

Socio estratégico



Impulsan





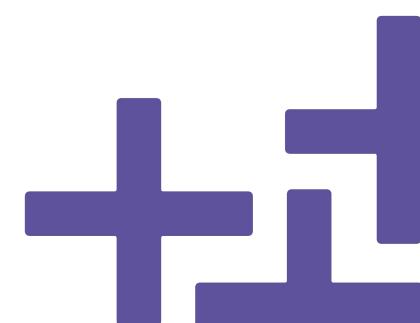




Cobol - Clase 31

Práctica TSO – JCL – PROGRAMAS – COMPILACION







Reglas de la clase



Micrófonos apagados



Consultas al final de la clase

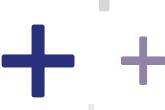


Consultas por chat





Cronograma



Primera **Parte**

18:30 а 19:25

Break

19:25 19:35

Segunda **Parte**

19:35 20:30

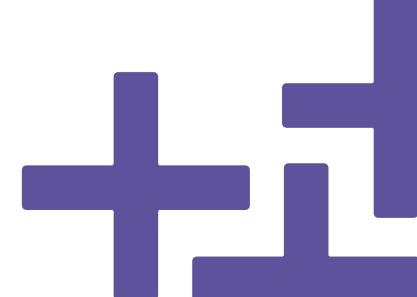




¿Qué veremos hoy?

- + Crear librerías de Usuario: SRC y JCL
- + EJECUTAR JCL COMPILADOR
- + SPOOL





Crear librería SRC por usuario

Crear nueva librería para guardar los programas cobol por usuario

- Tomar como base la Liberia DM.BASE.SRC
- Crear librería DM.USEROXX.SRC
 Donde XX corresponde al número de usuario
- Copiar los miembros CLHOLA00 y CL11JE00 en la nueva librería



Copiar Liberia SRC





```
Opción
```

```
Compilers Options
      Utilities
                                      Status
                                              Help
                           ISPF Primary Option Menu
Option ===> 3.3
   Settings
                                                         User ID . : PROF003
                Terminal and user parameters
   View
                 Display source data or listings
                                                         Time. . . : 21:34
  Edit
                Create or change source data
                                                         Terminal.: 3278
                 Perform utility functions
                                                         Screen. . : 1
  Utilities
  Foreground
                Interactive language processing
                                                         Language: : ENGLISH
  Batch
                 Submit job for language processing
                                                         Appl ID . : ISR
                 Enter TSO or Workstation commands
  Command
                                                         TSO logon : ISPFPROC
  Dialog Test
                 Perform dialog testing
                                                         TSO prefix:
  LM Facility
                Library administrator functions
                                                         System ID : P390
  IBM Products IBM program development products
                                                         MVS acct. : ACCT#
10 SCLM
                 SW Configuration Library Manager
                                                         Release . : ISPF 5.0
11 Workplace
                 ISPF Object/Action Workplace
                 Additional IBM Products
  More
    Enter X to Terminate using log/list defaults
```



Copiar Liberia SRC: origen

Opción

C - COPIAR

Origen

```
RefList Utilities Help
                           Move/Copy Utility
Option =>
                                                              More:
   Copy data set or member(s) CP Copy and print
  Move data set or member(s) MP Move and print
  Copy and LMF lock member(s) LP Copy, LMF lock, and print
   LMF Promote data set or member(s) PP LMF Promote and print
Specify "From" Data Set below, then press Enter key
From ISPF Library:
                            (--- Options C, CP, L, and LP only ---)
  Project . . . DM
  Group . . BASE
   Type
                               (Blank or pattern for member list,
                                "*" for all members)
From Other Partitioned or Sequential Data Set:
  Data Set Name . . DM.BASE.SRC
```





Opción 1

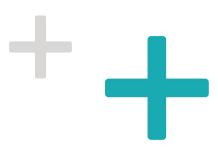
Opción 2



```
menu kerlist utililies fielp
COPY
       From DM.BASE.SRC
Command ===>
                                                            More:
Specify "To" Data Set Below
To ISPE Library:
  Project . DM
                              Replace option:
  Group . . . BASE
                                Enter "/" to select option
  Type . . . . <u>SRC</u>
                                   Replace like-named members
To Other Partitioned or Sequential Data Set:
  Data Sat Nume . DM.USER001.SRC
                              (If not cataloged)
  Volume Serial . . .
Data Set Password . . (If password protected)
To Data Set Options:
  Sequential Disposition Pack Option
                                               SCLM Setting
  1 1. Mod
                             3 1. Yes
                                               3 1. SCLM
F1=Help
           F2=Split F3=Exit F7=Backward F8=Forward
                                                           F9=Swap
```



