

Command Summary and Syntax

This section provides a list of all commands available with the Natural Debugger. An underlined portion of a keyword represents an acceptable abbreviation. For an explanation of more complex command structures with user-defined operands, see Syntax Diagrams below.

Below is information on:

- All Debug Commands
- Syntax Diagrams

All Debug Commands

Command	Subcommand(s)	Explanation
-		Scrolls one page down in a list.
--		Scrolls to the beginning of a list.
<u>TOP</u>		
+		Scrolls one page down in a list.
++		Scrolls to the end of a list.
<u>BOTTOM</u>		
<u>ACTIVATE</u> (syntax below)	<u>BREAKPOINT</u> <u>BP</u>	Activates breakpoints as described in the relevant section in Breakpoint Maintenance.
	<u>SPY</u>	Activates breakpoints and watchpoints: see also Activate Spy in Spy Maintenance.
	<u>WATCHPOINT</u> <u>WP</u>	Activates watchpoints as described in the relevant section in Watchpoint Maintenance.
<u>BREAK</u>		Displays the Debug Window: see also <u>BREAK</u> in Navigation and Information Commands.
<u>CANCEL</u>		Cancels the current operation and/or exits screens without saving modifications.
<u>DEACTIVATE</u> <u>DA</u> (syntax below)	<u>BREAKPOINT</u> <u>BP</u>	Deactivates breakpoints as described in the relevant section in Breakpoint Maintenance.
	<u>SPY</u>	Deactivates breakpoints and watchpoints: see also Deactivate Spy in Spy Maintenance.
	<u>WATCHPOINT</u> <u>WP</u>	Deactivates watchpoints as described in the relevant section in Watchpoint Maintenance.

Command	Subcommand(s)	Explanation
<u>DELETE</u> (syntax below)	<u>BREAKPOINT BP</u>	Deletes breakpoints as described in the relevant section in Breakpoint Maintenance.
	<u>SPY</u>	Deletes breakpoints and watchpoints: see also Delete Spy in Spy Maintenance.
	<u>WATCHPOINT WP</u>	Deletes watchpoints as described in the relevant section in Watchpoint Maintenance.
	<u>ENVIRONMENT</u>	Deletes the specified debug environment: see also Delete Debug Environment in Debug Environment Maintenance.
<u>DISPLAY</u> (syntax below)	<u>BREAKPOINT BP</u>	Displays breakpoints as described in the relevant section in Breakpoint Maintenance.
	<u>SPY</u>	Displays breakpoints and watchpoints: see also Display Spy in Spy Maintenance.
	<u>WATCHPOINT WP</u>	Displays watchpoints as described in the relevant section in Watchpoint Maintenance.
	<u>CALL</u>	Displays statistics on programming objects invoked during the execution of an application: see also Display Called Objects in Call Statistics Information.
	<u>EXEC</u>	Displays statistics on executed statement lines of invoked programming objects: see also Display Executed Statement Lines in Statement Execution Statistics.
	<u>HEXADECIMAL</u>	Displays the contents of variables in hexadecimal format.
	<u>NOCALL</u>	Displays statistics on programming objects that have not been invoked during the execution of an application: see also Display Non-Called Objects in Call Statistics Information.
	<u>NOEXEC</u>	Displays statistics on non-executed statement lines of invoked programming objects: see also Display Non-Executed Statement Lines in Statement Execution Statistics.
	<u>OBJECT</u>	Displays statistics on the call frequency of objects: see also Display All Objects in Call Statistics Information.
	<u>STATEMENT</u>	Display statistics on executed and non-executed statement lines of invoked programming objects: see Display All Statement Lines in Statement Execution Statistics.
	<u>VARIABLE</u>	Displays variables for interrupted objects as described in the relevant section in Variable Maintenance.
<u>XSTATISTICS</u>	Displays a statistical summary of execution statistics: see also Display Statement Execution Statistics in Statement Execution Statistics.	
<u>ESCAPE</u>	<u>BOTTOM</u>	Stops processing a loop and escapes to the first statement after the loop: see ESCAPE BOTTOM in Execution Control Commands.
	<u>ROUTINE</u>	Stops processing an interrupted object and continues with another object, if available: see ESCAPE ROUTINE in Execution Control Commands.
<u>EXIT</u>		Leaves the current screen: see EXIT in Execution Control Commands.
<u>FLIP</u>		Switches between the display of the two PF-key lines (PF1 to PF12 and PF13 to PF24).

