Symbol Replacement

This subsection covers the following topics:

- Escape Character and End of Symbol
- Algorithm
- Fixed Positions within the Line
- Symbol Replacement with Multiple Symbol Values
- Predefined Symbols

Escape Character and End of Symbol

Symbols to be replaced are detected by a preceding **escape character** anywhere in the JCL. The symbol name is limited by a text delimiter, like a blank, a comma (,), a semicolon (;), a period (.), etc. A single period (.) after a symbol is removed during replacement. But two consecutive periods (..) are converted to one period (.). This is important for the dynamic creation of file names. Recursive symbol replacement (symbols within symbols) is also possible.

Example: Recursive Symbol Replacement

```
/* IN §JJ. SOFTWARE AG
```

changes to the following, when J = 20 and JJ = §J.01:

```
/* IN 2001 SOFTWARE AG
```

The advantage of this method is that symbol replacement is performed within the fixed positions.

Algorithm

The following algorithm is used for symbol replacement:

1. Search for the symbol farthest to the left.

   If none (or no more) available -> end.

2. Replacement

   In case of error -> end.

3. Write updated line.
   Continue at (1).

   This makes recursive symbol replacement (symbol with symbols) possible.

Fixed Positions within the Line

Multiple symbol replacement can cause a shift within a line. However, in the following cases, parts of the line are kept in a fixed position:

1. Symbols do not follow one another directly.
2. The columns 72 to 80 always remain fixed. If column 70 contains a blank and column 71 a comma, then these will also remain fixed.
3. If a symbol is followed by at least 2 blank spaces, the rest of the line is kept in its original position, unless the symbol value would overlap with it. For example:

   ```
   /FILE ABC.§VAR              COMMENT
   ```

   changes to the following, when VAR=REPLACE:

   ```
   /FILE ABC.REPLACE           COMMENT
   ```

4. If a symbol is followed directly by continuous text, then by at least 2 blank spaces, then by an exclamation point ! and continuous text: the symbol is replaced as in (2) and the exclamation point ! is replaced with blank spaces. For example:

   ```
   /FILE ABC.§VAR..XYZ        !COMMENT
   ```

   changes to the following, when VAR=REPLACE:

   ```
   /FILE ABC.REPLACE..XYZ     COMMENT
   ```

Symbol Replacement with Multiple Symbol Values

To replace a symbol with multiple values when a job is activated numerous times concurrently, you must use P-SUFFIX. to identify the variable to be replaced. This is the variable you entered in the Suffix Symbol field in the Master Job Definition window (see the field description in the section Job Maintenance).

Multiple symbol replacement is performed, only if you use P-SUFFIX as the placeholder for this variable. For information on defining multiple symbol values, see here.

Note:
If Suffix Symbol contains no values, then the multiple job is activated as a temporary dummy job.

You obtain a specific occurrence of a multiple symbol by using the symbol function MV (multiple value) delivered with Entire Operations.

Predefined Symbols

You may also use a large number of predefined symbols.

Symbol Replacement in Subnetworks

To be able to enter symbols in subnetworks as well, you can attach a symbol table to the main network; this table contains all symbols to be queried in the jobs of the subnetwork(s). At the same time, the symbol tables can be linked to the corresponding jobs of the subnetwork(s) by means of symbols whose values are not to be retrieved. After symbol entry, this creates active symbol tables attached to the main network.

On job level, Entire Operations tries to load the symbols from the level(s) above if a symbol with the corresponding symbol table is not found, for example from the active symbol table of the main network. Entire Operations does not create active symbol tables on subnetwork job level as the run numbers are not yet known at the time of the main network’s activation and as symbol prompting is activated first.