Copiar liberia SRC: miembros

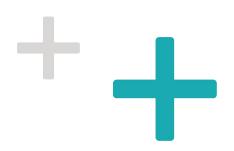


Seleccionar miembros a copiar

```
Menu Functions Utilities
                              Help
                                   TO DM.USER001.SRC
            DM.BASE.SRC
Command ===>
                                                                Scroll ===> PAGE
   Name
            Prompt
                             Size
                                     Created
                                                        Changed
                                                                            ID
S CLHOLAGO
                                    2023/08/10
                               51
                                                  2023/12/03 21:22:25
                                                                          PROF003
 CL11EJ00
                              333
                                    2023/08/10
                                                  2023/12/03 22:19:15
                                                                          PROF003
 PRGSQL01
                              283
                                    2023/08/10
                                                  2023/11/14 23:47:55
                                                                          IBMUSER
 **End**
```







DM.USER001.SRC

| <u>M</u> enu | <u>F</u> unctions | <u>C</u> onfirm | <u>U</u> tilities | <u>H</u> elp | | |
|-----------------|-------------------|-----------------|-------------------|---------------------|--|----|
| VIEW Command | DM.USER001.SRC | | | | Row 00001 of 00002 Scroll ===> PAGE | |
| | Name | Prompt | Size | Created | Changed | ID |
| CLHOLA00 51 | | | 2023/08/10 | 2023/12/03 21:22:25 | PROF003 | |
| CL11EJ03 334 | | | 2023/08/10 | 2023/11/24 20:32:24 | USER003 | |
| | **End** | | | | | |



Renombrar miembros

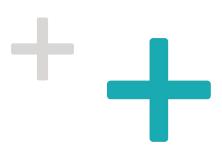
En la nueva librería creada, deberán renombrar los miembros cambiando en los nombre del programa los dos últimos dígitos

- Cambiar CLHOLAXX
 Donde XX corresponde al número de usuario
- Cambiar CL11JEXX
 Donde XX corresponde al número de usuario

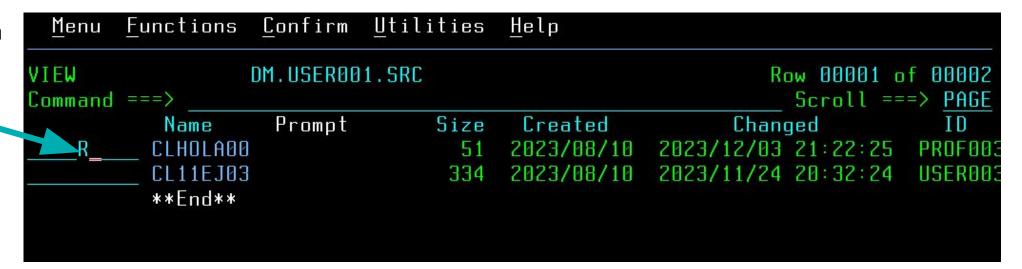




Renombrar: miembros

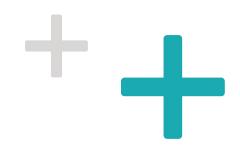


Comando R para renombrar





Renombrar: miembros



```
Member Rename
                 Enter a new member name:
Nuevo nombre
                 Old Name . . : CLHOLAGO
                 New Name . . . CLHOLA01
                 Press ENTER to rename member.
                 Press CANCEL to cancel rename.
                  F1=Help
                                    F2=Split
                                    F7=Backward
```



Crear librería JCL por usuario

Crear nueva librería para guardar los programas cobol por usuario

- Tomar como base la Liberia DM.BASE.SRC
- Crear librería DM.USEROXX.SRC
 Donde XX corresponde al número de usuario
- Copiar los miembros CLHOLA00 y CL11JE00 en la nueva librería



Copiar Liberia JCL



```
Opción
```

```
Menu Utilities Compilers
                             Options
                                      Status
                                              Help
                           ISPF Primary Option Menu
Option ===> 3.3
  Settings
                                                         User ID . : PROF003
                 Terminal and user parameters
                 Display source data or listings
   View
                                                         Time. . . : 21:34
  Edit
                 Create or change source data
                                                         Terminal.: 3278
  Utilities
                Perform utility functions
                                                         Screen. . : 1
                Interactive language processing
  Foreground
                                                         Language. : ENGLISH
  Batch
                 Submit job for language processing
                                                         Appl ID . : ISR
  Command
                 Enter TSO or Workstation commands
                                                         TSO logon : ISPFPROC
  Dialog Test
                Perform dialog testing
                                                         TSO prefix:
  LM Facility
                 Library administrator functions
                                                         System ID : P390
  IBM Products IBM program development products
                                                         MVS acct. : ACCT#
10 SCLM
                 SW Configuration Library Manager
                                                         Release . : ISPF 5.0
11 Workplace
                 ISPF Object/Action Workplace
  More
                 Additional IBM Products
    Enter X to Terminate using log/list defaults
```



