

Greenhouse

User Guide

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Using the ISPF front-end

The goal of the ISPF front-end is to provide users a single place to invoke process and reporting functions. There are eleven options on the main panel, and each provides access to one of the Greenhouse functions. Except for reporting, online

viewing, and attributes, the functions are listed in the order they should be performed. Attributes (Option D) should be selected prior to beginning a work session. Other functions, such as Export and Import, may actually be performed many times.

The figure below shows the main panel.

```
----- Greenhouse Main Menu -----
Option ==>

  Select one of the following Greenhouse options and press enter:

  For code segment-id . . . DEMOSEG1

  1 Setup          - Setup segment specific datasets for new segment
  2 Build/Assign   - Build SCL or Assign syntax
  3 Export         - Create, modify and submit segment export
  4 Delta         - Request delta sync function
  5 Reports       - Request and submit reports
  6 Import        - Add back elements from inbound dataset
  7 Online        - View Greenhouse data online
  8 Labeling      - Perform labeling requests
  9 Clean Management - Perform clean management functions
  A Complete     - Complete and cleanup the segment
  D Attributes    - View and update session attributes
  X Exit         - Return to ISPF

                               End = Exit   Enter = Process   PF1 = Help
```

Figure 1. Main Menu

Option D: Attributes

When to access the Attributes panel

This option is a general administrative option and values should be set up for new users. During implementation, your systems administrator should have set these values in the core application so that individual users will not have to fill this out. However, make sure the session attributes are provided prior to performing any setup functions.

How to invoke the Attributes panel

From the main panel, after entering a segment-id, select option D and press <enter>.

```
----- Greenhouse Main Menu -----
Option ==> D

Select one of the following Greenhouse options and press enter:

For code segment-id . . . DEMOSEG1

 1 Setup          - Setup segment specific datasets for new segment
 2 Build/Assign   - Build SCL or Assign syntax
 3 Export         - Create, modify and submit segment export
 4 Delta         - Request delta sync function
 5 Reports       - Request and submit reports
 6 Import        - Add back elements from inbound dataset
 7 Online        - View Greenhouse data online
 8 Labeling     - Perform labeling requests
 9 Clean Management - Perform clean management functions
A Complete     - Complete and cleanup the segment
D Attributes  - View and update session attributes
X Exit         - Return to ISPF

                        End = Exit   Enter = Process   PF1 = Help
```

Figure 2. Main Menu

The Greenhouse Session Attributes panel will be displayed.

```
----- Greenhouse Session Attributes -----
Option ==>

You are on the Greenhouse definition panel. Use this panel to set
various system attributes that will be saved from session to session.

Merge tool selection . . . CIG      (CIG, PDM, VM, OR NONE)
High level qualifier . . . CIGT     Used for segment datasets
Second level qualifier . . DAVE     Used for segment datasets

Work DSN . 'CIGT.TEST.PDS'
Work MEMBER. DAVE

                        End = Exit   Enter = Process   PF1 = Help
```

Figure 3. Session Attributes panel

Session Attributes Panel Fields:

Merge Tool Selection	Choose CIG, PDM, or VM for Version Merger. If left blank, Greenhouse will not invoke the merge function from Delta Sync.
High level qualifier	Used to help build the setup datasets. Greenhouse passes this high level qualifier to various dataset allocation routines. A value is required.
Second level qualifier	Used to help build various dataset names. A value is required.
Work DSN	Required for various functions; must be valid PDS. Quotes are not required.
Work Member	Required for various functions; must be a 1-8 character member name.

Option 1: Setup Functions

When to perform Setup Functions

You must perform the Setup function once per segment and you must do so prior to the Build and Export functions. If you have not performed the Setup for a segment, then Greenhouse will prompt you in both the Build and Export functions with an opportunity to perform Setup Functions.

Why perform Setup Functions

The purpose of the Setup function is to allocate libraries that will be used throughout the life cycle of the segment-id. These datasets will be used to house vendor information, export file allocation JCL, WIP (work-in-process) file allocation JCL, job card information, and cleanup information.

How to invoke the Setup Function

From the main panel, after entering a segment-id, select option 1 and press <enter>. In the example below, the segment-id is DEMOSEG1.

```
----- Greenhouse Main Menu -----
Option ==> 1
Select one of the following Greenhouse options and press enter:
For code segment-id . . . DEMOSEG1

  1 Setup                - Setup segment specific datasets for new segment
  2 Build/Assign         - Build SCL or Assign syntax
  3 Export               - Create, modify and submit segment export
  4 Delta                - Request delta sync function
  5 Reports              - Request and submit reports
  6 Import               - Add back elements from inbound dataset
  7 Online               - View Greenhouse data online
  8 Labeling             - Perform labeling requests
  9 Clean Management    - Perform clean management functions
  A Complete            - Complete and cleanup the segment
  D Attributes           - View and update session attributes
  X Exit                 - Return to ISPF

                        End = Exit   Enter = Process   PF1 = Help
```

Figure 4. Main Menu

If you enter a wild carded value, you will receive a prompt panel requesting that you provide a non-wild carded value. If you provide a pre-existing segment-id, you will be informed that the id exists, but that it can still be used.

After Greenhouse receives a valid segment-id, it will perform file tailoring and prompt you with the JCL Edit and Submit panel. The figure below shows the JCL Edit and Submit panel.

```
----- Greenhouse Edit and Submit Menu -----
OPTION ===>

  Select one of the following options and press enter:

                1   Edit JCL
                2   Submit JCL

Dataset and member for SCL build:
SCL Dsn . . . CIGT.TEST.PDS
Member. . . . DAVE

Job cards for all file tailoring:
. . . . //HV007TAG JOB (04330), 'CIG-INC', CLASS=2, REGION=4096K,
. . . . //          MSGCLASS=H, MSGLEVEL=(1,1)
. . . . _____
```

Figure 5. Edit and Submit Menu panel

Edit and Submit Panel Fields

Edit JCL	Selecting option 1 will initiate an ISPF edit session. You can view or edit the JCL.
Submit JCL	Selecting option 2 causes Greenhouse to submit the JCL. To minimize potential JCL errors, CIG recommends that you review the JCL the first several times prior to automatically submitting a job for batch processing. The first two lines must contain valid JCL statements.
SCL DSN	This is the name of the dataset to which Greenhouse will write the SCL member.
MEMBER	This field corresponds to the code segment field specified on the main panel.

Verify that the job card values are correct. If this is the first initialization of Greenhouse, you may have to input valid job card values, which will be saved from this point forward.

Result of Setup Function

Note that the DEMOSEG1 example is used throughout this user guide. The high level qualifier is pre-set in the ISPF skeletons. (See the CIG Product Installation Guide for more information on tailoring ISPF skeletons.)

A successful setup job will create the following files:

- USERHLQ.DEMOSEG1.SETUP A PDS used for many purposes
- USERHLQ.DEMOSEG1.WIP A file used for PDM Merge processing
- USERHLQ.DEMOSEG1.ELIST A sequential file for ELIST values
- USERHLQ.DEMOSEG1.ELISTS A sequential file for sorted ELIST values
- USERHLQ.DEMOSEG1.ELOC A sequential file for metrics collection

The Setup dataset is required for all Greenhouse segments. All other datasets are optional and their allocation may be disabled during Greenhouse implementation.

Populating your Code Segment

Once you have completed the setup function, you will need to populate your Greenhouse work segment. The two methods available for this are

Build & Export: executes Endeavor packages in order to identify the content of a segment and exports the content to Greenhouse outbound datasets.

Assign: assigns segment content to a segment

Build and Export

When to perform Build and Export

The Build and Export functions, options 2 and 3 from the Greenhouse main menu, are performed to identify the elements to be included in a segment, and then to export those elements to a segment. These options can be performed any time that impact analysis or SCL creation is required for exports, imports, or promotions.

Why use Build and Export?

Package Processing

If your installation requires that package processing be performed prior to populating your Greenhouse segment, Build and Export allow you to assemble your elements and members into packages prior to exporting them.

Build and Export can also be used to:

- ① standardize processes to increase productivity and consistency
- ② automate functions that would otherwise be done manually

Assign Function

When to Perform the Assign function

The Assign function is used to group and assign elements and/or members to segments in Greenhouse, and can be used in place of Endeavor package processing. After an element is assigned, it will be considered a fully legitimate component of the segment. This function replaces the need to perform an Endeavor action and a processor to connect to Greenhouse.

Why use the Assign function?

The Assign function allows you to quickly and efficiently define a segment. It enables the labeling and label enforcement functions of Greenhouse without stepping through the complete segment life cycle.

The Assign function can also be used to add elements to previously existing segments.

How to invoke

The following pages detail how to invoke the Build, Export, and Assign functions, respectively.

Option 2: Build code segment SCL

As stated previously, the Build function is performed to identify the elements to be included in a segment. A Build can be performed any time that impact analysis or SCL creation is required for exports, imports, or promotions.

```
----- Greenhouse Main Menu -----
Option ==> 2

Select one of the following Greenhouse options and press enter:

For code segment-id . . . DEMOSEG1

1 Setup - Setup segment specific datasets for new segment
2 Build/Assign - Build SCL or Assign syntax
3 Export - Create, modify and submit segment export
4 Delta - Request delta sync function
5 Reports - Request and submit reports
6 Import - Add back elements from inbound dataset
7 Online - View Greenhouse data online
8 Labeling - Perform labeling requests
9 Clean Management - Perform clean management functions
A Complete - Complete and cleanup the segment
D Attributes - View and update session attributes
X Exit - Return to ISPF

End = Exit Enter = Process PF1 = Help
```

Figure 6. Main Menu

STEP 1 As shown above, enter a segment-id on the main panel, select option 2, and press <enter>.

If you enter a wild carded value, a selection list will be provided of all known segments that meet the criteria, as shown below.

```
----- Select a Segment-id or View Segment Data - Row 1 to 5 of 5
Command ==>
List segment . . *_____ Filter . . / '/' For filter prompt

Enter '/' in the line command for a list of options or 's' to select
segment-id value.

-----
'/' Segment-id Exec status Description
-----
G9705A DEFINED GREENHOUSE SEGMENT DEFAULT COMMENT
G9705B DEFINED GREENHOUSE SEGMENT DEFAULT COMMENT
G9705C DEFINED GREENHOUSE SEGMENT DEFAULT COMMENT
***** Bottom of data*****
```

Figure 7. Segment Id panel

Greenhouse will inform you that the id already exists if you attempt to use an existing segment.

Once Greenhouse receives a valid segment-id, you will be prompted with the build screen, shown below, from which you can choose to register owner information and also choose to have Greenhouse allocate the export files. Regardless of the owner and export dataset options, Greenhouse will eventually prompt you to construct a code segment.

```
----- Build New Segment For Conversion -----
Option ==>

For segment-id . . .

Record segment owner . . . N (Y/N)
Create export files. . . . Y (Y/N)

Target dataset for SCL creation:

SCL dataset . . . CIGT.TEST.PDS
SCL member. . . . DEMO

End = Exit Enter = Process PF1 = Help
```

Figure 8. Build Function Input panel

Build New Segment for Conversion Panel Fields

For Segment - ID	Name of segment-id for which you are recording ownership information.
Record Segment Owner	Respond Y to record segment owner and invoke the vendor information for conversion panel, shown below. This option requires the setup PDS to be allocated.
Create Export Files	Respond Y to Create Export Files, also referred to as “outbound datasets”.
SCL Dataset	Enter a valid PDS name
SCL Member	Corresponds to the code segment field on the main panel.

Vendor Information panel

```
----- VENDOR INFORMATION FOR CONVERSION -----
COMMAND ==> _____

ENTER VENDOR INFORMATION (WHERE SOURCE CODE WILL BE SENT)
FOR SEGMENT-ID: DEMOSEG1

NAME: SILVER BULLET SOFTWARE
ADDR1: 368 W. HURON
ADDR2: SUITE 2N
CITY: CHICAGO STATE: _IL_ ZIP: ___60610_____
COUNTRY: USA_____
CONTACT NAME: TIM CURRIE _____
MAIL STOP: _____
PHONE1: _1-312-337-3709_____
PHONE2: _____
EMAIL ADDR: _____

          ADDITIONAL INFORMATION
THIS CODE IS GOING OFF_SITE

          END = EXIT ENTER = PROCESS PF1 = HELP
```

Figure 9. Vendor Information Panel

STEP 2 Complete your options on the build panel and on the Vendor panel, if selected and press <enter>. Greenhouse will then invoke the SCL build process, and the Greenhouse Code Segment Create, View and Modify Panel, shown below. From here, you can create a list of elements to be contained in the code segment.

```
----- Code Segment Create and Update -----
Option ==> _____ Scroll ==> CSR
Enter "/" to select option:
List Member . . * List Type. E (E/X/B) / Filters _ Append
Where Component. Comp Type. I (I/O/P/X)
=====
Enter "/" to select function below or line command:
_ Group action | _ Msgs _ JCL _ Reports _ Preferences
=====
"/" Element Type Environ S System Subsys (VV.LL)
-----
***** Bottom of data *****
```

Figure 10. Code Segment Create and Update panel

Code Segment Create and Update Panel Fields

- | | |
|-------------|--|
| Option | Specify a “/” in this field to view available options: |
| | M - Show messages |
| | L - Locate a member in the member list |
| Scroll | Allows you to control scrolling of the member list. |
| List Member | This field allows you to limit the results of a query request to only that member whose name matches the specified name. Wildcarding is supported. |

List Type	Valid values are Endeavor (E), External Dataset (X), or Both (B).
Where Component	Component name of 10 characters or fewer. A component can be a copybook, macro, processor, or Endeavor object. It can also be a Greenhouse Label value.
Comp type	This field is used in conjunction with the List Element and Where Component fields. Valid values are: I - Input Component O - Output Component P - Processor Component X - Endeavor Object or Greenhouse Label
Filters	If you specify "/" in this field, Greenhouse displays the Filters panel, where you can further limit the results shown in the Member List.
Append	If you specify "+" in this field, Greenhouse merges or adds the results of subsequent query requests to any element names already displayed.
Group action	If you specify a '/' in this field, a prompt screen is displayed showing the actions available for processing the segment. Specifying the group action is required for building or migrating a segment.
Msgs	Displays internal Greenhouse messages.
JCL/Reports	Invoke standard FastLIST reports and define jobcard options for the reports
Preferences	Sets Default parameters for querying and commands.

