan</b>	Will result in an absolute scan (YES/NO). If Absolute Scan is set to "NO", the scan setting must be separated by a blank or specific character.
<b>Library</b>	The ID of the library to be scanned. Default is the current library.
<b>Case Sensitive</b>	<b>N</b> - The search will be for the scan setting regardless whether it occurs in upper case, lower case, or a mixture of both. <b>Y</b> - The search will be for the scan setting exactly as you specify it.

Make the desired specifications and press ENTER. A window appears displaying the lines containing the searched for scan setting.

```

-----Search setting BONUS in Program ARRAYD-----
- Commands:
- 0070    3 BONUS (1:10)
- 0340  DISPLAY BONUS (1,1)
- 0350  DISPLAY BONUS (1:5,1)
- 0360  DISPLAY BONUS (1:5,1:10)
- 0380  DISPLAY BONUS (#I:#I + 5)
- 0390  DISPLAY BONUS (#I:#I - 3)
- 0400  DISPLAY BONUS (#I+2:J-3)

```

## SCAN Subcommands

Any desired SCAN subcommand can be entered. Select "Commands:" and press ENTER. Then you can select one of the following commands:

Command	Function
<b>Edit</b>	Edit object.
<b>List</b>	List object as it currently appears in the source work area.
<b>Ignore</b>	Ignore the object currently being scanned, do not save any modifications, and continue with next object.
<b>Quit</b>	Terminate SCAN processing.
<b>ESC key</b>	Continue with normal scan processing.

A subcommand can also be invoked by entering its first character.

## SCAN Editing Rules

- If the Replace option is used and/or an object is updated in the SCAN editor, the object will always be saved unless an I, Q, or . is specified before the next object is scanned.
- Lines containing PASSWORD=, PASSW=, CIPHER=, or CIPH= will be ignored by the SCAN command.
- The line length of the source object in the SCAN editor is limited to 72.
- If the replace setting causes a line to exceed 80 characters, the line will be split automatically.

## SCAN under Natural Security

In order to use SCAN in a Natural Security environment, the system commands LIST, EDIT, and READ must be allowed in the current library's security profile. If the REPLACE option is to be used the system command SAVE must also be allowed.

Under Natural Security, the use of the SCAN command may be disallowed in some libraries.

## SCAN for Windows



SCAN

The SCAN command starts a Find Object dialog. With the Find Objects dialog it is possible to find Natural objects and the specified containing text. This dialog is described in detail in the section Introduction to the Natural Studio, paragraph Object Retrieval.