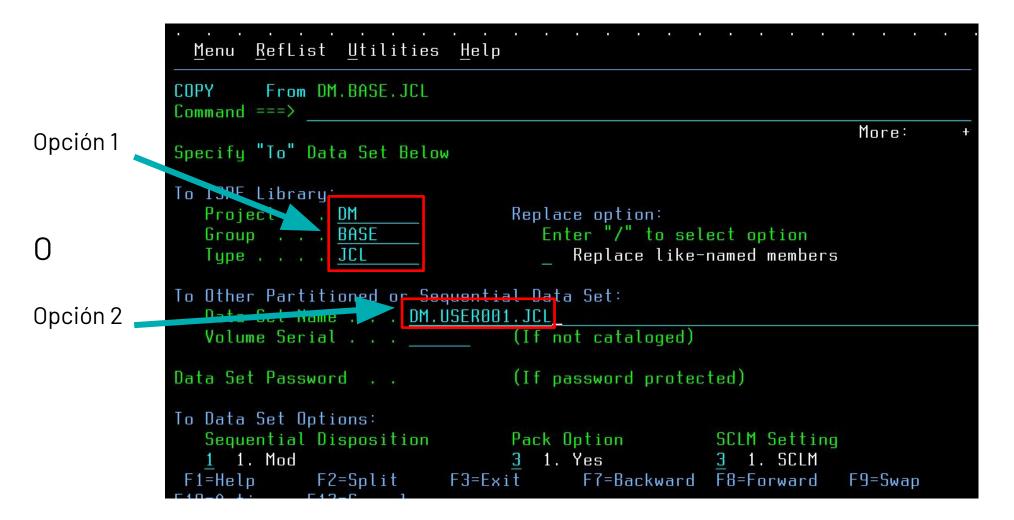
Copiar Liberia JCL: origen



```
Menu RefList Utilities Help
                                           Move/Copy Utility
             Optio
Opción
                                                                                More:
                 Copy data set or member(s)
                                                     CP Copy and print
C -
                                                     MP Move and print
                 Move data set or member(s)
COPIAR
                  Copy and LMF lock member(s)
                                                    LP Copy, LMF lock, and print
                  LMF Promote data set or member(s)
                                                     PP LMF Promote and print
              Specify "From" Data Set below, then press Enter key
             From ISPF Library:
                Project . . DM
                                             (--- Options C, CP, L, and LP only ---)
                Group . . . BASE
                 Type
                                                (Blank or pattern for member list,
                                                "*" for all members)
    Origen•
             From Other Partitioned or Sequential Data Set:
                Data Jet Name . . . DM.BASE.JCL
                                                     F7=Backward
                                                                 F8=Forward
                                                                               F9=Swap
              F1=Help
                                        F3=Exit
              FIREActions F12=Cancel
```



Copiar Liberia JCL: destino





Copiar Liberia JCL: Configuración para alocar



Opción 1

```
Allocate Target Data Set
Command ===>
Specified data set DM.USER001.JCL
does not exist.
If you wish to allocate this data set, select one of the options
below.
Allocation Options:
1 <u>1</u>. Allocate using the attributes of:
     DM.BASE.JCL
   2. Specify allocation attributes
Instructions:
  Press ENTER to allocate data set.
  Enter CANCEL or END to cancel allocation.
 F1=Help F2=Split F3=Exit
                                          F7=Backward
                                                        F8=Forward
             F12=Cancel
 F9=Swap
```



Copiar liberia JCL: miembros

пеци

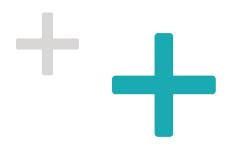
utitities

menu tunctions

COPY DM.BASE.JCL TO DM.USER001.JCL Row 00001 00007 Scroll ===> PAGE Command ===> Seleccionar Created Name Size Changed Prompt miembros a 2023/08/10 IBMUSER CL11EJ03 36 2023/11/12 02:31:09 copiar CL11EJ13 2023/08/10 **IBMUSER** 2023/08/10 COMPILER 2023/11/22 21:34:19 PROF001 2023/08/10 2023/11/13 01:18:57 COMPTLEX TRMUSER COMPILE 1 30 2023/08/10 IBMUSER 2023/08/10 COMPILE2 IBMUSER 2023/11/13 2023/07/21 LOGREC 2023/08/11 00:09:20 **IBMUSER** **End**