STEP ③ After you complete the information on the above panel and press <enter>, Greenhouse will prompt you with the following inventory filtering panel to assist in creating the segment element list.

CCID Type One character CCID type. Valid values are:

- C - Current CCID
- R - Retrieve CCID
- G - Generate CCID
- L - Last CCID
- D - Delta CCID
- A - Any CCID

LVLS? Accepts a Y or N value.

Y” will cause all element levels that match the search criteria to be displayed on the main panel. “N” will cause only the current level to be displayed.

Dates? Accepts a Y or an N value.

If set to "Y", you will be prompted with the following options panel (Figure 2.6). Use this panel to enter "where date equals" search criteria. Use of this criterion requires specifying date and time fields and identifying the date/time type. The variables on this panel are reset to blanks and the DATES? field will be set to N every time you initialize FastLIST.

GenFail Accepts a Y or an N value.

“Y” will cause only those elements assigned the Generate Failed status to be displayed on the main panel. “N” will result in the search ignoring the Generate Failed status when performing the FastLIST database search.

Include Indirect
Comps? Accepts a Y or an N value.

“Y” will cause components indirectly related to an element to be displayed on the main panel. “N” will cause only those elements which satisfy search criteria to be displayed on the main panel.

STEP 4 After you enter inventory filtering and press <enter>, Greenhouse will return to the main Code Segment Create and Update panel and display a list of elements, as shown below.

```

Option ==>
List Member . . BETA*      List Type. E (E/X/B)   Enter "/" to select option:
Where Component.         Comp Type. I (I/O/P/X)
=====
Enter "/" to select function below or line command:
/ Group action | - Msgs - JCL - Reports - Preferences
=====
"/" Element              Type      Environ  S System  Subsys  (VV.LL)
-----
BETAAAAA                TESTDATA  GREEN    1  INTERNAL TESTCASE (01.10)
BETAAAAA                TESTDATA  GREEN    2  INTERNAL TESTCASE (01.05)
BETAAAAA                TESTLOC   GREEN    1  INTERNAL TESTCASE (01.01)
BETAAAAA                TESTLOC   GREEN    2  INTERNAL TESTCASE (01.01)
BETAADD                 TESTDATA  GREEN    2  INTERNAL TESTCASE (01.00)
BETABBBB                TESTDATA  GREEN    2  INTERNAL TESTCASE (01.01)
BETACCCC                TESTDATA  GREEN    2  INTERNAL TESTCASE (01.01)
BETADDDD                TESTDATA  GREEN    2  INTERNAL TESTCASE (01.01)
BETAEEEE                TESTDATA  GREEN    2  INTERNAL TESTCASE (01.00)
BETAPACU                TESTDATA  GREEN    2  INTERNAL TESTCASE (01.00)
BETAR001                TESTDATA  GREEN    2  INTERNAL TESTCASE (01.00)

```

Figure 12. Code Segment List Example

STEP 5 Once the element list is displayed, enter a "/" in the Group Action field and press <enter>.

You will be prompted with the Group Mode Action Request panel, discussed below.

```

----- Code Segment Create and Update -----
0 Group Mode Action Request -----
Option ==>
Actions:          Execution Options:
= 1. Add.....A    1. Batch
2. Update.....U  2. Batch packages
= 3. Retrieve....R  3. Foreground
" 4. Generate....G  4. SCL only
- 5. Move.....O
* 6. Delete.....# Enter "/" to select option:
7. Transfer....T  / Edit SCL
8. Signin.....SI / Option Prompt
9. Search.....SR  - Edit JCL

Greenhouse Actions:
10. Assign .....AS (Batch only)
11. Disable.....DS (Batch only)

Select an action and other optional settings
and then press ENTER to process.
-----
Scroll ==> PAGE
to select option:
rs - Append
=====
Preferences
=====
Subsys (VV.LL)
*****

```

Figure 13. Group Mode Action Request panel

Group Mode Action Request Panel Fields:

Actions/Greenhouse
Actions
Actions

Select from a list of standard Endeavor
as well as two additional Greenhouse Actions:

Assign: used to assign elements and members to segments in Greenhouse.

Disable: used to disable—but not delete—elements and members from a segment. After an element is disabled, it will show up only on the PRINT LOG audit report: all other segment functions will no longer recognize the element as being part of the segment.

Execution Options

Choose whether to perform the job in batch, batch package, foreground, or to generate SCL only. Greenhouse actions are supported in Batch only. For Build-Export, select Option 4, SCL only.

Options:

Enter a '/' in this field next to one or more of the options shown.

STEP 6 From the Group Mode Action Request panel, select option 4, Generate, set your execution options, and your SCL/JCL options, and press <enter>.

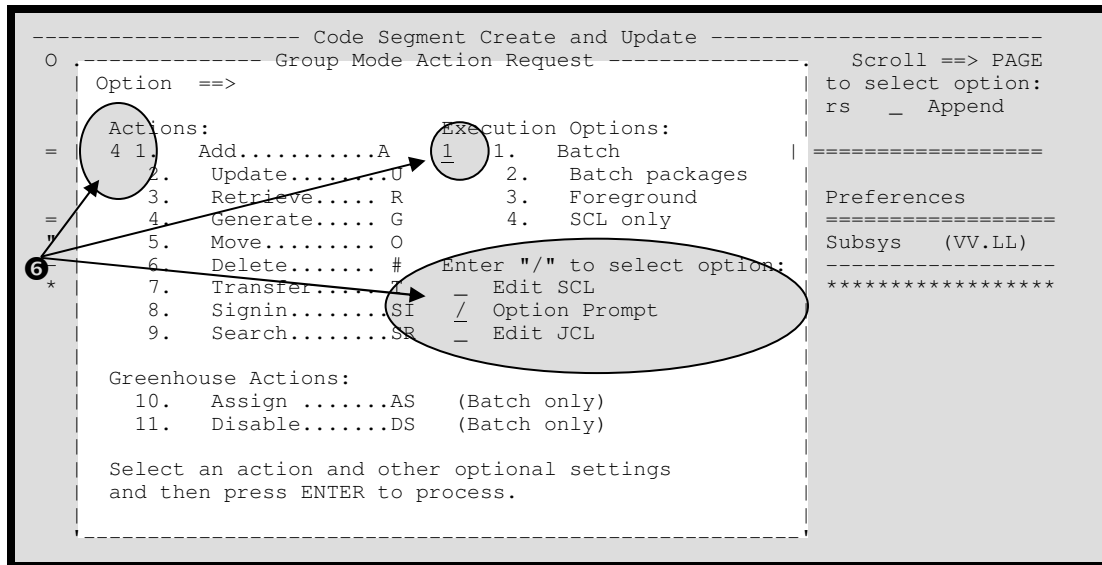
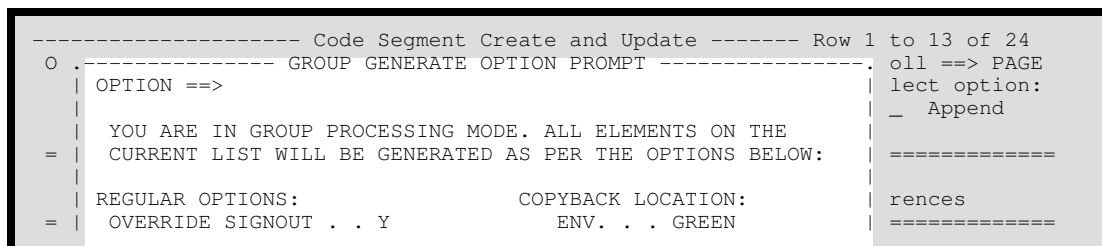


Figure 14. Group Mode Action Request panel

Greenhouse will prompt you with the following options panel.



```

" | SEARCH MAP . . . . . Y          SYS. . . . . | s (VV.LL)
- | PROCESSOR GROUP. . . . .      SBS. . . . . | -----
  | COPY BACK. . . . . Y          TYPE . . . . | ASE (01.00)
  | SET COPYBACK LOC . . Y (Y/N)  STG. . . . 2  | ASE (01.00)
  |                               | ASE (01.02)
  | CCID. . . . y2k              | ASE (01.02)
  | COMMENT . . PRACTICE SET     | ASE (01.01)
  |                               | ASE (01.02)
  | SCL DSN . . 'CIGT.TEST.PDS'   | ASE (01.02)
  | SCL MEM . . DEMO             | ASE (01.00)
  |                               | ASE (01.00)
  | END = CANCEL  ENTER = PROCESS OPTION  PFK1 = HELP | ASE (01.00)
  |                               | ASE (01.00)
  |-----' ASE (01.00)
  $$$DDD WRITTEN TESTDATA GREEN 2 INTERNAL TESTCASE (01.00)

```

Figure 15. Group Generate Option panel

Group Generate Option Panel Fields:

- | | |
|----------------------------|--|
| Override Signout | This Endeavor option allows you to override a current signout. |
| Search Map | This Endeavor option requests the Endeavor map be used to locate the source. |
| Processor Group | Use this field to identify the processor group to use for the Generate action. If left blank, Endeavor will use the current processor group assigned to the element. |
| Copy Back | Entering a 'Y' will generate the "Copyback" option in the SCL. |
| Set Copyback Loc | Entering a 'Y' will allow you to use the copyback location, rather than the current element location. |
| Copyback Location | Allows you to specify the copyback location. |
| Endeavor locations: | |
| CCID | This Endeavor option allows a change control id (CCID) to be associated with the Retrieve action. Required. |
| Comment | This Endeavor option allows you to associate a user defined comment with the Retrieve action. Required. |
| SCL DSN | This is the name of a dataset into which Greenhouse writes Endeavor Retrieve SCL statements. This dataset must be a permanently allocated partitioned dataset with LRECL=80. This field is required. |
| SCL Mem | Greenhouse writes Endeavor Retrieve SCL statements to the specified member name located in the SCL DSN dataset. |

STEP 7 After you enter the filtering information, press <enter>. While building the SCL, Greenhouse will also build an ISPF table that will be used to create Batch JCL. This table contains all the unique combinations of segment-id, system, and type. The information in this table is available when creating outbound dataset names.

STEP 8 Once Greenhouse returns with the *‘Written’* message, shown below, press <PF3> to build JCL for allocating Export files. You will be prompted with the JCL edit and submit panel, from which you should choose to submit the JCL to complete the Build function. For each unique system and type combination, the JCL will contain a set of export and WIP file allocations.

```

----- Code Segment Create and Update ----- JOB SUBMITTED
Option ==>                                     Scroll ==> PAGE
                                           Enter "/" to select option:
List Member . . $$*                          List Type. E (E/X/B) / Filters _ Append
Where Component.                             Comp Type. I (I/O/P/X)
-----
Enter "/" to select function below or line command:
_ Group action | _ Msgs _ JCL _ Reports _ Preferences
-----
"/" Element          Type      Environ  S System  Subsys  (VV.LL)
-----
$$$$$14 WRITTEN TESTDATA GREEN    1 INTERNAL TESTCASE (01.00)
$$$$$14 WRITTEN TESTDATA GREEN    2 INTERNAL TESTCASE (01.00)
$$$$$A5A WRITTEN TESTDATA GREEN    1 INTERNAL TESTCASE (01.02)
$$$$$A5A WRITTEN TESTDATA GREEN    2 INTERNAL TESTCASE (01.02)
$$$$$DDD WRITTEN TESTDATA GREEN    2 INTERNAL TESTCASE (01.01)
$$$$$11 WRITTEN TESTDATA GREEN    1 INTERNAL TESTCASE (01.02)
$$$$$11 WRITTEN TESTDATA GREEN    2 INTERNAL TESTCASE (01.02)
$$$$$12 WRITTEN TESTDATA GREEN    1 INTERNAL TESTCASE (01.00)
$$$$$12 WRITTEN TESTDATA GREEN    2 INTERNAL TESTCASE (01.00)
$$$$$13 WRITTEN TESTDATA GREEN    2 INTERNAL TESTCASE (01.00)
$$$$$15 WRITTEN TESTDATA GREEN    2 INTERNAL TESTCASE (01.00)
$$$$$165 WRITTEN TESTDATA GREEN    2 INTERNAL TESTCASE (01.00)
$$$$$DDD WRITTEN TESTDATA GREEN    2 INTERNAL TESTCASE (01.00)

```

Figure 16. Results of Code Segment Build

Result of executing the Build Function

- For each unique system and type, an export file is created.
For example USERHLQ.SEGID.SYSNAME.TYPENAME
- For each unique system and type, a WIP file is created.
For example USERHLQ.SEGID.SYSNAME.TYPENAME
- The code segment SCL is created and is ready to be used in the Create step. (Option 3)
- The dataset name formats, and which datasets are created, can be modified during Greenhouse implementation.

- Note that any Endeavor actions requested during Build are not actually executed during the Build function: you must perform the Export step to execute these actions.

Option 3: Creating Segments and Exporting Code

When to perform the Export function

Once you complete the Setup and Build functions, you are ready to export the code and create a segment in the system. The Export function is initially used to create the first baseline. After that point, you can use the Export function any time additional elements are added to the code segment, the baseline is refreshed, or the code segment is used for any add or promotion purpose.

If you utilized the Assign functionality to assemble your segment in Step 2, it is not necessary to perform the Export function. You may skip ahead to the other options available from the main menu.

How to invoke the Export function

To invoke the Export function, enter a segment-id on the main panel, select option 3, and press <enter>.

```
----- Greenhouse Main Menu -----
Option ==> 3

Select one of the following Greenhouse options and press enter:

For code segment-id . . . DEMOSEG1

 1 Setup          - Setup segment specific datasets for new segment
 2 Build/Assign   - Build SCI or Assign syntax
 3 Export        - Create, modify and submit segment export
 4 Delta         - Request delta sync function
 5 Reports       - Request and submit reports
 6 Import        - Add back elements from inbound dataset
 7 Online        - View Greenhouse data online
 8 Labeling      - Perform labeling requests
 9 Clean Management - Perform clean management functions
 A Complete     - Complete and cleanup the segment
 D Attributes    - View and update session attributes
 X Exit         - Return to ISPF

End = Exit      Enter = Process    PF1 = Help
```

Figure 17. GREENHOUSE Main Menu

If you enter a wild carded segment-id, Greenhouse will provide you with a selection list of all known segments that meet the criteria. If no processing has been performed against the segment you are creating, the segment-id should not yet exist. Using an existing id is valid; however, Greenhouse will inform you that the id already exists.

