

# Natural Construct

Study  
Guide

# Natural **CONSTRUCT** Study Guide



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# CONSTRUCT Study Guide

## Table of Contents

- Chapter 1 What is Natural CONSTRUCT?
  - CONSTRUCT Subsystems ..... 2
    - Generation Subsystems ..... 2
    - Help Subsystem ..... 2
    - Administration Subsystem ..... 2
  - CONSTRUCT Environment ..... 3
  - Relationship with PREDICT ..... 4
  
- Chapter 2 CONSTRUCT Objects ..... 5
  - CDGDA ..... 5
    - Other External Objects ..... 5
    - CDGDA ..... 6
    - Layouts ..... 7
    - Test Files ..... 7
  
- Chapter 3 Generation Main Menu ..... 11
  - Invoking CONSTRUCT ..... 11
  - Generation Main Menu ..... 11
    - Invoking CONSTRUCT ..... 12
  - Generation Main Menu Functions ..... 13
  - List Modules Example ..... 14
  - PF5 Optns ..... 16
  
- Chapter 4 Building an Application ..... 17
  - STARTUP Model ..... 18
  - Standard Parameters ..... 19
  - User Exits ..... 20
  - Generating and Stowing the Generated Program ..... 22
    - What's In YOUR Edit Buffer? ..... 24
  - QUIT Model ..... 25
    - Modify Specifications for the QUIT program ..... 26

MENU Model .....	28
Specifications Panel .....	29
Standard Parameters Panel.....	30
Additional Parameters Panel .....	31
PF6 – Dynamic Attribute Parameters .....	34
MENU Model User Exits .....	36
Chapter 5 Why Do We Need User Exits? .....	39
Customization of Objects .....	39
Introducing User Code into the Main Menu Program.....	39
Why do we need any of these User Exits? .....	47
Chapter 6 BROWSE Model.....	49
BROWSE Models Overview .....	49
BROWSE Program Example .....	49
BROWSE-SELECT Program Example .....	50
Additional Parameters Panel .....	55
Additional Input Fields Panel .....	58
Restriction Parameters Panel .....	59
User Exits .....	60
WRITE FIELDS Data Parameters Panel .....	61
Predict Views or Data Areas Panel.....	61
Report Layout Specification Panel.....	65
DEFAULT Specifications.....	76
Chapter 7 Maintenance Model .....	81
MAINT Model .....	81
MAINT Model - The Conventional Approach .....	81
Additional Parameters Panel .....	84
Secondary File Support .....	84
MAINT Model User Exits.....	85
Testing Your MAINT Program.....	87
MAINT Model - The Modified Approach.....	89
Natural Map Editor .....	90
Standard Parameters Panel.....	99
Additional Parameters Panel .....	99
Testing the new Maintenance Program .....	101

Chapter 8 Statement Models .....	103
.G ADD Statement Model Example .....	104
.G VIEW Statement Model Example.....	106
.G DECIDE ON Statement Model Example.....	108
.G FETCH Statement Model Example.....	112
Chapter 9 BROWSE-SELECT Model .....	114
Accessing the BROWSE-SELECT Model .....	117
Standard Parameters Panel .....	117
Additional Parameters Panel .....	119
Scrolling Function .....	119
BROWSE-SELECT Map.....	119
Active Portions of a BROWSE-SELECT Screen .....	120
Optional Parameters.....	120
Additional Input Fields Panel .....	121
Action Column Definition Panel .....	122
Screen Layout Parameters for Model Generated Map .....	123
Restriction Parameters .....	126
Available User Exits.....	127
Select [View] Fields Panel .....	128
Build Report Layout Panel .....	129
Report Column Headings .....	132
Testing Your Layout .....	134
Generate User Exit Code .....	136
Process Selected Record User Exit.....	137
Chapter 10 BROWSE-SUBProgram Model .....	141
Standard Parameters .....	141
Additional Parameters .....	142
Additional INPUT Parameters.....	145
Specific Parameters .....	145
Restriction Parameters .....	146
User Exits .....	146
WRITE-FIELDS Data Parameters .....	148
Build Report Layout .....	149
DRIVER Model .....	153
Standard Parameters .....	153