Command	Subcommand(s)	Explanation
<u>G</u> O		Returns control to the execution of the interrupted program: see GO in Execution Control Commands.
LAST		Displays the command entered last. The last three commands are stored and can be recalled.
<u>L</u> EFT		Shifts to the left side of a source code listing.
<u>L</u> IST		Displays the source code of a object.
(syntax below)	<u>B</u> REAK	Shows the object source with the current break. The relevant statement line is highlighted.
	<u>L</u> ASTLINE	Shows the object source with the last line executed before the current break.
<u>L</u> OAD	<u>E</u> NVIRONMENT	Loads the debug environment specified: see Load Debug Environment in Debug Environment Maintenance.
(syntax below)		
<u>M</u> ENU		Invokes the Debug Main Menu.
<u>M</u> ODIFY	<u>B</u> REAKPOINT <u>B</u> P	Modifies breakpoints as described in the relevant section in Breakpoint Maintenance.
(syntax below)	<u>S</u> PY	Invokes the Modify Breakpoint or Modify Watchpoint screen: see also Modify Spy in Spy Maintenance.
	<u>W</u> ATCHPOINT <u>W</u> P	Modifies watchpoints as described in the relevant section in Watchpoint Maintenance.
	<u>H</u> EXADECIMAL	Modifies the contents of variables in hexadecimal format.
	<u>V</u> ARIABLE	Invokes the Display Variable screen for modification as described in the relevant section in Variable Maintenance. See also Modify Variable.
<u>N</u> EXT		Executes the next command specified for a breakpoint or watchpoint.
<u>O</u> BJCHAIN		Displays executed objects at various program levels: see OBJCHAIN in Navigation and Information Commands.
ON/OFF		Switches test mode on/off.

Command	Subcommand(s)	Explanation
<u>PRINT</u> (syntax below)	<u>CALL</u>	Prints statistics on programming objects invoked during the execution of an application: see also Display Called Objects in Call Statistics Information.
	<u>EXEC</u>	Prints statistics on executed statement lines of invoked programming objects: see also Display Executed Statement Lines in Statement Execution Statistics.
	<u>NOCALL</u>	Prints statistics on programming objects that have not been invoked during the execution of an application: see also Display Non-Called Objects in Call Statistics Information.
	<u>NOEXEC</u>	Prints statistics on non-executed statement lines of invoked programming objects: see also Display Non-Executed Statement Lines in Statement Execution Statistics.
	<u>OBJECT</u>	Prints statistics on the call frequency of objects: see also Display All Objects in Call Statistics Information.
	<u>STATEMENT</u>	Prints statistics on executed and non-executed statement lines of invoked programming objects: see also Display All Statement Lines in Statement Execution Statistics.
	<u>XSTATISTICS</u>	Prints statistics on executed statement lines: see also Display Statement Execution Statistics in Statement Execution Statistics.
<u>PROFILE</u>		Displays the Edit Profile screen where you can modify the profile of the Natural Debugger. For details on the Edit Profile screen, see the relevant section in Navigation and Information Commands.
<u>RESET</u> (syntax below)	<u>ENVIRONMENT</u>	Resets the current debug environment: see Reset Debug Environment in Debug Environment Maintenance.
<u>RIGHT</u>		Shifts to the right side of a source code listing.
<u>RUN</u>		Switches off test mode and continues program execution.
<u>SAVE</u> (syntax below)	<u>ENVIRONMENT</u>	Resets the current environment and saves the debug specifications. See also Save Debug Environment in Debug Environment Maintenance.
<u>SCAN</u>	<u>ABS</u>	Only applies to the List Object Source (see the relevant section) function. Searches for a value in the source code of an object: see <u>SCAN</u> in Navigation and Information commands and Syntax Diagrams below.
<u>SCREEN</u>		When entered upon interruption of an object, the current screen output of the interrupted object is displayed. ENTER takes you back to debug mode.
<u>SET</u> (syntax below)	<u>BREAKPOINT BP</u>	Invokes the Set Breakpoint menu.
	<u>CALL ON/OFF</u>	Activates/deactivates the Call Statistics Maintenance as described in the relevant section.
	<u>OBJECT</u>	Changes the default object defined for the Natural debugging utility. See also <u>SET OBJECT</u> in Navigation and Information.
	<u>WATCHPOINT WP</u>	Invokes the Set Watchpoint menu.
	<u>XSTATISTICS ON/OFF/COUNT</u>	Activates the statistics function about executed statements of programming objects. See also Set Statement Execution Statistics in Statement Execution Statistics.