The panel below shows the standard export function, which will submit an Endeavor batch package function from Greenhouse. You can decide to execute the segment at this time or to go only as far as the Endeavor Cast function.

```

----- Create or Modify Segment -----
COMMAND ==>

Enter the segment name and description and the name of the dataset
containing the prebuilt code segment SCL.  If the segment already
exists, then the segment will be reset, modified, cast, and executed.

If this is the initial segment export, a new segment will be created.

For segment-id. . . . DEMOSEG1

Perform actual execution at this time?. . . . _ (Y/N)

Description. . . . _____

SCL Dataset. . . . CIGT.TEST.PDS
SCL Member . . . . DAVE

End = Exit   Enter = Process   PF1 = Help

```

Figure 18. Create or Modify Segment panel

Create or Modify Segment Panel Fields

For Segment-ID	Corresponds to code segment field on main panel.
Perform Actual Exec	This should be set to Y, unless the package will require approval to execute, or a delay in execute is desired.
Description	Enter a brief description of Segment functionality or purpose. Greenhouse will use this as the Endeavor package description.
SCL Dataset	This dataset name must be the same as the target DSN used during Build.
SCL Member	Enter a valid member name. This name must be the same member used during the Build function.

Press <enter> when you are finished entering values. Greenhouse will prompt you with the standard JCL Edit and Submit panel. To edit the JCL, select 1 and press <enter>. To submit the JCL, select 2 and press <enter>.

You must submit the JCL to complete the Export process.

Result of the Export function

Executing the Export function completes the following tasks:

- The segment-id now exists in both Endeavor and Greenhouse.
- The export files (outbound datasets) will have been populated through the processors.
- Greenhouse has logged the segment contents.
- If the Endeavor package execution fails, the package can be restarted using standard Endeavor package functions.

Assign Function: Optional method for populating a code segment

As mentioned previously, the Assign function is used to group and assign elements and/or members to segments in Greenhouse, and can be used in place of Endeavor package processing as well as Greenhouse main menu options 2 and 3.

After an element is assigned, it will be considered a fully legitimate component of the segment. This function replaces the need to perform an Endeavor action to connect to Greenhouse.

How to invoke Assign

Repeat steps 1-6 of the Build function, documented on the previous pages, before continuing on with step 7 documented below.

On the Group Mode Action Request panel, enter a '10' in the Action field, a '1' in the Execution Options field, fill in the remaining fields according to your job specifications, and press <enter>.

Refer back to the Build function for a description of related panel fields.

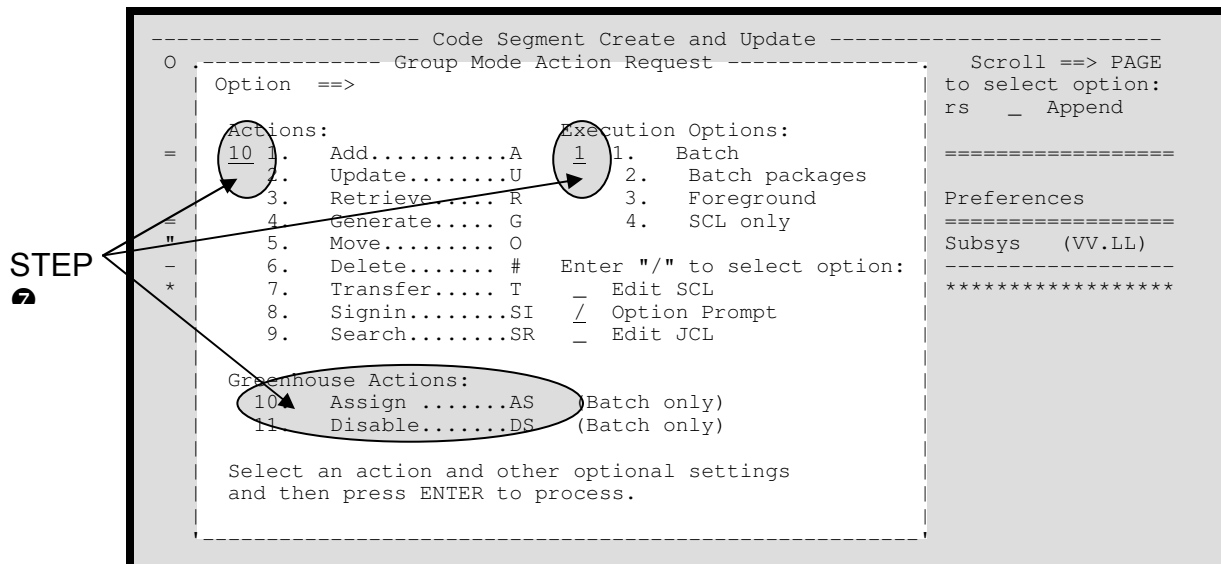


Figure 19. Group Mode Action Request panel

If you have entered a '/' in the Option prompt field, you will be prompted with the Group Assign Option prompt panel, shown below, where you have the option of changing the segment-id and the baseline date. The date entered must be equal to

or before the current date. If entered, the segment baseline will reflect the source level as of the entered date. Press <enter> to continue assigning elements to the segment.

```

----- Code Segment Create and Update ----- Row 1 to 13 of 242
O ----- Group Assign Option Prompt ----- PAGE
O OPTION ==> ion:
= You are in group processing mode. All elements on the d
= current list will be ASSIGNED as per their current location =====
= and per the options below:
= Segment id . . DEMOSEG1 =====
" Options: LL)
- Baseline date . . (YY/MM/DD) -----
End = Cancel Enter = Process option PFK1 = Help 00)
02)
02)
01)
02)
$$$$$11 TESTDATA GREEN 2 INTERNAL TESTCASE (01.02)
$$$$$12 TESTDATA GREEN 1 INTERNAL TESTCASE (01.00)
$$$$$12 TESTDATA GREEN 2 INTERNAL TESTCASE (01.00)
$$$$$13 TESTDATA GREEN 2 INTERNAL TESTCASE (01.00)
$$$$$15 TESTDATA GREEN 2 INTERNAL TESTCASE (01.00)
$$$$$165 TESTDATA GREEN 2 INTERNAL TESTCASE (01.00)
$$$$$DDD TESTDATA GREEN 2 INTERNAL TESTCASE (01.00)

```

Figure 20. Group Assign Option Prompt panel

The audit log will also be updated with the user, date, and time of the assign function.

Result of executing the Assign function

- The segment-id now exists in both Endeavor and Greenhouse.
- The export files (i.e., outbound datasets) have been populated through the processors.
- Greenhouse is able to track activity against the segment contents.

The Assign function is also available as part of the Greenhouse Segment Control Utility, CIGGHJ20, which is documented in the Greenhouse Utilities Manual.

Option 4: Delta Sync

When to perform the Delta Sync function

The Delta Sync Utility is the fundamental reference point between “what was” and “what is” within a particular environment. You should use Delta Sync any time you need to determine what production changes to apply to the code exported for the segment.

How to invoke the Delta Sync function

To invoke the Delta Sync function, enter a segment-id on the main panel, select option 4, and press <enter>.

```
----- Greenhouse Main Menu -----
Option ==>> 4
Select one of the following Greenhouse options and press enter:
For code segment-id . . . DEMOSEG1

 1 Setup          - Setup segment specific datasets for new segment
 2 Build/Assign   - Build SCL or Assign syntax
 3 Export         - Create, modify and submit segment export
 4 Delta         - Request delta sync function
 5 Reports       - Request and submit reports
 6 Import        - Add back elements from inbound dataset
 7 Online        - View Greenhouse data online
 8 Labeling     - Perform labeling requests
 9 Clean Management - Perform clean management functions
 A Complete     - Complete and cleanup the segment
 D Attributes   - View and update session attributes
 X Exit        - Return to ISPF

                End = Exit   Enter = Process   PF1 = Help
```

Figure 21. Main Menu

This will invoke the Delta Sync Criteria panel, shown below.

```

----- Endeavor Based Delta Sync Criteria -----
Command ==>

For Segment-id. . . . DEMOSEG1      Baseline name . . . _____

Compare the Greenhouse baseline:  Enter '/' to select options:
  To Env. . . . SPAIN              _ Compare VV.LL only
  Stage # . . . 2                  _ Compare source date only

If member retrofits are found:
Invoke Merge . /   Enter '/' to build the CIG merge syntax and JCL

Fill in to create Endeavor SCL: (Optional, requires CIGBST01 DD)
Action . . . . _____
CCID . . . . _____
Comment. . . . _____
Option1. . . . _____
Option2. . . . _____
Option3. . . . _____

```

Figure 22. Delta Sync Criteria panel

Delta Sync Criteria Panel Fields

For Segment ID	Corresponds to code segment field on main panel.
Baseline Name	<p>Refers to the Set Baseline facility, which allows users to set the location of the initial baseline and to define alternate baselines for comparison.</p> <ul style="list-style-type: none"> ➔ If no baseline is defined, then Greenhouse defaults to stage 2. ➔ If baselines are defined, but you do not provide a name, Greenhouse also uses the 'default' stage 2 baseline.
To ENV/Stage #	<p>Allows you to specify to which environment and stage Greenhouse should compare the baseline. This is typically the production stage, but can be any location in Endeavor.</p>
Compare VV.LL Only	<p>The Compare VV.LL. Only and Compare Source Date Only options are mutually exclusive: if neither are selected then both fields are used in the compare.</p>
Compare Source Date Only	

To create Endeavor SCL This set of fields is optional. To create Endeavor SCL, enter an Action, CCID and Comment. Next enter the appropriate options for the action. These three input lines are free-form. For more information on Endeavor SCL options, refer to the CA-Endeavor SCL manual.

Delta Sync Reports and Supported Merge Tools

```

----- Endeavor Based Delta Sync Criteria -----
Command ==>

For Segment-id. . . . DEMOSEG1      Baseline name . . . _____

Compare the Greenhouse baseline:  Enter '/' to select options:
  To Env. . . . SPAIN              _ Compare VV.LL only
  Stage # . . . 2                  _ Compare source date only

IF member retrofits are found:
Invoke Merge . /  Enter '/' to build the CMT merge syntax and JCL

Fill in to create Endeavor SCL: (Optional, requires CIGBST01 DD)
Action . . . . _____
CCID . . . . _____
Comment. . . . _____
Option1. . . . _____
Option2. . . . _____
Option3. . . . _____

```

Figure 23. Delta Sync Criteria panel

From the Delta Sync panel, you have a couple of compare options:

- ❶ Request the report and compare function to show where collisions with Greenhouse segments have occurred.
- ❷ Invoke one of the supported compare and merge tools (CIG Merge Tool, PDM, or Version Merger).

To perform a report and compare, fill in your baseline and compare options, making sure to de-select or space out any entries in the Invoke Merge field. Press <enter>. Below is a sample of a Delta Sync Report.

```

1 DATE 97/08/04 TIME 18:11:11 GREENHOUSE PAGE 1
  DELTA SYNC REPORT

ELEMENT ENVIRON SYSTEM SUBSYS CODE SEGMENT *----- CURRENT ENDEVOR-----*
          STG VV.LL VV.LL SOURCE DATE USERID

FOR CODE SEGMENT: ENFORCE DESCRIPTION: GREENHOUSE SEGMENT DEFAULT COMMENT

DATA0010 PROD INTERNAL TESTCASE TESTDATA 2 (01.00) (01.01) 97/08/04
DATA0011 PROD INTERNAL TESTCASE TESTDATA 2 (01.00) (01.01) 97/08/04
JCL00001 PROD INTERNAL TESTCASE JCL 2 (01.00) (01.01) 97/08/04
JCL00003 PROD INTERNAL TESTCASE JCL 2 (01.00) (01.01) 97/08/04
PGM00001 PROD INTERNAL TESTCASE TESTCODE 2 (01.00) (01.01) 97/08/04
PGM00004 PROD INTERNAL TESTCASE TESTCODE 2 (01.00) (01.01) 97/08/04
PGM00005 PROD INTERNAL TESTCASE TESTCODE 2 (01.00) (01.01) 97/08/04
PGM00007 PROD INTERNAL TESTCASE TESTCODE 2 (01.00) (01.01) 97/08/04

TOTAL NUMBER OF ELEMENTS CHECKED FOR DELTA UPDATES: 0034
TOTAL NUMBER OF ELEMENTS NOT FOUND AT TARGET: 0017
TOTAL NUMBER OF ELEMENTS MATCHES FOUND AT TARGET: 0000
TOTAL NUMBER OF SOURCE LEVEL MISMATCHES FOUND: 0008

```

Greenhouse found eight elements that may need to be retrofit.

Figure 24. Delta Sync Report

- 2 To invoke one of the supported compare and merge tools (CIG Merge Tool, PDM, or Version Merger Interface), type a "/" in the Invoke Merge field and press <enter>. You will be prompted with a Merge Compare and Syntax Location panel. The compare and merge product invoked is determined by the customer and is pre-set during implementation or from the preference panel (Option D from the GREENHOUSE main menu). The default tool is CIG's Merge Tool. The root and derivation 1 defaults are baseline and production locations, respectively.

CIG Merge Tool, PDM, and Version Merger panels are shown below.

```

----- CIG Merge Compare and Merge Syntax Locations -----
Option ==>

If retrofits are found, generate RETRIEVE syntax from the following
locations. This syntax will be executed and the data passed onto
the CIG merge compare and merge step JCL.

Base: ENV . . . GREEN STG# . . . 2
File1: ENV . . . SPAIN STG# . . . 2
File2: ENV . . . _____ STG# . . . -

Wip file . . . . CIGT.TEST.PDS

End = Exit Enter = Process PF1 = Help

```

Figure 25. CIG Merge Tool panel

```

----- PDM Compare and Merge Syntax Locations -----
COMMAND ==>

If retrofits are found, generate PDM syntax that uses the following
locations for ROOT, DER1, and DER2. If there values are not supplied,
then the syntax will default to the ROOT being the baseline location
and DER1 being the compare location.

Root  ENV . . . . _____   Der1 ENV . . . . _____
      STG# . . . . _           STG# . . . . _
Der2  ENV . . . . _____
      STG# . . . . _

WIP Dsn . . . . _____

                        End = Exit   Enter = Process   PF1 = Help

```

Figure 26. PDM panel

```

----- Version Merger Compare and Merge Syntax Locations -----
Option ==>

If retrofits are found, generate RETRIEVE syntax from the following
locations. This syntax will be executed and the data passed onto
the Version Merger compare and merge step JCL.

Base:  ENV . . . . _____   STG# . . . . _
Lib1:  ENV . . . . _____   STG# . . . . _
Lib2:  ENV . . . . _____   STG# . . . . _

Recon File . . . . _____

End = Exit   Enter = Process   PF1 = Help

```

Figure 27. Version Merger panel

Set environment and stage number to reflect the location of segment baseline. Enter optional derivations for selected compare product. Greenhouse will then prompt you with the JCL Edit and Submit panel. Select Option 2 to submit the JCL to build the merge report.