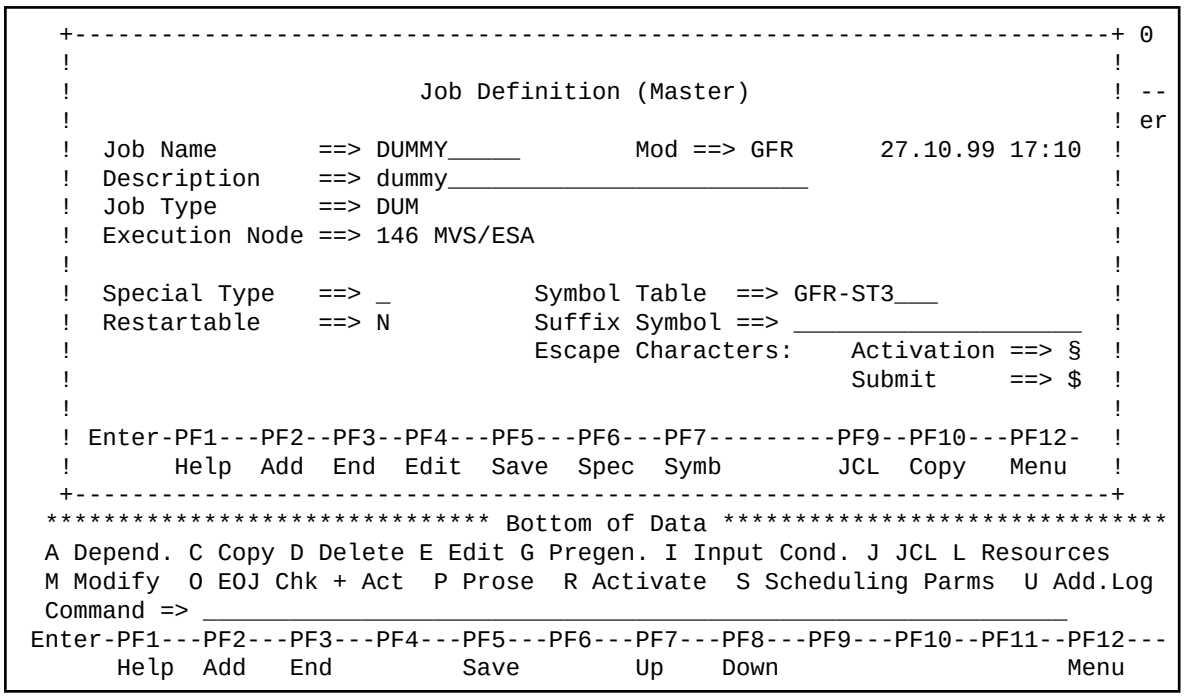
The following example screens illustrate the procedure:

```
 12.11.01                *** Entire Operations 4.1.1 ***               10:45:40
 Owner GFR                     Network Maintenance
 Selection OR________
- +-------------------------------------------------------------------------+ --
  !                                                                         !
  !                           Network Modification                          !
  !  Network      ===> SUB-1_____                   Owner ===> GFR         !
  !  Description  ===> sub-1_____________________________________          !
  !                                                 Loop existing ===> N    !
  !  Default Values for the Jobs                                            !
  !    Execution Node ===> 146  MVS/ESA      Symbol Table ===> GFR-ST3___    !
  !    JCL Node       ===> 146  MVS/ESA                                     !
  !    JCL Location   ===> ___           Sym.Table Activation Mode ===> X    !
  !                                                                         !
  !    File   ===> ____________________________________________________     !
  !    VolSer ===> ______                          Password ===>              !
  !                                                                         !
  !  --PF1-----PF3-----PF5---PF6---PF7---PF8---PF9---PF10---PF11---PF12--   ! **
  !    Help    End     Save  Spec  Symb  SP-UR DfJb  Copy   MsgRe  Menu     !
   +-------------------------------------------------------------------------+
 Command => _____________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Add   End         Save        Up    Down              NxtSt Menu
```