Building User Exits .....	159
BROWSE Window .....	165
Standard Parameters.....	165
Additional Parameters.....	166
Windows Note .....	177
Additional INPUT Parameters	
BROWSE Model Additional INPUT Parameters Example ....	179
Standard Parameters.....	180
Additional Parameters.....	181
Additional INPUT Parameters Panel.....	182
User Exits .....	183
WRITE-FIELDS .....	185
Build Report Layout .....	186
User Exit Code Changes .....	191
Testing the Model	
Index .....	195

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# Chapter 3

## Generation Main Menu

### Invoking CONSTRUCT

Access to CONSTRUCT varies from organization to organization. In order to keep from becoming overly complicated, this manual will always invoke CONSTRUCT from Natural's Command Line. You should check with your Natural Administrator or Database Administrator if you have any problems invoking CONSTRUCT.

Check the "Library" setting on Natural's Development Functions Menu to insure you're in the correct library for CONSTRUCT development. You may change the library designation by typing "LOGON library-name" on the Command Line before pressing the ENTER key.

To invoke CONSTRUCT type "NCSTG" on the Command Line (does not have to be uppercase) and press the ENTER key (see Figure 3.2 - 3.4).

### Generation Main Menu

```

CSGMAIN          N a t u r a l   C o n s t r u c t   4.5.1          CSGMNM0
Jan 22          Generation Main Menu                               1 of 1

                Functions
                -----
                R  Read Specifications
                M  Modify Specifications
                U  User Exit Editor
                G  Generate Source
                T  Test Source
                E  Edit Source
                S  Save Source
                W  Stow Source
                L  List Modules
                C  Clear Edit Buffer
                ?  Help
                .  Return
                -----
Function ..... _  Module ..... _____ Panel ..... _
Model ..... _____ Type ..... Program
Command ..... _____ Library .... XGSLDDH
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
                help          quit          optns                                lang

```

Figure 3 - CONSTRUCT's Generation Main Menu

Turn to page 13.

## Invoking CONSTRUCT

```

12:34:56          ***** Natural *****          2004-01-22
User DBA001          - Main Menu -          Library DBA001

                Function

                x Development Functions
                _ Development Environment Settings
                _ Maintenance and Transfer Utilities
                _ Debugging and Monitoring Utilities
                _ Example Libraries
                _ Other Products
                _ Help
                _ Exit Natural Session

Command ==>
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12--
                Help           Exit                               Canc

```

Figure 3.1 - Natural Main Menu. You may use this command line to logon to a library & invoke NCSTG.

```

12:34:56          ***** Natural *****          2004-01-22
User DBA001          - Development Functions -          Library SYSTEM
                                                Mode Reporting
                                                Work area empty

Command ==> logon DBA001
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12--
                Help Menu Exit                               Canc

```

Figure 3.2 - Natural Development Function Menu. Logging into another library.

```

12:34:56          ***** Natural *****          2004-01-22
User DBA001          - Development Functions -          Library DBA001
                                                Mode Reporting
                                                Work area empty

                Code Function

                C Create Object
                E Edit Object
                R Rename Object
                D Delete Object
                X Execute Program
                L List Object(s)
                S List Subroutines Used
                ? Help
                . Exit

                Code .. _   Type .. _
                Name .. _____

Command ==> ncstg
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12--
                Help Menu Exit                               Canc

```

Figure 3.3 Natural Development Function Menu. Invoking NCSTG (CONSTRUCT).

## Generation Main Menu Functions

**Read Specifications** is used to read a previously saved or stowed module from the library into the work area for modification. If the work area contains another module, the *Clear Edit Buffer* popup will appear asking whether you want to clear the buffer or not.

**Modify Specifications** is generally used when a new module is being created but can also be used to modify one or more panels from the current module in the work area.

**User Exit Editor** will invoke another editor used to generate user exit code. If there is no code associated with the object in the work area, a menu listing all the user exits associated with the current object type will be displayed.

**Generate Source** causes CONSTRUCT to assemble all the code of the object and any user exits generated into a generated program for testing.

**Test Source** usually executed after the generate function is completed to test the generated program.

**Edit Source** dumps you right into the Natural Program Editor where you'll see ALL the code associated with the CONSTRUCT object. Until you've gained more experience with CONSTRUCT, avoid this function. If you unexpectedly find yourself in the Natural Program Editor for a CONSTRUCT object you should be able to type a period on the command and press the ENTER key to exit.