Option 5: Greenhouse Reports

Once a segment has been created, you can request several reports throughout the segment's life cycle.

To invoke the Report function select option 5 and press <enter>. The report function allows for wild carded segment-id values.

```
----- Greenhouse Main Menu -----
Option ==> 5

Select one of the following Greenhouse options and press enter:

For code segment-id . . . DEMOSEG1

 1 Setup          - Setup segment specific datasets for new segment
 2 Build/Assign   - Build SCL or Assign syntax
 3 Export         - Create, modify and submit segment export
 4 Delta         - Request delta sync function
 5 Reports        - Request and submit reports
 6 Import        - Add back elements from inbound dataset
 7 Online        - View Greenhouse data online
 8 Labeling      - Perform labeling requests
 9 Clean Management - Perform clean management functions
 A Complete     - Complete and cleanup the segment
 D Attributes    - View and update session attributes
 X Exit         - Return to ISPF

                        End = Exit   Enter = Process   PF1 = Help
```

Figure 28. GREENHOUSE Main Menu

The Greenhouse report Menu will appear. All reports accept wild carding and will submit a batch job.

```
----- Greenhouse Report Menu -----
Option ==>

For Segment-id. . . . DEMOSEG1

Select one of the following Greenhouse reports and press enter

 1 Activity      - Request a segment activity report
 2 Status        - Request a segment status report
 3 Content       - Request an segment contents report
 4 Invoice        - Request a segment invoice report
 5 Compliant     - Request a segment compliant report
 6 Loc metrics   - Request a lines of code metrics report
 7 Label audit   - Request a segment label audit report

                        End = Exit   Enter = Process   PF1 = Help
```

Figure 29. Report Menu panel

Activity Report

A Greenhouse Activity Report collects all activity, from beginning to end of work performed, for the specified segment id

Requesting an Activity Report

To request an activity report, select Option 1 on the reports menu and press <enter>. Greenhouse will prompt you with the Segment Filter panel, shown below.

```
----- Greenhouse Report Menu -----
0  Segment Filter Panel
   Option ==> _____
   Segment-id . DEMOSEG1_____
   Element. . . _____
   Environment . . _____
   System . . . . _____
   Subsystem . . . _____
   Type . . . . . _____
   Stage . . . . . or Stage name _____

                               End = Cancel  Enter = Process  PFK1 = Help

-----
                               End = Exit   Enter = Process  PF1 = Help
```

Figure 30. Segment Filter panel

Enter your filtering criteria and press <enter>. Greenhouse will prompt you with the JCL Edit and Submit panel. Select Option 2 to submit the JCL that will build the report.

The following is a sample Audit Activity Report.

```
DATE 98/08/19 TIME 20:29:14 GREENHOUSE PAGE 1
SEGMENT ACTIVITY REPORT
FOR SEGMENT ENFORCE DESC: GREENHOUSE SEGMENT DEFAULT COMMENT
```

ACTIVITY	USER	DATE	TIME	RC			
ASSIGNED	BETAAAAA	(01.10)	GREEN	INTERNAL	TESTCASE	TESTDATA I	RC=(0000)
ASSIGNED	BETAAAAA	(01.05)	GREEN	INTERNAL	TESTCASE	TESTDATA B	RC=(0000)
ASSIGNED	BETAAAAA	(01.01)	GREEN	INTERNAL	TESTCASE	TESTDATA B	RC=(0000)
ASSIGNED	BETAAAAA	(01.01)	GREEN	INTERNAL	TESTCASE	TESTDATA B	RC=(0000)
ASSIGNED	BETAADD	(01.00)	GREEN	INTERNAL	TESTCASE	TESTDATA B	RC=(0000)
ASSIGNED	BETABBBB	(01.01)	GREEN	INTERNAL	TESTCASE	TESTDATA B	RC=(0000)
ASSIGNED	BETACCCC	(01.01)	GREEN	INTERNAL	TESTCASE	TESTDATA B	RC=(0000)
ASSIGNED	BETADDDD	(01.01)	GREEN	INTERNAL	TESTCASE	TESTDATA B	RC=(0000)
ASSIGNED	BETAEEEE	(01.00)	GREEN	INTERNAL	TESTCASE	TESTDATA B	RC=(0000)
ASSIGNED	BETAPACU	(01.00)	GREEN	INTERNAL	TESTCASE	TESTDATA B	RC=(0000)

Figure 31. Activity Report

Status Report

A Greenhouse Status report will provide management with an indication of how long a segment has been in progress and what percentage of a segment has been added back into production.

Requesting a Status Report

To request a status report, select Option 2 on the reports menu and press <enter>. Greenhouse will prompt you with the JCL Edit and Submit panel.

The following is a sample Segment Status Report.

```
DATE 98/08/19 TIME 20:29:14      GREENHOUSE
                                SEGMENT STATUS REPORT
PAGE      1

FOR SEGMENT   : ENFORCE           DESCRIPTION: GREENHOUSE SEGMENT DEFAULT COMMENT
START DATE   : 98/06/01           START USERID: CIG01R5
LAST DATE    : 98/08/18           LAST  USERID: CIG01R5

TOTAL NUMBER OF ELEMENTS IN CODE SEGMENT: 0117
NUMBER OF ELEMENTS ADDED BACK           : 0000
PERCENTAGE OF ELEMENTS ADDED BACK      : 0%

FOR SEGMENT   : SEGMENT02         DESCRIPTION: First Segment in FINAPP
START DATE   : 98/08/11           START USERID: CIG01R5
LAST DATE    : 98/08/18           LAST  USERID: CIG01R5

TOTAL NUMBER OF ELEMENTS IN CODE SEGMENT: 2200
NUMBER OF ELEMENTS ADDED BACK           : 440
PERCENTAGE OF ELEMENTS ADDED BACK      : 18%
```

Figure 32. Status Report

Content Report

The Greenhouse Content Report lists the elements in the package, and also points out where there are collisions with other packages. Collision management is a standard product feature and Greenhouse will automatically track and warn you of all collisions. The severity of action taken by Greenhouse is determined by a user option at product implementation

Requesting a Content Report

To request a content report, select Option 3 on the reports menu and press <enter>. Greenhouse will prompt you with the Segment Filter panel, shown below.

```
----- Greenhouse Report Menu -----
0 .----- Segment Filter Panel -----
  Option ==>> _____
  Segment-id . DEMOSEG1_____
  Element. . . _____
  Environment . . _____
  System . . . . _____
  Subsystem . . . . _____
  Type . . . . . _____
  Stage . . . . _ or Stage name _____

                               End = Cancel   Enter = Process   PFK1 = Help

-----
                               End = Exit     Enter = Process   PF1 = Help
```

Figure 33. Segment Filter panel

Enter your filtering criteria and press <enter>. Greenhouse will prompt you with the JCL Edit and Submit panel. Select Option 2 to submit the JCL that will build the report. The following is a sample Greenhouse Content Report.

```
DATE 98/08/18 TIME 15:44:51          GREENHOUSE          PAGE 1
                                C O N T E N T S   B Y   S E G M E N T   R E P O R T
FOR SEGMENT: ENFORCE          DESC: GREENHOUSE SEGMENT DEFAULT COMMENT          UPDATE:
98/08/18 USER: CIG01R5
```

ACTION	ELEMENT	VV.LL	ENV	SYSTEM	SUBSYS	TYPE	STG
ASSIGNED	BETAAAAA	01.10	GREEN	INTERNAL	TESTCASE	TESTDATA	I
ASSIGNED	BETAAAAA	01.05	GREEN	INTERNAL	TESTCASE	TESTDATA	B
ASSIGNED	BETAAAAA	01.01	GREEN	INTERNAL	TESTCASE	TESTLOC	B
ASSIGNED	BETAAAAA	01.01	GREEN	INTERNAL	TESTCASE	TESTLOC	B
ASSIGNED	BETAADD	01.00	GREEN	INTERNAL	TESTCASE	TESTDATA	B
ASSIGNED	BETABBBB	01.01	GREEN	INTERNAL	TESTCASE	TESTDATA	B
ASSIGNED	BETACCCC	01.01	GREEN	INTERNAL	TESTCASE	TESTDATA	B
ASSIGNED	BETADDDD	01.01	GREEN	INTERNAL	TESTCASE	TESTDATA	B

Figure 34. Content Report

Invoice Report

The Greenhouse Invoice Report provides the user with segment information based upon user-specified selection criteria. This particular report can provide you with as much or as little information as is necessary for your project.

Requesting an Invoice Report

To request an invoice report, select Option 4 on the reports menu and press <enter>. Greenhouse will prompt you with an inventory filter panel, shown below, where you can specify the amount of information to be included in the Invoice Report.

```
----- Greenhouse Report Menu -----
0                                     Invoice Report Selection
Option ==>> _____
Segment-id . DEMOSEG1_____
Element. . . BETA*_____
Environment . . Y2KPROD_
System . . . . *_____
Subsystem . . . . *_____
Type . . . . . *_____
Stage . . . . . *_____

End = Cancel   Enter = Process   PFK1 = help
```

Figure 35. Invoice Prompt panel

Enter your filtering information and press <enter>. Note that each of these values can be fully wild carded, but blanks are not valid. Greenhouse will prompt you with the JCL Edit and Submit panel. Select Option 2 to submit the JCL that will build the report. Below is an example of a Segment Invoice report.

```
DATE 98/08/18 TIME 13:57:04      GREENHOUSE      PAGE 1
                                SEGMENT INVOICE REPORT

FOR SEGMENT: ENFORCE             DESCRIPTION: GREENHOUSE SEGMENT DEFAULT COMMENT
START DATE : 98/08/01           START USERID: CIG03
LAST DATE  : 98/08/18           LAST USERID: CIG01

LINES OF CODE METRICS SUMMARY PER TYPE:
-----
TYPE NAME      ELEMENT COUNT   CODE   COMMENTS   BLANKS   TOTALS
TESTDATA      91      5144    134        0      5278
TESTLOC       27      2056    31         0      2078
-----
TOTALS                118     7200    165        0      7365

CURRENT ELEMENT LIST DATA:
-----
ELEMENT        ENVIRON   SYSTEM  SUBSYS  TYPE    STG    VV.LL  PGROUP
JCL00001      GREEN    INTERNAL TESTCASE JCL    I    (01.00) *NOPROC*
JCL00002      GREEN    INTERNAL TESTCASE JCL    B    (01.00) *NOPROC*
```

Figure 36. Invoice Report

Compliance Report

A Compliance Report returns a list of elements in a segment that have been labeled as compliant. This report can be tailored to provide specific element location information, such as environment, system, subsystem, type and stage.

Requesting a Compliance Report

To request a compliance report select Option 5 on the main report panel and press <enter>. The following panel will be displayed.

```
----- Greenhouse Report Menu -----
O
Compliant Report Criteria
Option ==>> _____
Segment-id . DEMOSEG1_____
Element. . . BETA*_____
Environment . . Y2KPROD_
System . . . . *_____
Subsystem . . . . *_____
Type . . . . *_____
Stage . . . . *_____

End = Cancel   Enter = Process   PFK1 = help

End = Exit   Enter = Process   PF1 = Help
```

Figure 37. Compliant Report Criteria panel

Compliant Report Criteria Panel Fields

Segment -ID Corresponds to code segment field on main panel

Filter Criteria Endeavor location values must be filled in. If the value is ALL, then enter an '*' in the field(s).

Press <enter> after completing filtering information. Note that each of these values can be fully wild carded, but blanks are not valid. You will then be prompted with the standard JCL Edit and Submit panel. Select Option 2 to submit the JCL that will build the report.

Below is a sample of Elements by Labels Report.

ELEMENT	ELEMENTS BY			LABELS		TYPE	STG
	VV.LL	ENVIRONMENT	SYSTEM	SUBSYSTEM			
ELEMENTS ASSIGNED LABEL 'COMPLIANT'							
DATA0001	01.01	GREEN	INTERNAL	TESTCASE	TESTDATA	1	
DATA0002	01.01	GREEN	INTERNAL	TESTCASE	TESTDATA	1	
DATA0003	01.01	GREEN	INTERNAL	TESTCASE	TESTDATA	1	
DATA0004	01.01	GREEN	INTERNAL	TESTCASE	TESTDATA	1	
DATA0005	01.01	GREEN	INTERNAL	TESTCASE	TESTDATA	1	
DATA0006	01.01	GREEN	INTERNAL	TESTCASE	TESTDATA	1	
DATA0007	01.01	GREEN	INTERNAL	TESTCASE	TESTDATA	1	
DATA0008	01.01	GREEN	INTERNAL	TESTCASE	TESTDATA	1	
DATA0009	01.01	GREEN	INTERNAL	TESTCASE	TESTDATA	1	
DATA0010	01.01	GREEN	INTERNAL	TESTCASE	TESTDATA	1	
DATA0011	01.01	GREEN	INTERNAL	TESTCASE	TESTDATA	1	
DATA0012	01.01	GREEN	INTERNAL	TESTCASE	TESTDATA	1	
DATA0013	01.01	GREEN	INTERNAL	TESTCASE	TESTDATA	1	
DATA0014	01.01	GREEN	INTERNAL	TESTCASE	TESTDATA	1	

Figure 38. Element Label Report

Lines of Code Analysis

There are three different lines of code applications available within Greenhouse:

Lines of Code Report

- ➔ Provides a mechanism for analyzing the content of an application in terms of code, comments and blanks. This report also provides the ability to analyze the application between two points in time to determine what percentage of code, comments, and blank lines have changed. A lines of code report is typically used during initial budget phases, code segment cost estimates, testing metrics and validation of code changes.