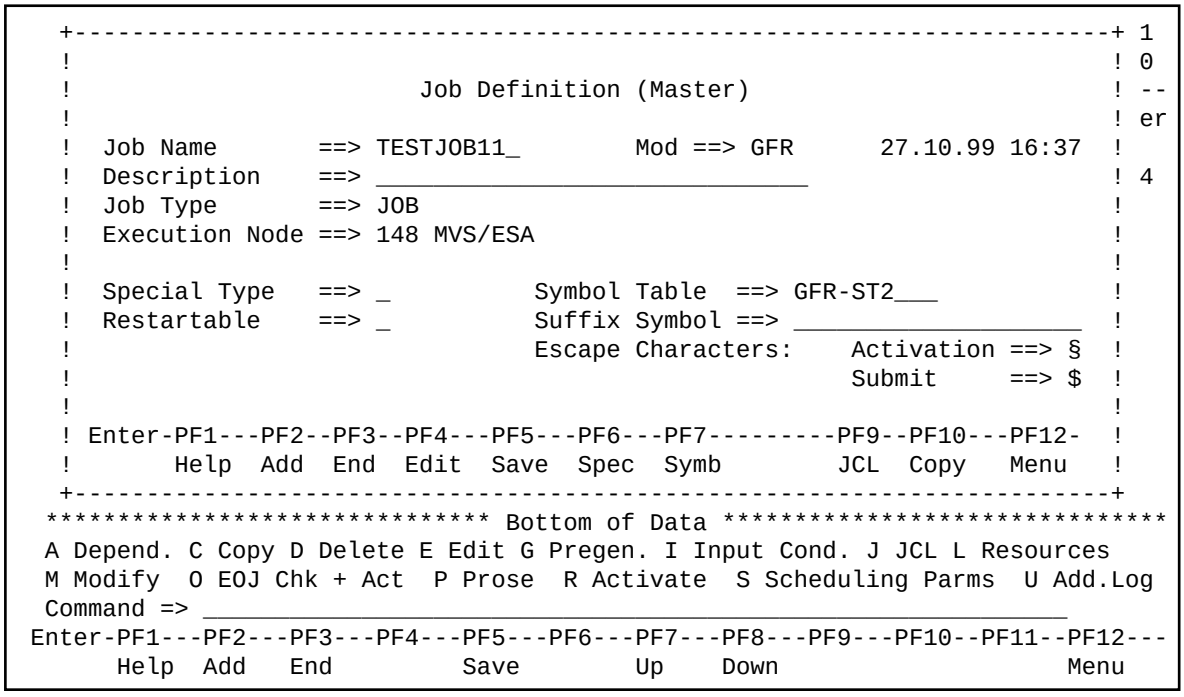
Main network with symbol table containing symbols to be queried (GFR-ST3).

```
 12.11.01                *** Entire Operations 4.1.1 ***               10:47:20
 Owner GFR                     Job Maintenance              Network SUB-1
 ------------------------------------------------------------------------------
 Cmd C R PU Job       Type Description           File or Library         Member
            *---------
 _          DUMMY     DUM dummy
 _   C1     SUB-11    NET                        GFR/TESTNET10
 _
 _
 _
 _
 _
 _
 _
 _
 _
 _
 ******************************* Bottom of Data ********************************
 A Depend. C Copy D Delete E Edit G Pregen. I Input Cond. J JCL L Resources
 M Modify  O EOJ Chk + Act  P Prose  R Activate  S Scheduling Parms  U Add.Log
 Command => _____________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Add   End         Save        Up    Down                    Menu
```

This screen shows the main network's jobs DUMMY and SUB-11 with symbol table.



The symbol table containing symbols to be queried (GFR-ST3) is linked to the dummy job. No symbol tables are attached to the subnetworks themselves.



On the lowest job level, a symbol table is linked whose symbols are not queried (GFR-ST2). You can make the JCL definition through PF9.


```
  +-------------------------------------------------------------------------+ 1
  !                                                                         ! 0
  +-------------------------------------------------------------------------+ --
  !                                                                         ! er
  !                      Job: JCL Definition (Master)                       !
  !                                                                         ! 4
  !  Job Name       ==> TESTJOB11         Mod ==> GFR      27.10.99 16:37  !
  !  Description    ==>                                                    !
  !  Job Type       ==> JOB                                                !
  !  Execution Node ==> 148 MVS/ESA           Symbol Table ==> GFR-ST2     !
  !                                                                         !
  !  JCL Location   ==> PDS                                                !
  !  JCL Node       ==> 148 MVS/ESA                                        !
  !  File/NatLib    ==> SN.GFR.SOURCE_____________________________         !
  !  Member         ==> IEFBR14_ ________                                  !
  !  VolSer         ==> ______  (if not catlgd)   Password ==>             !
  !                                                                         !
  ! Enter-PF1--------PF3--PF4---PF5---PF6---PF7---PF8---------------PF12-  ! **
  !       Help       End  Edit  Save  Spec  Symb  Impo              Menu   !
  +-------------------------------------------------------------------------+ g
 Command => _____________________________________________________________
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Add   End         Save        Up    Down                   Menu
```

Job definition (master, part 2 (JCL definition).

```
 12.11.01               *** Entire Operations 4.1.1 ***               11:07:29
 Owner   GFR            Master Symbol Table GFR-ST2
 Network TESTNET10                                                    Run
 ------------------------------------------------------------------------------
 C Symbol            F P Value                       modified by
 _ NUM               N A 100000                      GFR      28.11.99 16:04
 _
 _
 _
 _
 _
 _
 _
 _
 _
 _
 _
 _
 _
 ****************************** Bottom of Data ******************************
 C Copy   D Delete   M Modify
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Add   End         Save        Up    Down        Print
```

This screen shows the master symbol table GFR-ST2.