**Save Source** saves whatever is in the work area to your library. This a good interim tool when you have something else to do and want to return to work on this object later.

**Stow Source** generates and compiles a working, production version of your CONSTRUCT object once all testing is completed. This is the same STOW function as used in Natural.

**List Modules** provides a list of currently available modules (see Figure 3.5) in alphabetical sequence. An object may be selected by positioning the cursor on the module name and pressing the ENTER key. Advanced scrolling is also available from the input line at the bottom of the window.

**Clear Edit Buffer** flushes the work area. If you've executed SAVE or STOW then this shouldn't cause a problem. Software AG suggests you clear out the buffer before beginning work on a new module to insure nothing is left in any parameters that are not needed. Generally, you'll receive a prompt before being allowed to continue processing to which you can respond "y".

**Help** invokes an extensive array of windows that will answer many of your questions about the various features and functions of CONSTRUCT.

**Return** exits CONSTRUCT and returns control to the facility where CONSTRUCT was originally invoked.

```

CSGMAIN          N a t u r a l   C o n s t r u c t   4.5.1          CSGMNM0
Jan 22                               Generation Main Menu          1 of 1

      Functions
      -----
      R  Read Specifications
      M  Modify Specifications
      U  User Exit Editor
      G  Generate Source
      T  Test Source
      E  Edit Source
      S  Save Source
      W  Stow Source
      L  List Modules
      C  Clear Edit Buffer
      ?  Help
      .  Return
      -----
Function ..... _  Module ..... _____ Panel ..... _
Model ..... _____ Type ..... Program
Command ..... _____ Library .... DBA001
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      help      quit      optns                                  lang

```

Figure 3.4 - Generation Main Menu

### List Modules Example

Type an “m” in the Function parameter and press the ENTER key (Figure 3.4).

```

CSGMAIN          N a t u r a l   C o n s t r u c t   4.5.1          CSGMNM0
Jan 22          +-----+-----+-----+-----+-----+-----+ 1 of 1
| Model * does not exist |
| CSDMLIST              Natural CONSTRUCT              CSDMLIS0 |
| Jan 22                Select Model                    1 of 1 |
|-----+-----+-----+-----+-----+-----+-----+
|                               Model                               Type |
|-----+-----+-----+-----+-----+-----+-----+
| BATCH                  Program |
| BROWSE                 Program |
| BROWSE-HELPR           Helproutine |
| BROWSE-SELECT          Program |
| BROWSE-SELECT-HELPR    Helproutine |
| BROWSE-SELECT-SUBP     Subprogram |
| BROWSE-SUBP            Subprogram |
| BUSINESS-OBJECT-SUPER-MODEL Multi-Module |
| CST-CLEAR              Subprogram |
| CST-DOCUMENT           Subprogram |
| CST-FRAME              Subprogram |
Functi |
Model  | Model .. * _____ All models ... _ |
Comman | Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9--- |
Enter- | help retrn                bkwrdr frwrdr | PF12---
+-----+-----+-----+-----+-----+-----+-----+ lang

```

Figure 3.5 - List of Available CONSTRUCT Models

Now you have two choices in the window, press PF8 to scroll forward alphabetically until you find a module you want to create or modify. Press PF7 to scroll backward. You may type a restart value on the Model parameter. When you press the ENTER key, the list will display all modules beginning with the character string typed on the Model line. Type an “m” on the Model line, press the ENTER key, and then turn the page.

```

CSGMAIN          N a t u r a l   C o n s t r u c t   4.5.1          CSGMNM0
Jan 22 +-----+ 1 of 1
| Position cursor or enter screen value to select |
| CSDMLIST          Natural CONSTRUCT          CSDMLIS0 |
| Jan 22          Select Model          1 of 1 |
|-----|-----|
|          Model          Type          |
|-----|-----|
|          MAINT          --          Program |
|          MAP          Map |
|          MENU          Program |
|          OBJECT-BROWSE-DIALOG          Subprogram |
|          OBJECT-BROWSE-DIALOG-DRIVER |
|          OBJECT-BROWSE-STATIC          Subprogram |
|          OBJECT-BROWSE-SUBP          Subprogram |
|          OBJECT-LDA          Local |
|          OBJECT-MAINT-DIALOG          Program |
|          OBJECT-MAINT-DIALOG-SUBP          Subprogram |
|          OBJECT-MAINT-PDA          Parameter |
Functi Model .. M          All models ... _
Comman Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---
Enter- help retrn          bkwrdr frwrdr          PF12--
+-----+-----+ lang
    
```