Segment Comparison Report

- ➔ Provides a tool to determine level of change per element/member within a given segment. This data can be used to determine testing and resource allocation requirements.

Segment Threshold Report

- ➔ The Segment Threshold Report provides a tool that restricts the comparison report to only those elements that exceed a given percentage. This percentage amount is checked against only the percentage of change for the actual lines of code.

There are three fields that will be checked:

- percentage of inserts
- percentage of deletes
- percentage of modifications of actual lines of code.

These fields will be added together. If the sum of the three LOC fields is less than the value you provided, then the member or element is not reported upon. If no percentage amount is provided, then the report output is similar to the comparison report, except that for each unique dataset or Endeavor inventory combination, the output will be sorted by the highest percentages.

Requesting a Lines of Code Report

To request a lines of code analysis report select Option 6 on the reports menu and press <enter>. You will be prompted with the following Lines of Code Report Selection panel. Select Option 1 and press <enter>.

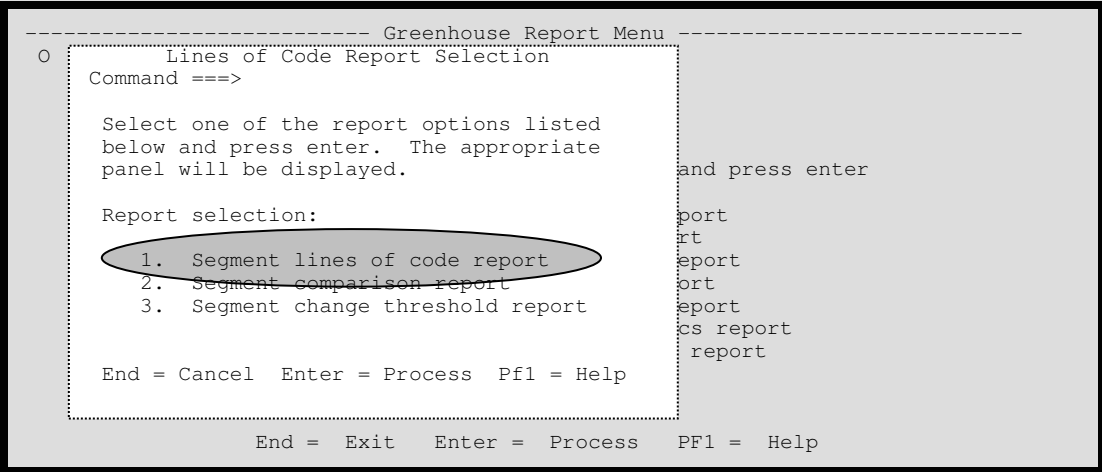


Figure 39. Lines of Code Selection Panel

The following panel will be displayed. Like the other inventory panels in Greenhouse, use the inventory filters to limit the range of the report. The maximum that Greenhouse will report will be all elements in the segment. To limit the segment report to the baseline, for example, request stage number 2.

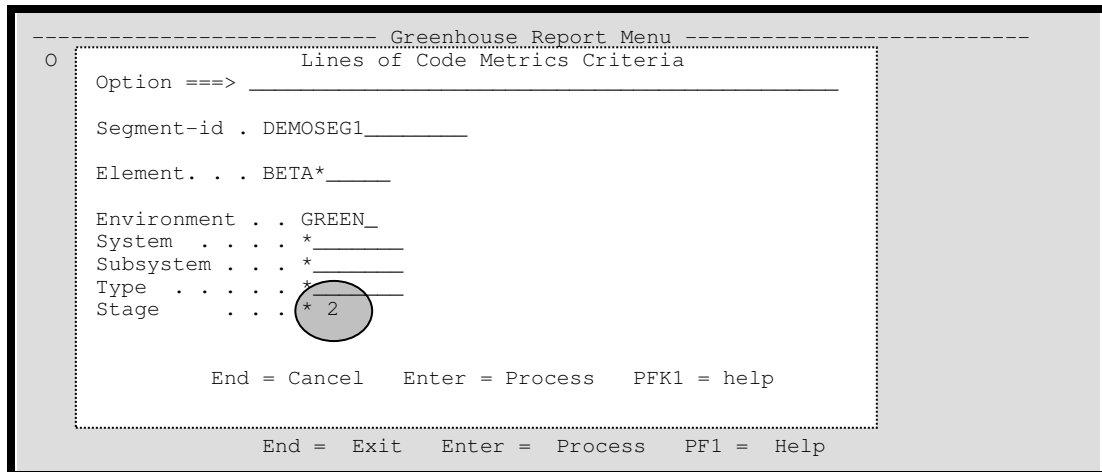


Figure 40. Segment Lines of Code Panel

Requesting a Segment Comparison Report

To request a Segment Comparison Report, select Option 6 on the reports menu and press <enter>. Then select option 2 from the Lines of Code Selection menu and press <enter>. The following panel will be displayed.

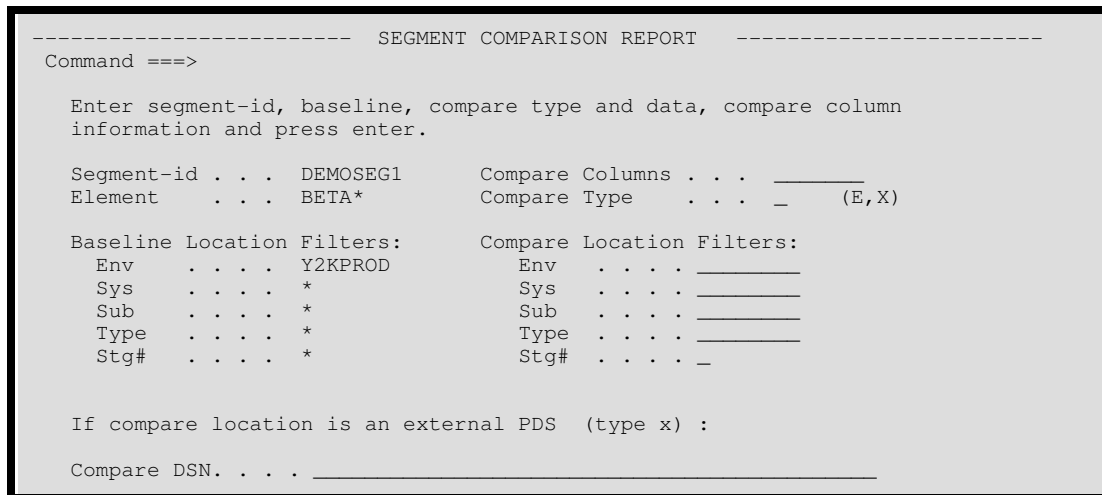


Figure 41. Segment Comparison Input Panel

Use the inventory filters to limit the range of the report. The maximum that Greenhouse will report will be all elements in the segment.

Set compare type to E. Enter baseline and compare filters. Wild cards are valid but blanks are not. After entering the data, press <enter> to be prompted with the JCL Edit and Submit panel. Select Option 2 to submit the JCL that will build the report. See Appendix A for a sample Segment Comparison Report.

Requesting the Segment Threshold Report

To request a Segment Threshold Report, select Option 6 on the reports menu and press <enter>. Then select option 3 from the Lines of Code Selection menu and press <enter>.

The following panel will be displayed. This panel requests the same information as the comparison report panel.

```

----- SEGMENT THRESHOLD REPORT -----
Command ==>

Enter segment-id, baseline, compare type and data, compare column
information and press enter.

Segment-id . . . DEMOSEG1          Compare Columns . . . _____
Element . . . BETA*              Compare Type . . . _ (E,X)

Baseline Location Filters:        Compare Location Filters:
Env . . . . Y2KPROD              Env . . . . _____
Sys . . . . *                    Sys . . . . _____
Sub . . . . *                    Sub . . . . _____
Type . . . . *                   Type . . . . _____
Stg# . . . . *                   Stg# . . . . _

If compare location is an external PDS (type x) :
Compare DSN. . . . _____
  
```

Figure 42. Segment Threshold Input panel

After you complete the comparison fields as documented in the previous stages, Greenhouse will prompt you with the following Threshold Percentage panel.

```

----- SEGMENT THRESHOLD REPORT -----
C Threshold Percentage Prompt

Minimum percentage of change . . . ____ compare column

You have selected the segment threshold report
output from this report will be the comparison
report data, sorted in the order of highest
percentage of code changed. E (E,X)

To limit the output produced, enter a 1-3
character percentage amount. The valid range is
1-999. r:

To qualify for the report, element must contain
the minimum percentage of lines of code
changed. NAL
BASE

End = Cancel Enter = Process Pfl = Help _____
  
```

Figure 43. Segment Threshold Input panel

Segment Threshold Input Panel Fields

Minimum Percentage
of change

Enter a percentage amount from 00-99. If the amount is left blank, all elements will be considered valid, but the report will be sorted in order of the highest levels of change for the lines of code.

Press <enter> to be prompted with the JCL Edit and Submit panel. Select Option 2 to submit the JCL that will build the report. See Appendix A for a sample Segment Threshold Report.

Comparison and Threshold Report Usage Notes:

- The element percentage amount is the insert percentage + delete percentage + modification percentage of the lines of code section.
- Wild cards are valid on every field.
- You must provide baseline and compare inventory locations.
- If you provide a baseline inventory location that does not match any elements in the segment, then an error message will be written out to the CIGLOG ddname.
- If you provide a compare inventory location that does not match current configuration, then an error message will be written out to the CIGLOG ddname.
- If baseline and compare are both Endeavor, then the processing will be similar to non-segment processing. If compare is a dataset, then each unique slice of Endeavor inventory is processed against the dataset.
- If the baseline member exists but the compare doesn't, then the report will reflect this out of sync condition as a high percentage of deletes.
- If the compare member exists but the baseline doesn't, then the report will reflect this out of sync condition as a high amount of inserts, but no percentages because there is not a baseline to use calculations.
- The summary counts will reflect the total number of elements processed and read, not the total amount that qualified for the threshold.

Label Audit Report

The label audit report is designed to list the activity of one or more elements/members in the area of labeling and labeling enforcement. It will show the sequential label history of each element and segment in the Greenhouse database. Whenever there is labeling on the behalf of a segment, Greenhouse creates an audit record.

Requesting a Label Audit Report

To request a Label Audit Report, select Option 7 on the reports menu and press <enter>.

The following panel will be displayed.

```
----- Greenhouse Report Menu -----
O  Label Activity Filter Panel
   Option ==>> _____
   Segment-id . DEMOSEG1_____
   Label value  _____
   Label type . 1 (1 = Tags, 2 = Segment level, 3 = Violations)
   Element. . . BETA*_____
   Environment . . GREEN_____
   System . . . . INTERNAL_____
   Subsystem . . . TESTCASE_____
   Type . . . . . *_____
   Stage . . . . 2 or Stage name _____
   End = cancel Enter = process PFK1 = help
```

Figure 44. Label Activity Filter panel

Label Activity Filter Panel Fields

Label value	The label value to report on. Leaving this field blank will report on all labels. Wildcarding is allowed.
Label type	This controls the content of the report. Option 1 Reports on tagging activity, option 2 reports on segment-level labels, and option 3 reports on compliance enforcement violations only.
Filtering Criteria	Endevor location values must be filled in. If the value is ALL, then enter an '*' in the field(s).

Press <enter> after completing filtering information. Each of the Endeavor values can be fully wild carded, but blanks are not valid. After entering the filtering information, you will then be prompted with the standard JCL Edit and Submit panel. Select Option 2 to submit the JCL that will build the report.

Option 6: Import (Addback Function)

Once code changes are returned, it is recommended that they be added back into the system using the same segment-id. You can add the entire segment back or only certain types from certain datasets. By default, Greenhouse will register the added-back elements as 'non-compliant' until testing has been completed and you have re-classified the elements.

To invoke the Import or Addback function, enter a segment-id on the main panel, select option 6, and press <enter>.

```
----- GREENHOUSE MAIN MENU -----
OPTION ==> 6

Select one of the following GREENHOUSE options and press enter:

For code segment-id DEMOSEG1

1 Setup - Setup segment specific datasets for new segment
2 Build/Assign - Build SCL or Assign syntax
3 Export - Create, modify and submit segment export
4 Delta - Request delta sync function
5 Reports - Request and submit reports
6 Import - Add back elements from inbound dataset
7 Online - View GREENHOUSE data online
8 Labeling - Perform labeling requests
9 Clean Management - Perform clean management functions
A Complete - Complete and cleanup the segment
D Attributes - View and update session attributes
X EXIT - Return to ISPF

END = EXIT ENTER = PROCESS PF1 = HELP
```

Figure 45. Main Menu

If you enter a wild carded segment-id value, Greenhouse will provide you with a selection list of all known segments that meet the criteria, shown below. You must select an existing segment-id for the application to continue processing.

```
----- Select a Segment-id or View Segment Data -----
Command ==> Scroll ==> PAGE
List segment . . * _____ Filter . . / '/' For filter prompt

Enter '/' in the line command for a list of options or 's' to select
segment-id value.

-----
 '/' Segment-id Exec status Description
-----

***** Bottom of data *****
```

Figure 46. Segment list

The underlying skeletons assume that an ELIST (an optional, but recommended data structure that provides an automatic map from external files back into Endeavor inventory) has been created to ensure inventory location values. An ELIST is input to the Addback/Translate Utility. To construct an ELIST that will allow you to utilize this function, refer to the ELIST Utility section in the Greenhouse Utilities Manual.

The standard Add-back panel is shown below.

```

----- Add Elements Back From Inbound DSNS -----
Option ==>

For segment-id . . . DEMOSEG1

Include ELIST overrides . . . _ (Y/N)

Optional overrides to ELIST:
Inbound DSN. . . . _____
Maps to ENV. . . . _____
      SYS. . . . _____
      SUB. . . . _____
      TYPE . . . _____

Options info for generated SCL:
Target ENV . . . . _____
CCID . . . . . _____
COMMENT. . . . . _____
  
```

Figure 47. Add Elements Back from Inbound DSNS panel

Add Elements Back from Inbound PDS Panel Fields

For Segment-ID	Corresponds to code segment field on main panel.
Include ELIST Overrides	Entering a 'Y' allows you to manually identify the source and target information.
Optional Overrides to ELIST	The source PDS and final Endeavor location for the segment content.
Options Info for Generated SCL	The add-to environment, CCID, and comment for the add action SCL.