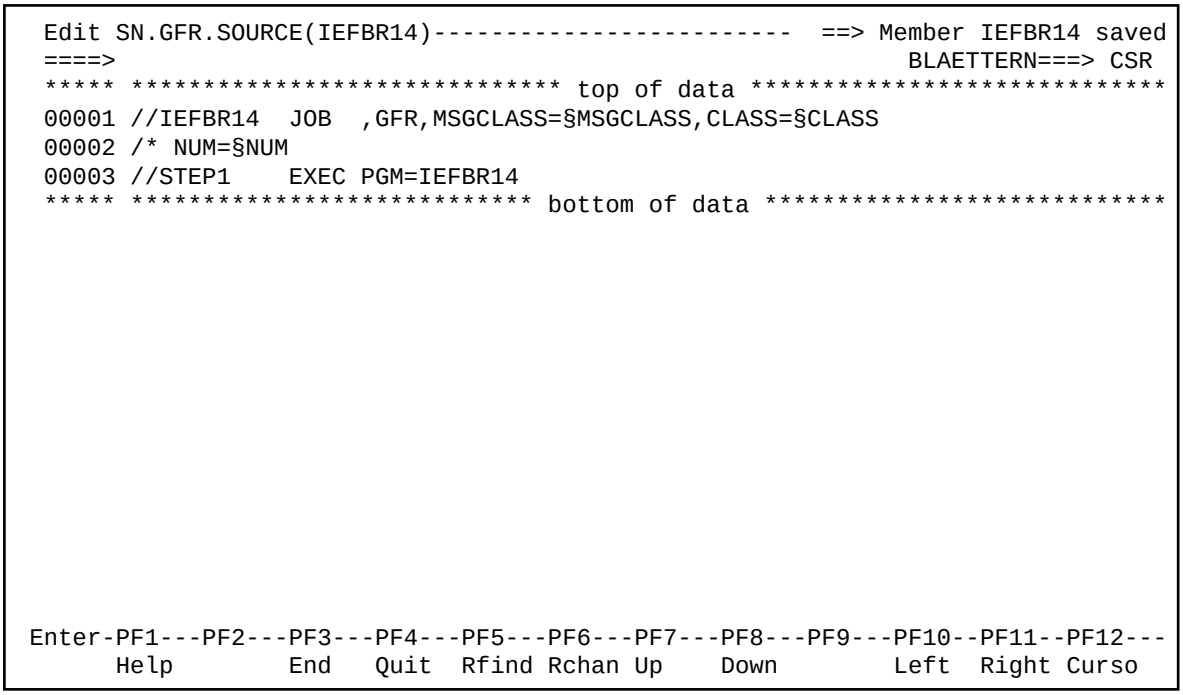

```
 12.11.01               *** Entire Operations 4.1.1 ***                11:08:34
 Owner   GFR             Master Symbol Table GFR-ST3
 Network SUB-1                                                       Run
 ------------------------------------------------------------------------------
 C Symbol            F P Value                        modified by
 _ CLASS             A A G                            GFR      04.08.97 16:07
 _ MSGCLASS          A A X                            GFR      04.08.97 15:05
 _
 _
 _
 _
 _
 _
 _
 _
 _
 _
 _
 _
 ******************************* Bottom of Data *******************************
 C Copy   D Delete   M Modify
Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help  Add   End         Save        Up    Down        Print
```

This screen shows the master symbol table GFR-ST3.

```
 Edit SN.GFR.SOURCE(IEFBR14)-------------------------  ==> Member IEFBR14 saved
 ====>                                                       BLAETTERN===> CSR
 ***** ****************************** top of data ****************************
 00001 //IEFBR14  JOB  ,GFR,MSGCLASS=§MSGCLASS,CLASS=§CLASS
 00002 /* NUM=§NUM
 00003 //STEP1    EXEC PGM=IEFBR14
 ***** **************************** bottom of data ***************************

Enter-PF1---PF2---PF3---PF4---PF5---PF6---PF7---PF8---PF9---PF10--PF11--PF12---
      Help        End   Quit  Rfind Rchan Up    Down        Left  Right Curso
```

This screen shows the active JCL for TESTJOB11.



This screen shows the master JCL for TESTJOB11.