Command	Subcommand(s)	Explanation
SM		Invokes the Spy Maintenance menu as described in the relevant section.
<u>STACK</u>		Displays the contents of the entry at the top of the Natural stack: see STACK in Navigation and Information Commands.
<u>STEP</u>	[<i>n</i>]	Continues an interrupted object for <i>n</i> statement lines. The default value for <i>n</i> is 1.
	<u>SKIPSUBLEVEL</u>	Continues step-mode processing of interrupted objects without entering programs at sub-levels: see also SKIPSUBLEVEL in Execution Control Commands.
<u>STOP</u>		Terminates both the Natural Debugger and any interrupted Natural object; the NEXT line is displayed.
<u>SYSVARS</u>		Displays the current values of system variables (except the database-related system variables). See also Display Variables in Variable Maintenance.
<u>TEST ON/OFF</u>		Switches test mode on/off. Can also be entered at NEXT command level.
WM		Invokes the Watchpoint Maintenance menu as described in the relevant section.

Syntax Diagrams

The syntax diagrams listed below refer to more complex command sequences.

For a detailed explanation of the symbols used within the syntax descriptions, see the section System Command Syntax in the Natural Command Reference documentation.

For better readability, synonymous keywords are omitted from the syntax diagrams below. An underlined portion of a keyword represents an acceptable abbreviation.

Valid synonyms are:

Keyword	Synonym
BREAKPOINT	BP
DEACTIVATE	DA
WATCHPOINT	WP

Below is information on:

- ACTIVATE
- DEACTIVATE
- DELETE
- DISPLAY
- LIST
- LOAD
- MODIFY
- PRINT
- RESET
- SAVE
- SET

ACTIVATE

<u>ACTIVATE</u>	SPY	[{ <i>name</i> }]	}
	BREAKPOINT	[<i>object</i>] [<i>line</i>]	
	WATCHPOINT	[<i>object</i>] <i>variable</i>	

DEACTIVATE

<u>DEACTIVATE</u>	SPY	[{ <i>name</i> }]	}
	BREAKPOINT	[<i>object</i>] [<i>line</i>]	
	WATCHPOINT	[<i>object</i>] <i>variable</i>	

DELETE

<u>DELETE</u>	SPY	[{ <i>name</i> }]	}
	BREAKPOINT	[<i>object</i>] [<i>line</i>]	
	WATCHPOINT	[<i>object</i>] <i>variable</i>	
	<u>XSTATISTICS</u>	[<i>library</i>] <i>object</i>	
	<u>ENVIRONMENT</u>	[<i>name</i>]	

DISPLAY

DISPLAY	SPY	[{ <i>name</i> <i>number</i> }]
	BREAKPOINT	[<i>object</i>] [<i>line</i>]
	WATCHPOINT	[[<i>object</i>] <i>variable</i>]
	CALL	
	OBJECT	
	NOCALL	
	XSTATISTICS	<i>library</i> [<i>object</i>]
	STATEMENT	
	EXEC	
	NOEXEC	
	VARIABLE	[<i>variable</i> ,...]
	HEXADECIMAL	

LIST

LIST	{ LASTLINE BREAK <i>object</i> [<i>line</i>] }
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LOAD

LOAD ENVIRONMENT [<i>name</i>]

MODIFY

<u>MODIFY</u>	<u>SPY</u> [{ <i>name</i> <i>number</i> }]	
	BREAKPOINT	[<i>object</i>] [<i>line</i>]
	<u>WATCHPOINT</u>	[[<i>object</i>] <i>variable</i>]
	<u>VARIABLE</u>	[<i>variable</i> [= <i>new value</i>]]
	<u>HEXADECIMAL</u>	

PRINT

<u>PRINT</u>	CALL	[<i>library</i> [<i>object</i>]]
	<u>OBJECT</u>	
	<u>NOCALL</u>	
	<u>XSTATISTICS</u>	
	<u>STATEMENT</u>	
	<u>EXEC</u>	
	<u>NOEXEC</u>	

RESET

RESET ENVIRONMENT [*name*]

SAVE

SAVE ENVIRONMENT [*name*]

SET

SET	{	<u>OBJECT</u> <i>object</i>			}
	{	BREAKPOINT	[<i>object</i>]	[{ <i>line</i> <i>label</i> }]	}
	{	WATCHPOINT	[[<i>object</i>]	<i>variable</i>]	}
	{	CALL	{ OFF ON }		}
	{	<u>XSTATISTICS</u>	{ OFF ON COUNT	[<i>library</i> [<i>object</i>]]	}