If no changes to the segment content are required then the only information required is the segment ID and the Target Environment information. If a CCID and Comment are required at the site, they must be specified also.

Complete the panel information according to your job or site specifications and press <enter>.

Result of the Addback Function

After you finish the addback function, the following tasks are completed:

- All or some of the elements are added to stage 1 and optionally flagged as 'non-compliant'.
- The audit trail is updated with these returned items.
- The status report now shows the percentage of elements that have been added back.

The optional "Non-Compliant" tag syntax is built only if there is a CIGTAG01 DD statement allocated. To disable syntax creation, do not include this DD name in the CIGGSA1 ISPF skeleton.

Option 7: Online viewing

Once you have created a segment in Greenhouse, you can use online viewing functions to check status, vendor, and element data. From the main panel select option 7 and press <enter.>

```
----- GREENHOUSE MAIN MENU -----
OPTION ==> 7

Select one of the following GREENHOUSE options and press enter:

For code segment-id DEMOSEG1

 1 Setup          - Setup segment specific datasets for new segment
 2 Build/Assign   - Build SCL or Assign syntax
 3 Export         - Create, modify and submit segment export
 4 Delta         - Request delta sync function
 5 Reports       - Request and submit reports
 6 Import        - Add back elements from inbound dataset
 7 Online        - View GREENHOUSE data online
 8 Labeling     - Perform labeling requests
 9 Clean Management - Perform clean management functions
 A Complete     - Complete and cleanup the segment
 D Attributes   - View and update session attributes
 X EXIT        - Return to ISPF

                        END = EXIT      ENTER = PROCESS    PF1 = HELP
```

Figure 48. Main Menu

If you enter a wild carded value, the selection list will be pre-driven by the online viewing application. The following is the main panel of the online view function.

```
----- View Segment Status and Contents ----- Row 1 to 6 of 6
Command ==>                                     Scroll ==> CSR
List segment-id. * _____ _ Enter '/' for filter prompt

Enter '/' in the line command for a list of options.

-----
 '/' Segment id      Exec status   Description
-----
REL0222             DEFINED      REL 2.2.2 OF ACCOUNT RECON SOFTWARE
ASSIGN6             IN-EDIT     GREENHOUSE SEGMENT DEFAULT COMMENT
ENFORCE            DEFINED      NEW SECURITY RULES
LL FRIDAY1          DEFINED      FRIDAY NIGHT EMERGENCY TURNOVER
FRIDAY2            IN-EDIT     FRIDAY NIGHT BATCH TURNOVER
FRIDAY3            DEFINED      FRIDAY NIGHT ONLINE TURNOVER
***** Bottom of data *****
```

Figure 49. Online Viewing Menu panel

Once a list is displayed, you can invoke one of five line commands for the segment id, as shown above:

LL - Activity Log
LC - List Contents
OD - Owner Data

LA - Last Actions
ST - Status

Line Command Output Examples

LL - Activity Log

The following figure displays the results of the LL line command. All activity against the segment is displayed.

```
----- Display Segment Activity Log ---- Row 1 to 11 of 113
Option ==>                               Scroll ==> CSR

Segment-id . FRIDAY1                      Status . . DEFINED
Segment description . GREENHOUSE SEGMENT DEFAULT COMMENT
Last update . . 98/09/22 10:13

Log Entries
-----
98/09/22 10:06:46 ASSIGN HV007R5 00
ASSIGNED $$$$$11 GREEN INTERNAL TESTCASE TESTDATA INBOUND I 01.02 0000
ASSIGNED $$$$$11 GREEN INTERNAL TESTCASE TESTDATA BASELINE B 01.02 0000
ASSIGNED $$$$$12 GREEN INTERNAL TESTCASE TESTDATA INBOUND I 01.00 0000
ASSIGNED $$$$$12 GREEN INTERNAL TESTCASE TESTDATA BASELINE B 01.00 0000
ASSIGNED $$$$$13 GREEN INTERNAL TESTCASE TESTDATA BASELINE B 01.00 0000
ASSIGNED $$$$$15 GREEN INTERNAL TESTCASE TESTDATA BASELINE B 01.00 0000
ASSIGNED $$$$$165 GREEN INTERNAL TESTCASE TESTDATA BASELINE B 01.00 0000
19980922 10:07:00 LABEL HV007R5 00
-----> CLEAN MANAGEMENT
-----> $$$$$165 GREEN INTERNAL TESTCASE TESTDATA B 01.00
. . . . .
```

Figure 50. Log Display panel

The following figure displays compliance labeling in the log:

```
----- DISPLAY SEGMENT ACTIVITY LOG - Row 827 to 839 of 839
OPTION ==>                               SCROLL ==> PAGE

SEGMENT-ID: DEMOSEG1                      STATUS: EXECUTED
UTILITY STATUS:                          LAST UPDATE: 97/08/05
SEGMENT DESCRIPTION: SEGMENT FOR THE DEMO SYSTEM

LOG ENTRIES
-----
97/08/25 16:50:11 LABEL CIG02XIF 00
LABEL = DEMOSEG1
ELEMENT DATA0014 GREEN INTERNAL TESTCASE TESTDATA BASELINE 2 01.00
97/08/25 16:50:12 LABEL CIG02XIF 00
LABEL = COMPLIANT
ELEMENT DATA0014 GREEN INTERNAL TESTCASE TESTDATA BASELINE 2 01.00
97/08/25 16:50:13 LABEL CIG02XIF 00
LABEL = DEMOSEG1
ELEMENT DATA0014 GREEN INTERNAL TESTCASE TESTDATA INBOUND 1 01.01
97/08/25 16:50:14 LABEL CIG02XIF 00
LABEL = COMPLIANT
ELEMENT DATA0014 GREEN INTERNAL TESTCASE TESTDATA INBOUND 1 01.01
97/08/25 16:50:15 LABEL CIG02XIF 00
```

Figure 51. Log Display - Compliant Labels panel

LA - Last Actions

The following figure shows the results of the LA line command. The last Endeavor actions performed on behalf of the segment are displayed.

```
----- DISPLAY CURRENT SEGMENT ACTION RECORDS Row 1 to 13 of 15
OPTION ==>                                SCROLL ==> PAGE

SEGMENT: DEMOSEG1                        STATUS: EXECUTED
UTILITY STATUS:                          LAST UPDATE: 97/08/05 15:43
SEGMENT DESCRIPTION: SEGMENT FOR THE DEMO SYSTEM
```

ACTION	ELEMENT	VV.LL	ENV	SYSTEM	SUBSYS	TYPE	STG	RC
UPDATE	DATA0001	01.01	GREEN	INTERNAL	TESTCASE	TESTDATA	I	00004
ADD	DATA0001	01.01	GREEN	INTERNAL	TESTCASE	TESTDATA	I	00000
ADD	DATA0002	01.01	GREEN	INTERNAL	TESTCASE	TESTDATA	I	00000
ADD	DATA0003	01.01	GREEN	INTERNAL	TESTCASE	TESTDATA	I	00000
ADD	DATA0004	01.01	GREEN	INTERNAL	TESTCASE	TESTDATA	I	00000
ADD	DATA0005	01.01	GREEN	INTERNAL	TESTCASE	TESTDATA	I	00000
ADD	DATA0006	01.01	GREEN	INTERNAL	TESTCASE	TESTDATA	I	00000
ADD	DATA0007	01.01	GREEN	INTERNAL	TESTCASE	TESTDATA	I	00000
ADD	DATA0008	01.01	GREEN	INTERNAL	TESTCASE	TESTDATA	I	00000
ADD	DATA0009	01.01	GREEN	INTERNAL	TESTCASE	TESTDATA	I	00000
ADD	DATA0010	01.01	GREEN	INTERNAL	TESTCASE	TESTDATA	I	00000
ADD	DATA0011	01.01	GREEN	INTERNAL	TESTCASE	TESTDATA	I	00000
ADD	DATA0012	01.01	GREEN	INTERNAL	TESTCASE	TESTDATA	I	00000

Figure 52. Last Action Display panel

LC - List Contents

The following figure shows the results of the LC line command. Every element ever included in the segment will be shown in this list.

```
----- ALL ELEMENTS INCLUDED IN SEGMENT WORK FLO Row 1 to 14 of 50
OPTION ==>                                SCROLL ==> PAGE

SEGMENT NAME: DEMOSEG1
SEGMENT DESCRIPTION: SEGMENT FOR THE DEMO SYSTEM
```

ELEMENT	VV.LL	ENV	SYSTEM	SUBSYS	TYPE	ST	ACTION NAME
DATA0001	01.00	GREEN	INTERNAL	TESTCASE	TESTDATA	B	GENERATE
DATA0001	01.00	GREEN	INTERNAL	TESTCASE	TESTDATA	I	UPDATE
DATA0001	01.00	GREEN	INTERNAL	TESTCASE	TESTDATA	I	ADD
DATA0001	01.00	GREEN	INTERNAL	TESTCASE	TESTDATA	B	GENERATE
DATA0001	01.00	GREEN	INTERNAL	TESTCASE	TESTDATA	I	ADD
DATA0002	01.00	GREEN	INTERNAL	TESTCASE	TESTDATA	B	GENERATE
DATA0002	01.00	GREEN	INTERNAL	TESTCASE	TESTDATA	I	ADD
DATA0003	01.00	GREEN	INTERNAL	TESTCASE	TESTDATA	B	GENERATE

Figure 53. List Contents Display

ST - Status

The following figure shows the results of the ST line command. This display is equivalent to the Segment Status Report available in batch.

```
----- SEGMENT STATUS REPORT AND METRICS -----  
OPTION ==>                                     SCROLL ==> PAGE  
  
FOR SEGMENT ID      : DEMOSEG1  
SEGMENT DESCRIPTION : SEGMENT FOR THE DEMO SYSTEM  
  
CREATE DATE   : 97/08/04      CREATE USERID : CIG03  
LAST UPDATE  : 97/08/05      LAST USERID  : CIG01  
  
TOTAL NUMBER OF ELEMENTS IN SEGMENT : 34  
TOTAL NUMBER OF ELEMENTS ADDED BACK : 15  
PERCENTAGE OF SEGMENT ADDED BACK   : 44
```

Figure 54. Segment Status Display panel

OD - Owner Data

The following figure shows the results of the OD line command. This display contains information provided during the build function.

```
----- VENDOR/OWNER INFORMATION FOR DISPLAY -----  
COMMAND ==>  
  
CURRENT VENDOR/OWNER INFORMATION FOR SEGMENT-ID: DEMOSEG1  
  
NAME: SILVER BULLER SOFTWARE  
ADDR1: SOMEWHERE  
ADDR2:  
CITY: CHICAGO STATE: IL ZIP: 60614  
COUNTRY: USA  
CONTACT NAME: TIM CURRIE  
MAIL STOP:  
PHONE1:  
PHONE2:  
EMAIL ADDR:  
  
ADDITIONAL INFORMATION  
WILL KEEP THE CODE FOR TWO MONTHS  
WILL PERFORM COMPILES BEFORE RETURNING.  
  
END = RETURN PF1 = HELP
```

Figure 55. Segment Owner Data Display panel

Option 8: Labeling and Tagging Elements

Once code is added back into the system, you will want to certify it as compliant or provide some other meaningful label. The tagging function provides the mechanism to tag all or part of a segment with a compliant or non-compliant label, a free form label, or a Standard User Label. When an element is tagged on behalf of a segment, the audit log will contain an audit record stating the user, date, element, and tag requested.

To invoke the Labeling and Tagging function select option 8 from the Greenhouse Main Menu and press <enter.> The Tag function allows for wild carded values, so segment id validation will not occur.

```
----- GREENHOUSE MAIN MENU -----
OPTION === 8

Select one of the following GREENHOUSE options and press enter:

For code segment-id . DEMOSEG1

1 Setup          - Setup segment specific datasets for new segment
2 Build/Assign   - Build SCL or Assign syntax
3 Export         - Create, modify and submit segment export
4 Delta         - Request delta sync function
5 Reports       - Request and submit reports
6 Import        - Add back elements from inbound dataset
7 Online       - View GREENHOUSE data online
8 Labeling     - Perform labeling requests
9 Clean Management - Perform clean management functions
A Complete     - Complete and cleanup the segment
D Attributes   - View and update session attributes
X EXIT        - Return to ISPF
```

Figure 56. Main Menu panel

The following panel will be displayed:

```
----- Label Segment and Contents -----
COMMAND ===>

Use this panel to set segment components compliant, non-compliant,
or equal to a user supplied value.  If standard labels are in effect
the only valid choice will be from the standard labels list.  In this case
you will be prompted with the list of standard labels to choose from.

All segment components will be labeled as per request, unless inventory
filters are provided.

For segment-id.. . DEMOSEG1

Label value..... . _____

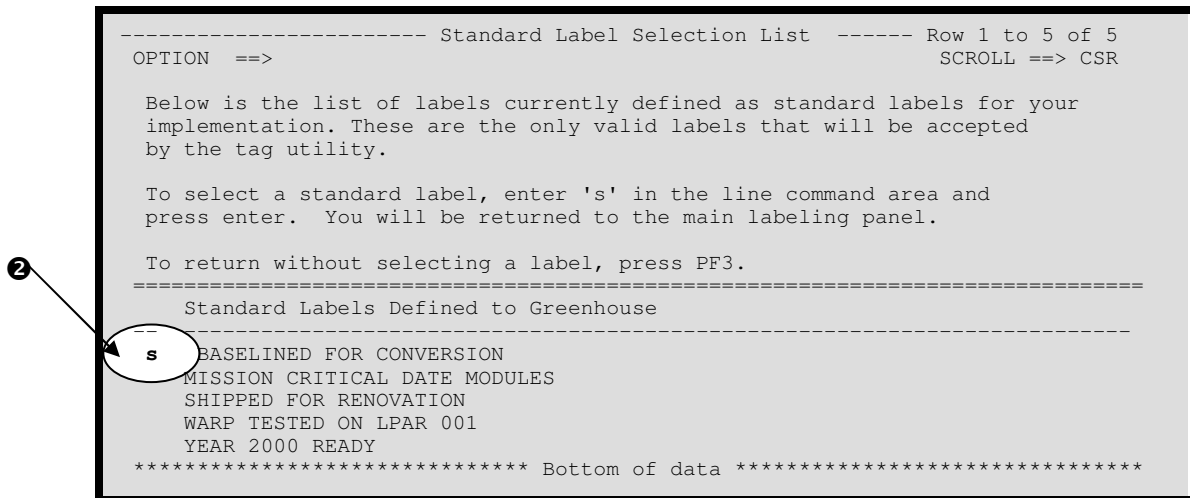
Enter '/' to select options below:
- Compliant          Use Compliant label
- Non-compliant      Use Non-compliant label
- Segment level     Create a segment level label
                    (ignores all inventory settings)
/ Filters            Prompt for inventory filters
```

Figure 57. Label Segment Contents panel

Label Segment and Contents Panel Fields

For Segment-ID	Enter name of segment-id.
Label Value	1 – 60 character value. You will not be able to submit a tag request if you do not provide a label value.
Compliant	Use Compliant Label (ignored if standard labels are in effect).
Non-Compliant	Use Non-compliant Label (ignored if standard labels are in effect).
Segment Level	Create Segment Level label. Do not label individual inventory components.
Filters	Provide pop up screen for syntax creation.