Figure 3.6 - List of Available CONSTRUCT Models

As you can see from Figure 3.6, the display is refreshed and begins with the first module name that starts with an “M”. Position the cursor anywhere on the MAINT line as illustrated in Figure 3.6 and press the ENTER key. This cursor sensitive selection feature is used throughout CONSTRUCT and it is a function you can implement in your applications as well. Press the ENTER key. Alternatively, you could have typed MAINT on the Model line and pressed the ENTER key.

Of course, if you know the name of the module you wanted to modify, simply type its name in the **Model** parameter on the Generation Main Menu along with an appropriate **Function** (generally “m”) and a **Module** name before pressing the ENTER key.

Note: The models listed may not necessarily be the same as those displayed in Figure 3.6. What you see depends on your installation. Not only will all the standard CONSTRUCT Models be displayed but any models that have been generated for use in your library will be displayed as well.

## PF5 Optns

```

+-----+
| CSGOPTS      Natural CONSTRUCT      CSGOPTS0      CSGMNM0      |
| Jan 22       Optional Parameters     1 of 1       1 of 1      |
|-----+-----+-----+-----+-----+-----+-----+
| Status window ..... _                ---          |
|                               Step ..... _          |
|                               Text ..... _          |
| Embedded statements ..... _          |
| Condition codes ..... _             |
| Post-generation modifications _     |
|-----+-----+-----+-----+-----+-----+-----+
| Specifications only ..... _          |
| Document in PREDICT ..... _         |
| Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9- |
|      help  retrn quit                |
+-----+-----+-----+-----+-----+-----+-----+
|                               . Return          |
|-----+-----+-----+-----+-----+-----+-----+
| Function ..... _  Module ..... _      Panel ..... _  |
| Model ..... _    Type ..... _         |
| Command ..... _  Library .... DBA001  |
| Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12--- |
|      help      quit      optns                lang    |

```

Figure 3.7 - PF5 Optional Parameters Panel

The **Optional Parameters** window lets you setup some preliminary parameters for your CONSTRUCT session. You will be able to adjust other, more detailed, parameters in other windows later. However, these parameters are generic to all future processing.

**Status Window.** Each time you ask CONSTRUCT to generate any object, a series of windows will appear and scroll forward automatically displaying information as the generation progresses to completion. You may dispense with the display of the status window and of the status messages by NOT selecting any of the Status Window Optional Parameters.

When your generation is complete, a message will simply appear on the message line informing you that the generation completed successfully. Any errors will stop the process and an appropriate error message will be displayed.

**Specifications Only.** Used if you want to save the current model specifications and user exit code even though the generation process has returned an error.

**Document in PREDICT.** Mark this parameter to have CONSTRUCT start the preliminary documentation of this module in PREDICT. Generally, this includes all the comments at the top of the generated module. A separate popup window is available to specify what kind of documentation you want CONSTRUCT to generate.