- 1 Complete these fields according to your job or site specifications and press <enter>. If standard labels exist as part of your Greenhouse implementation, you will then be prompted with the Standard Label Selection List panel, shown below.



```
----- Standard Label Selection List ----- Row 1 to 5 of 5
OPTION ==>                                SCROLL ==> CSR

Below is the list of labels currently defined as standard labels for your
implementation. These are the only valid labels that will be accepted
by the tag utility.

To select a standard label, enter 's' in the line command area and
press enter. You will be returned to the main labeling panel.

To return without selecting a label, press PF3.

-----
Standard Labels Defined to Greenhouse
-----
s BASELINED FOR CONVERSION
MISSION CRITICAL DATE MODULES
SHIPPED FOR RENOVATION
WARP TESTED ON LPAR 001
YEAR 2000 READY
***** Bottom of data *****
```

Figure 58. Standard Label Selection List panel

- 2 To select a standard label, enter 's' in the line command area and press <enter>. If you selected the filtering option on the main Label Segment and Contents panel, you will first be prompted with the segment filtering panel, shown below.

```

----- Greenhouse Report Menu -----
0  Segment Filter Panel -----
Option ==> _____
Segment-id . DEMOSEG1_____
Element. . . _____
Environment . . _____
System . . . . _____
Subsystem . . . . _____
Type . . . . . _____
Stage . . . . . or Stage name _____

                End = Cancel   Enter = Process   PFK1 = Help

-----
                End = Exit    Enter = Process   PF1 = Help

```

- ③ Fill in your filtering criteria and press <enter>. You will be returned to the main labeling panel. If you press <enter> again, you will be prompted with the JCL edit and submit panel. Select Option 2 to submit the JCL to complete the labeling and tagging function.
- ④ To return without selecting a label, press PF3

Result of the Tag Function

After you execute the Tag function, the following tasks will have been completed.

- The elements are tagged as Compliant or Non-Compliant in the FastLIST database; a tag that will follow the element through the life cycle of the segment.
- The Greenhouse Audit Log is updated with the tag request, the date, time, and user of the request, and the element name
- The element is eligible to be included in reports.

Option 9: Clean Management

Clean Management, a major purpose of Greenhouse, gives you a facility for setting source update and access rules based on label values. The Clean Management functions in Greenhouse include:

- ➔ managing standard labels
- ➔ viewing enforcement rules
- ➔ viewing and reporting on enforcement violations

```
----- GREENHOUSE MAIN MENU -----
OPTION === 9

Select one of the following GREENHOUSE options and press enter:

For code segment-id . DEMOSEG1

1 Setup          - Setup segment specific datasets for new segment
2 Build/Assign   - Build SCL or Assign syntax
3 Export         - Create, modify and submit segment export
4 Delta         - Request delta sync function
5 Reports       - Request and submit reports
6 Import        - Add back elements from inbound dataset
7 Online       - View GREENHOUSE data online
8 Labeling    - Perform labeling requests
9 Clean Management - Perform clean management functions
A Complete    - Complete and cleanup the segment
D Attributes  - View and update session attributes
X EXIT       - Return to ISPF
```

Figure 59. Main Menu

ISPF access to functionality:

The Clean Management Menu below outlines the collection of functions related to Clean Management. The first set of options is for segment-based labels and violations. The second set of options relate to global labeling functionality.

```
----- Greenhouse Clean Management Menu -----
Option ==>

Select one of the following Greenhouse Clean Management functions:

Segment Level Audit History Functions:

1 Activity      - View segment label activity
2 Delta        - Request source delta print
3 Violations   - View all rule violations

Global Labeling and Enforcement:

4 Rules        - View current enforcement rules
5 Activity     - View standard label audit or current active list
6 Maintain     - Assign, Disable, or Modify standard labels
```

Figure 60. Clean Management menu panel

Labeling Activity

To view segment level activity, select

Option 1 and press <enter>. The following panel will be displayed:

```
----- Greenhouse Clean Management Menu -----
Label Activity Filter Panel
Option ==>> _____
Segment-id . DEMOSEG1_____
Label value
Label type . 1 (1 = Tags, 2 = Segment level, 3 = Violations)
Element. . . DATA*_____
Environment . . GREEN_____
System . . . . INTERNAL_____
Subsystem . . . *_____
Type . . . . . *_____
Stage . . . . 2 or Stage name _____
End = cancel Enter = process PFK1 = help

End = Exit Enter = Process PF1 = Help
```

Figure 61. Label Activity Filter panel

Label Activity Filter Panel Fields

- | | |
|-------------------|--|
| Segment-ID | 1 – 8 character segment name. Can be wild carded or blank. If fully wild carded, then non-segment based violations and label audit records could be included in the output. |
| Label Value | 1-60 character label value. This field can be wild carded or blank. |
| Label Type | Determines the type of label audit records to report. If blank then all types will be returned.

1 - Report only on regular tag requests
2 - Report only on segment level tags
3 - Report only on enforcement violations |
| Element | Element name to filter on. |
| Endevor locations | Each accept 1-8 characters or a '/' for prompt. |

Fill in your inventory values and press <enter> to process your request.
Greenhouse will return results to the main label activity panel, shown below:

```

----- Display Greenhouse Label Activity ----- NO MATCH
Option ==>                                     Scroll ==> CSR

 /   Enter '/' for filter prompt
 _   Enter '/' to process request in batch

-----
 '/' Segment   Member       Label Value                               Label Type
-----

***** Bottom of data *****

```

Figure 62. GREENHOUSE Label Activity panel

Delta Print

You can request source delta print functions by selecting option 2 from the Clean Management main menu, and press <enter>. The following panel will be displayed.

```

----- Endeavor Based Delta Print Request -----
Command ==>

For each element that appears to be out of sync with the baseline,
produce the actual source code changes in Endeavor format.

For Segment-id. . . . DEMOSEG1

Baseline name . . . . _____

Compare the Greenhouse baseline:

  To Env. . . SPAIN
  Stage # . . 2 (1 or 2)

                          End = Exit   Enter Process   PF1 = Help

```

Figure 63. Endeavor Based Delta Print Request panel

Endeavor Based Delta Print Request Panel Fields

- | | |
|-----------------------|---|
| For Segment ID | Corresponds to code segment field on main panel. |
| Baseline Name | Refers to the Set Baseline facility, which allows users to set the location of the initial baseline (default is stage 2) and to define alternate baselines for comparison. If no baseline is defined, then Greenhouse defaults to stage 2. If baselines are |

defined, but you do not provide a name, Greenhouse also uses the 'default' baseline of stage 2.

To ENV/Stage # Allows you to specify to which environment and stage Greenhouse should compare the baseline. This is typically the production stage, but can be any location in Endeavor.

Press <enter> to process the print request. You will be prompted with the JCL Edit and Submit panel. Select Option 2 to submit the JCL that will drive the print request.

Violations

To view rule violations, select Option 3 from the Clean Management main menu and press <enter>. You will be prompted with the Segment Filter panel, where you can enter filtering criteria to narrow your selection list. Press <enter>.The following panel will be displayed:

```
----- Display Greenhouse Enforcement Violations - Row 1 to 7 of 7
Option ==>                                     Scroll ==> CSR

/   Enter '/' for filter prompt

-----
'/' Member      Rule Name                               Sev  Userid    Date
-----
$$$$$14        TESTED_AND_CERTIFIED_CODE                   W   HV007R5   98/08/12
$$$$$14        TESTED_AND_CERTIFIED_CODE                   W   HV007R5   98/08/12
$$$$$ASA       TESTED_AND_CERTIFIED_CODE                   W   HV007R5   98/08/12
$$$$$11        TESTED_AND_CERTIFIED_CODE                   W   HV007R5   98/08/12
$$$$$12        TESTED_AND_CERTIFIED_CODE                   W   HV007R5   98/08/12
***** Bottom of data *****
```

Figure 64. Enforcement Violations panel

If you enter a "/" at the filter prompt field and press <enter>, the following Violation Detail Display panel will be displayed:

```

----- Display Greenhouse Enforcement Violations - Row 1 to 7 of 7
0 |----- Violation Detail Display Panel -----==> CSR
  | Option ==>
  | Rule name. . TESTED_AND_CERTIFIED_CODE          Severity . W
- | Label value. YEAR 2000 READY
  | Userid . . . HV007R5
- | Date . . . . 98/08/12          Segment . . .
/ | Time . . . . 09:51          Action. . . . GENERATE      8/12
  | Element. . . $$$$$$14      ( 01.00 )                8/12
  | Environment. GREEN                8/12
  | System . . . INTERNAL              8/12
  | Subsystem. . TESTCASE              8/12
  | * Type . . . . TESTDATA            8/12
  | Stage Name . INBOUND                *****
  |                                     End = return  PFK1 = help

```

Figure 65. Violation Detail Display panel

Press <enter> to process the request.

Enforcement Rules

To view all active enforcement rules, select Option 4 from the Clean Management main menu, and press <enter>. The active enforcement rules will be displayed.

Updating the Enforcement Rules

To update the rules, use standard ISPF Edit against the PDS and member listed in the CIGINI file. You must specify the parameter LABEL ENFORCEMENT RULES DATASET *dsname* in the CIGINI file. The dataset name must be enclosed in quotes. If the rules dataset is a partitioned dataset, then you must also specify MEMBER *member-name*. For example,

```

GREENHOUSE SECTION
LABEL ENFORCEMENT
  RULES DATASET 'CIG.GH.RULESDSN'
  MEMBER RULE100

```

```

BROWSE      CIGT.RAO.SRCLIB(GOOD) - 01.04                Line 00000000 Col 001 080
Command ==>                                           Scroll ==> PAGE
***** Top of Data *****
* ----- *
*   THESE ARE THE SAMPLE RULES FOR GREENHOUSE ENFORCEMENT
*   THERE ARE TWO DIFFERENT RULES INCLUDED IN THIS EXAMPLE.
* ----- *
*   EXAMPLE #1.
*   PROTECTING HIGHLY CRITICAL ROUTINES
*   FROM REGRESSION AND MODIFICATION.
* ----- *

RULE MOST_CRITICAL_CODE

* ----- *
*   PROVIDE ONE MORE LABELS ASSOCIATED WITH THE RULE NAME
* ----- *

LABEL 'MISSION CRITICAL DATE MODULES'

* ----- *
*   PROVIDE THE LOCATION ASSOCIATED WITH THE RULE NAME.
*   WILD CARDING IS ALLOWED.
* ----- *

FOR ELEMENT NAME *
ENV PROD
SYS COMMON
SUB EDI
TYP COBDATES

* ----- *
*   PROVIDE THE CONSEQUENCE PER ACTION.
* ----- *

FOR ACTION
RETRIEVE      CURRENT LEVEL ISSUE WARNING
RETRIEVE NOT CURRENT LEVEL FAIL ACTION
GENERATE ISSUE WARNING
UPDATE      ISSUE WARNING
MOVE        SOURCE LABEL      EQUAL TARGET LABEL ISSUE WARNING
MOVE        SOURCE LABEL NOT EQUAL TARGET LABEL ISSUE WARNING
TRANSFER    SOURCE LABEL      EQUAL TARGET LABEL ISSUE WARNING
TRANSFER    SOURCE LABEL NOT EQUAL TARGET LABEL ISSUE WARNING
RESTORE     SOURCE LABEL      EQUAL TARGET LABEL FAIL ACTION
RESTORE     SOURCE LABEL NOT EQUAL TARGET LABEL FAIL ACTION
.
* ----- *
*   EXAMPLE #2.
*   PROTECTING ACCESS TO CODE THAT HAS BEEN TESTED AND CERTIFIED.
* ----- *

RULE TESTED_AND_CERTIFIED_CODE

* ----- *
*   PROVIDE ONE MORE LABELS ASSOCIATED WITH THE RULE NAME
* ----- *
LABEL ('WARP TESTED ON LPAR 001','YEAR 2000 READY')

* ----- *
*   PROVIDE THE LOCATION ASSOCIATED WITH THE RULE NAME.
*   WILD CARDING IS ALLOWED.
* ----- *

FOR ELEMENT NAME *
ENV GREEN
SYS INTERNAL
SUB TESTCASE
TYP TESTDATA

* ----- *
*   PROVIDE THE CONSEQUENCE PER ACTION.
* ----- *

FOR ACTION
RETRIEVE      CURRENT LEVEL IGNORE
RETRIEVE NOT CURRENT LEVEL FAIL ACTION  Menu Utilities Compilers Help

```

```

-----
BROWSE      CIGT.RAO.SRCLIB(GOOD) - 01.04                Line 00000078 Col 001 080
Command ==>                                         Scroll ==> PAGE
  ADD       ISSUE WARNING
  GENERATE  ISSUE WARNING
  UPDATE    ISSUE WARNING
  MOVE      SOURCE LABEL      EQUAL TARGET LABEL ISSUE WARNING
  MOVE      SOURCE LABEL NOT  EQUAL TARGET LABEL ISSUE WARNING
  TRANSFER  SOURCE LABEL      EQUAL TARGET LABEL ISSUE WARNING
  TRANSFER  SOURCE LABEL NOT  EQUAL TARGET LABEL ISSUE WARNING
  RESTORE   SOURCE LABEL      EQUAL TARGET LABEL ISSUE WARNING
  RESTORE   SOURCE LABEL NOT  EQUAL TARGET LABEL ISSUE WARNING
.
***** Bottom of Data *****

```

Figure 66. Enforcement Rules panel

Segment Activity

To view standard label activities or current active list, selection Option 5 from the Clean Management main menu, and press <enter>. The following panel will be displayed:

```

----- Standard Label Activity Log ----- Row 1 to 5 of 5
Option ==>                                         Scroll ==> CSR

Below is the log of all standard label activity history. An D in the first
column means the label was disabled. An A in the first column means the
was assigned.

_ Enter '/' to show current active list only.

=====
STANDARD LABEL AUDIT TRAIL                               Userid      Date
-----
A MISSION CRITICAL DATE MODULES                         CIG01R5     98/08/18
A WARP TESTED ON LPAR 001                               CIG01R5     98/08/18
A YEAR 2000 READY                                       CIG01R5     98/08/18
A SHIPPED FOR RENOVATION                                 CIG01R5     98/08/18
A BASELINED FOR CONVERSION                              CIG01R5     98/08/18
***** Bottom of data *****

```

Figure 67. Standard Label Activity Log panel

Standard Labels

To assign, disable, or modify standard labels, select Option 6 from the Clean Management main menu and press <enter>. The following panel will be displayed:

```

----- Standard Label Maintenance Panel ----- Row 1 to 6 of 6
Option ==>                                     Scroll ==> CSR

Where label . . *
Where status. . ( A or D)

_ Enter '/' to process updates in batch.

Press enter to get a list of currently assigned and disabled standard labels
in the Greenhouse Database. To modify labels in list labels use the
line commands, A (assign) , D (disable) or M (modify).
-----
 '/' Status Standard Label Value
-----

A      BASELINED FOR CONVERSION
A      MISSION CRITICAL DATE MODULES
A      SHIPPED FOR RENOVATION
A      WARP TESTED ON LPAR 001
A      YEAR 2000 READY
***** Bottom of data *****

```

Figure 68. Standard Label Maintenance panel

Standard Label Maintenance Panel Fields

Where label Enter a 1-60 character label value to limit resultant list.

Where Status Request only Disabled or Assigned labels. Valid options are A or D. Blank will result in all label types being displayed.

You can display a list of all standard labels, type a '*' and either an A or a D in the where status field and press <enter>. Greenhouse will return a list of all labels meeting your specified criteria.

To assign or disable a label, tab down in front of the label and type either an A or a D and press <enter>.

Option A: Completion

Once all source has been returned and moved into production, it is time to complete the segment.

To invoke the Complete function, enter a segment-id on the Greenhouse Main Menu panel, select option A, and press <enter>.

```
----- GREENHOUSE MAIN MENU -----
OPTION ==> A

Select one of the following GREENHOUSE options and press enter:

For code segment-id . .DEMOSEGI

1 Setup - Setup segment specific datasets for new segment
2 Build/Assign - Build SCL or Assign syntax
3 Export - Create, modify and submit segment export
4 Delta - Request delta sync function
5 Reports - Request and submit reports
6 Import - Add back elements from inbound dataset
7 Online - View GREENHOUSE data online
8 Labeling - Perform labeling requests
9 Clean Management - Perform clean management functions
A Complete - Complete and cleanup the segment
D Attributes - View and update session attributes
X EXIT - Return to ISPF

END = EXIT ENTER = PROCESS PF1 = HELP
```

Figure 69. Main Menu

If you enter a wild carded value, Greenhouse will provide a selection list of all known segments that meet the criteria.

You must select an existing segment-id for the application to continue processing.

Once Greenhouse has a valid segment id, you will be prompted to confirm the function by the following panel.

```
----- GREENHOUSE MAIN MENU -----
          SEGMENT COMPLETION -----
COMMAND ==>

FOR SEGMENT-ID ==> DEMOSEG1

THE CLEANUP REQUEST WILL DELETE ALL SEGMENT SETUP
FILES AND ALL ASSOCIATED ENDEVOR PACKAGE DATA. THE
GREENHOUSE AUDIT DATA WILL REMAIN IN THE AUDIT LOG.

ENTER # TO CONFIRM THE CLEAN-UP PROCESS

END = CANCEL  ENTER = PROCESS  PF1 = HELP

:
GMENT
```

Figure 70. Completion Prompt

Result of the Complete Function

After the Complete function has been executed, the following tasks have been completed.

- All segment export files have been deleted
- All segment WIP files have been deleted
- All segment work PDS file have been deleted
- The segment has been deleted out of Endeavor
- The segment has been flagged as deleted in Greenhouse, but the audit log still exists.

Appendix A: Report Examples

Segment Lines of Code Report Example

1 DATE 98/09/18 TIME 09:32:39		GREENHOUSE					
PAGE 1		LINES OF CODE METRICS REPORT					
FOR SEGMENT: ENFORCE		ELEMENT	FILTER: *	INVENTORY:			
GREEN/INTERNAL/CIBC/TESTDATA/2							
PROGRAM	LINES OF CODE	%	COMMENTS	%	BLANKS	%	TOTAL
BETA0402	23	(85)	4	(15)	0	(0)	27
FOR SEGMENT: ENFORCE		ELEMENT	FILTER: *	INVENTORY:			
GREEN/INTERNAL/TESTCASE/TESTDATA/2							
BETAAAAA	141	(97)	5	(3)	0	(0)	146
BETAADD	28	(100)	0	(0)	0	(0)	28
BETABBBB	14	(67)	7	(33)	0	(0)	21
BETACCCC	14	(74)	5	(26)	0	(0)	19
BETADDDD	15	(79)	4	(21)	0	(0)	19
BETAEEEE	6	(75)	2	(25)	0	(0)	8
BETAPACU	8	(100)	0	(0)	0	(0)	8
BETAR001	4	(80)	1	(20)	0	(0)	5
BETAVAL	6	(100)	0	(0)	0	(0)	6
BETAVAL0	1	(100)	0	(0)	0	(0)	1
BETAVAL1	1	(100)	0	(0)	0	(0)	1
BETAVAL2	1	(100)	0	(0)	0	(0)	1
BETAVAL3	140	(99)	1	(1)	0	(0)	141
BETAVAL4	20	(95)	1	(5)	0	(0)	21
BETAVAL5	24	(96)	1	(4)	0	(0)	25
BETAVAL6	6	(75)	2	(25)	0	(0)	8
BETAVAL7	28	(97)	1	(3)	0	(0)	29

1 DATE 98/09/18 TIME 09:32:39 GREENHOUSE
 PAGE 2

L I N E S O F C O D E M E T R I C S R E P O

R T

FOR SEGMENT: ENFORCE ELEMENT FILTER: * INVENTORY:
 GREEN/INTERNAL/CIBC/TESTDATA/2

PROGRAM	LINES OF CODE	%	COMMENTS	%	BLANKS	%	TOTAL
BETAAAAA	141	(97)	5	(3)	0	(0)	146

FOR SEGMENT: ENFORCE ELEMENT FILTER: * INVENTORY:
 GREEN/INTERNAL/TESTCASE/TESTLOC/2

BETAAAAA	140	(97)	4	(3)	0	(0)	144
BETA0401	14	(93)	1	(7)	0	(0)	15
BETA0402	20	(95)	1	(5)	0	(0)	21

FOR SEGMENT: ENFORCE ELEMENT FILTER: * INVENTORY:
 GREEN/INTERNAL/TESTCASE/TESTLOC/1

BETAAAAA	140	(97)	4	(3)	0	(0)	144
----------	-----	-------	---	------	---	------	-----

 119 # 7340 (98) 171 (2) 0 (0) 7511

 119 # 7340 (98) 171 (2) 0 (0) 7511

FINAL SUMMARY FOR POINT IN TIME FOR 1 SYNTAX BLOCKS PROCESSED:
 PROGRAM LINES OF CODE % COMMENTS % BLANKS % TOTAL
 119 # 7340 (98) 171 (2) 0 (0) 7511

Segment Comparison Report Example

DATE 98/10/16 TIME 11:19:34
 PAGE 1

G R E E N H O U S E

L I N E S O F C O D E - C O M P A R I S O N R E P
 O R T

FOR SEGMENT: LOC
 COMMENT

DESCRIPTION: GREENHOUSE SEGMENT DEFAULT

BASELINE: SPAIN/FASTLIST/R2M0/ASM/2
 COMPARE : SPAIN/FASTLIST/R2M0/ASM/1

PROGRAM		LINES OF CODE								COMMENTS					
BLANKS		TOTALS													
INS	%	DELS	%	INS	DELS	%	MODS	%	INS	%	DELS	%	MODS	%	
CIGENFB			0	0	593	63	0	0	0	0	289	31	0	0	
0	0	58	6	0	940		0								
CIGFENF1			1474	0	0	0	0	0	809	0	0	0	0	0	
45	0	0	0	2328	0	0	0								
CIGFENF2			440	0	0	0	0	0	175	0	0	0	0	0	
26	0	0	0	641	0	0	0								
CIGFEXIT			2337	0	0	0	0	0	1100	0	0	0	0	0	
136	0	0	0	3573	0	0	0								
CIGFLD1B			141	0	0	0	0	0	49	0	0	0	0	0	
0	0	0	0	190	0	0	0								
CIGFLINI			0	0	551	71	0	0	0	0	193	25	0	0	
0	0	36	5	0	780		0								
CIGFLIN6			0	0	604	82	0	0	0	0	126	17	0	0	
0	0	9	1	0	739		0								
CIGFLOD2			1034	0	0	0	0	0	320	0	0	0	0	0	
62	0	0	0	1416	0	0	0								
CIGGHSTD			0	0	782	68	0	0	0	0	299	26	0	0	
0	0	62	5	0	1143		0								
CIGISPF			3271	0	0	0	0	0	2502	0	0	0	0	0	
192	0	0	0	5965	0	0	0								
CIGISPF			1124	0	0	0	0	0	879	0	0	0	0	0	
106	0	0	0	2109	0	0	0								
CIGPKX02			0	0	835	68	0	0	0	0	349	28	0	0	
0	0	48	4	0	1232		0								
CIGPKX07			0	0	2074	72	0	0	0	0	732	25	0	0	
0	0	92	3	0	2898		0								
CIGSPEC			90	0	0	0	0	0	49	0	0	0	0	0	
0	0	0	0	139	0	0	0								
CIGSPECA			90	0	0	0	0	0	52	0	0	0	0	0	
0	0	0	0	142	0	0	0								
CIGSPECG			3	0	0	0	0	0	0	0	0	0	0	0	
0	0	0	0	3	0	0	0								
CIGSPEC1			135	0	0	0	0	0	96	0	0	0	0	0	
3	0	0	0	234	0	0	0								
CIGVARS			0	0	1095	84	0	0	0	0	75	6	0	0	
0	0	127	10	0	1297		0								
CIGVINIT			0	0	96	63	0	0	0	0	46	30	0	0	
0	0	10	7	0	152		0								
CIGVUPDT			0	0	105	65	0	0	0	0	48	30	0	0	
0	0	9	6	0	162		0								
ENUXSITE			177	0	0	0	0	0	22	0	0	0	0	0	
18	0	0	0	217	0	0	0								
ENUXSIT2			207	0	0	0	0	0	27	0	0	0	0	0	
16	0	0	0	250	0	0	0								
ICOMPIL2			0	0	1884	67	0	0	0	0	826	29	0	0	
0	0	106	4	0	2816		0								
PRINTINI			0	0	503	86	0	0	0	0	76	13	0	0	
0	0	4	1	0	583		0								

24 # 10523 9122 0 6080 3059 0
604 561

SUMMARY FOR COMPARISON REQUEST:

NUMBER OF BASELINE MEMBERS PROCESSED: 11 RECORDS READ: 12742
NUMBER OF COMPARE MEMBERS PROCESSED: 13 RECORDS READ: 17207

Segment Threshold Report Example

DATE 98/10/16 TIME 11:33:57 GREENHOUSE
 PAGE 1

L I N E S O F C O D E - C O M P A R I S O N
 R E P O R T

FOR SEGMENT: LOC DESCRIPTION: GREENHOUSE SEGMENT DEFAULT
 COMMENT

BASELINE: SPAIN/FASTLIST/R2M0/ASM/2
 COMPARE : SPAIN/FASTLIST/R2M0/ASM/1

THRESHOLD LIMIT: 005

PROGRAM	L I N E S O F C O D E								C O M M E N T S				
	BLANKS		INS		DELS		MODS		INS	%	DELS	%	MODS
%	INS	%	DELS	%	INS	DELS	MODS						
PRINTINI			0	0	503	86	0	0	0	0	76	13	0
0	0	0	4	1	0	583	0	0	0	0	75	6	0
CIGVARS			0	0	1095	84	0	0	0	0	75	6	0
0	0	0	127	10	0	1297	0	0	0	0	126	17	0
CIGFLIN6			0	0	604	82	0	0	0	0	126	17	0
0	0	0	9	1	0	739	0	0	0	0	732	25	0
CIGPKX07			0	0	2074	72	0	0	0	0	732	25	0
0	0	0	92	3	0	2898	0	0	0	0	193	25	0
CIGFLINI			0	0	551	71	0	0	0	0	193	25	0
0	0	0	36	5	0	780	0	0	0	0	299	26	0
CIGGHSTD			0	0	782	68	0	0	0	0	299	26	0
0	0	0	62	5	0	1143	0	0	0	0	349	28	0
CIGPKX02			0	0	835	68	0	0	0	0	349	28	0
0	0	0	48	4	0	1232	0	0	0	0	826	29	0
ICOMPIL2			0	0	1884	67	0	0	0	0	826	29	0
0	0	0	106	4	0	2816	0	0	0	0	48	30	0
CIGVUPDT			0	0	105	65	0	0	0	0	48	30	0
0	0	0	9	6	0	162	0	0	0	0	289	31	0
CIGENFB			0	0	593	63	0	0	0	0	289	31	0
0	0	0	58	6	0	940	0	0	0	0	46	30	0
CIGVINIT			0	0	96	63	0	0	0	0	46	30	0
0	0	0	10	7	0	152	0	0	0	0			

11 #			0		9122		0		0		3059		0
0			561										

SUMMARY FOR COMPARISON REQUEST:
 NUMBER OF BASELINE MEMBERS PROCESSED: 11 RECORDS READ: 12742
 NUMBER OF COMPARE MEMBERS PROCESSED: 13 RECORDS READ: 0

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