# Index

- #SELECTED-KEY, 177
- .G 110
- .G DECIDE ON Statement, 115
- .G VIEW Statement, 113
- Accessing the BROWSE-SELECT Model, 125
- Action Column Definition Default Layout
  - BROWSE-SELECT model, 131
- Action Column Definition Panel, 130
  - BROWSE-SELECT model, 130
- Active Portions of a BROWSE Screen
  - BROWSE model, 60
- Additional Input Fields, 63
- Additional Input Fields Panel, 129
  - BROWSE-SELECT model, 129
- Additional INPUT Parameters
  - BROWSE-SUBP Subprogram, 157
- Additional Parameters
  - BROWSE model, 62
  - BROWSE Window, 181
  - MAINT model Modified Approach, 106
  - MENU Model, 33
  - BROWSE-SUBP Subprogram, 153
- Additional Parameters Panel
  - BROWSE Model, 59
  - BROWSE-SELECT model, 127
  - MAINT model, 90
- Administration Subsystem, 2
- Available User Exits, 65, 135
- Basic Parameters Panel, 59, 127
- BROWSE Data
  - BROWSE Model, 59
- BROWSE Map
  - BROWSE model, 59
- BROWSE Model Build Report Panel, 70
- BROWSE Model User Exits, 65
- BROWSE Program Example, 52
- BROWSE window
  - Window Notes, 192
- BROWSE Window, 180
- BROWSE-SELECT Map
  - BROWSE-SELECT model, 127
- BROWSE-SELECT Model, 121
- BROWSE-SELECT Program Example, 53
- BROWSE-SUBProgram, 151
- Build Report
  - BROWSE Window, 184
- Build Report Layout
  - BROWSE-SUBP Subprogram, 162
- Build Report Panel
  - BROWSE-SELECT model, 138
- Building an Application, 17
- Building User Exits, 173
- CDGDA, 5
- CDKEYLDA, 5
- CDLAYFM1, 7, 98
- CONSTRUCT Environment, 3
- CONSTRUCT Objects, 5
- CONSTRUCT Subsystems, 2
- Cursor sensitive selection, 15
- Customization of Objects, 42
- DEFAULT Specifications, 82
- Document in PREDICT, 16
- DRIVER Model, 167
- Dynamic Attribute Parameters
  - MENU Model, 36
- Edit Buffer, 26
- Function, 15
- G Statement Models, 111, 119
- Generate User Exit Code
  - BROWSE-SELECT model, 146
- Generating and Stowing the Generated Program, 23
- Generation Main Menu, 11
- Generation Main Menu Functions, 13
- Generation Subsystem, 2
- Help Subsystem, 2
- Initialize the BROWSE Model, 56
- Introducing User Code into the Main Menu Program, 42
- Invoking CONSTRUCT, 11
- Layouts, 7
- List Modules Example, 14
- MAINT Model, 87

- MAINT Model - The Conventional Approach, 90
- MAINT Model - The Modified Approach, 96
- Maintenance Model, 87
- MENU Model, 30
- Model parameter, 15
- Modify Field Prompts
  - BROWSE model, 74
- Module name, 15
- Natural Map Editor, 97
- NATURAL Program Editor, 110
- NATURAL statements later, 110
- NCSTG, 11
- Optional Parameters
  - BROWSE model, 60
  - BROWSE-SELECT model, 128
- Other External Objects, 5
- PF5 Optns, 16
- PREDICT, 1
- Process Selected Record User Exit
  - BROWSE-SELECT model, 147
- PROCESS-SELECTED-RECORD Example, 160
- PROCESS-SELECTED-RECORD User Exit, 173
- QUIT Model, 27
- Relationship with PREDICT, 4
- Report Column Headings
  - BROWSE-SELECT model, 142
- Report Layout, 138
- Report Layout Specification
  - BROWSE model, 71
- Restriction Parameters
  - BROWSE-SELECT model, 134
  - BROWSE-SUBP Subprogram, 159
- Restriction Parameters Panel
  - BROWSE model, 64
- Screen Layout Parameters, 131
- Scrolling Function
  - BROWSE model, 59
  - BROWSE-SELECT model, 127
- Select Fields, 136
- Select Fields from Views and/or Data Areas, 67
- Specific Parameters
  - BROWSE-SUBP Subprogram, 157
- Standard Parameters
  - BROWSE Model, 57
  - BROWSE Window, 180
  - DRIVER Model, 167
  - MAINT model, 89
  - MAINT model Modified Approach, 106
  - MENU Model, 32
  - QUIT Model, 28
  - STARTUP Model, 20
- Standard Parameters Panel, 57
  - BROWSE-SELECT model, 125
- STARTUP Model, 19
- Statement Models, 110
- Test Files, 7
- Testing Your MAINT Program, 95
- User Exits, 42
  - BROWSE model, 65
  - BROWSE-SELECT model, 135
  - MAINT model, 92
  - MENU Model, 39
  - QUIT Model, 29
  - STARTUP Model, 21
  - BROWSE-SUBP Subprogram, 159
- Variable Minimum/Maximum Key Values, 64
- Window Parameters
  - BROWSE Window, 181
- Window support
  - BROWSE-SUBP Subprogram, 155
- Windows Note, 192
- WRITE FIELDS, 67
- WRITE-FIELDS, 65
  - BROWSE-SUBP Subprogram, 161
- WRITE-FIELDS Data Parameters
  - BROWSE-SELECT model, 136

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