Entra nueva librería JCL: Editar



 Menu
 Functions
 Confirm
 Utilities
 Help

 VIEW
 DM.USER001.JCL
 Row 00001 of 00001

 Command
 ===>
 Scroll ===> PAGE

 Name
 Prompt
 Size
 Created
 Changed
 ID

 COMPILER
 33
 2023/08/10
 2023/11/22
 21:34:19
 PROF001



Entra nueva librería JCL: Editar

++

Cambiar nombre del programa a compilar

Cambiar nombre Liberia SRC

```
File Edit Edit_Settings Menu Utilities Compilers Test Help
          DM.USER001.JCL(COMPILER) - 01.08
                                                         Columns 00001 00072
Command ===>
      000100 //COMPILER JOB ACCT#.
000200 //
                     IBMUSER.
                                   **JOB STATEMENT GENERATED BY SUBMIT**
                     NOTIFY=&SYSUID.
                     MSGLEVEL=(1,1)
                    PGM=ISRLEMX, COND=(12, LE),
           PARM=(__cob, c<u>L</u>HOLA01, B, N, , 4, , 00, ENU, 4, 7',
                '1,/,SYSALLDA')
000800 //*
000900 //* INSERT A STEPLIB DD HERE IF ISRLEMX IS NOT IN YOUR SYSTEM LIBRARY
        <u>ISRLCODE</u> DD DSN+DM.USER001.SRC,
                     UNIT=SYSDA, DISP=(NEW, PASS), SPACE=(CYL, (2,2)),
                     DSN=&&TEMP1
                     SYSOUT = (A)
                     PGM=IGYCRCTL,REGION=640K,COND=(12,LE),
                                                               F7=Up
 F1=Help
             F2=Split
                          F3=Exit
                                      F5=Rfind
                                                   F6=Rchange
```







Cambiar nombre del COMPILADO

```
File Edit Edit_Settings Menu Utilities Compilers Test Help
           DM.USER001.JCL(COMPILER) - 01.08
FDIT
                                                             Columns 00001 00072
Command ===>
                                                                Scroll ===> CSR
                      UNIT=SYSDA, SPACE=(CYL, (2,2))
002110 //SYSUT2
                      UNIT=SYSDA, SPACE=(CYL, (2,2))
002120 //SYSUT3
                      UNIT=SYSDA, SPACE=(CYL, (2,2))
002130 //SYSUT4
                      UNIT=SYSDA, SPACE=(CYL, (2,2))
       //SYSUIS
                  DD
                      UNIT=SYSDA, SPACE=(CYL, (2,2))
002150 //SYSUT6
                      BNIT=SYSDA, SPACE=(CYL, (2,2))
002160 //SYSUT7
                      DSN=57S1.MACLIB, DISP=SHR
002170 //SYSLIB
                      DSN=DM.BASE.SRC.
                  DD
            DISP=SHR
                      DSN=DM.BASE.OBJ2(CLHOLA01),
            DISP=OLD
                                     Bottom of Data ******
```

Librería de programas compilados



Entra nueva librería JCL: Guardar

Comando para guardar

```
File Edit Edit Settings Menu Utilities Compilers
                                                   Test Help
          DM.USER001.JCL(COMPILER) - 01.08
                                                      Columns 00001 00072
              SAVE
                                                         Scroll ===> CSR
Command ---
                    UNIT=SYSDA, SPACE=(CYL, (2,2))
                    UNIT=SYSDA, SPACE=(CYL, (2,2))
002120 //SYSUT3
                    UNIT=SYSDA, SPACE=(CYL, (2,2))
002130 //SYSUT4
                    UNIT=SYSDA, SPACE=(CYL, (2,2))
002140 //SYSUT5
                   UNIT=SYSDA, SPACE=(CYL, (2,2))
002150 //SYSUT6
                DD
002160 //SYSUT7
                    UNIT=SYSDA, SPACE=(CYL, (2,2))
002170 //SYSLIB
                DD
                    DSN=SYS1.MACLIB, DISP=SHR
002180 //
                DD
                    DSN=DM.BASE.SRC.
          DISP=SHR
NN219N //
                    DSN=DM.BASE.OBJ2(CLHOLA01),
002192 //
           DISP=OLD
```



Entra nueva librería JCL: Ejecutar JOB

Comando para submitir

```
File Edit Edit Settings Menu Utilities Compilers Test Help
          DM.USER001.JCL(COMPILER) - 01.08
                                                        Columns 00001 00072
      000100 //COMPILER
                 JOB ACCT#,
                     IBMUSER.
                                   **JOB STATEMENT GENERATED BY SUBMIT**
                    NOTIFY=&SYSUID,
000300 //
                    MSGLEVEL=(1,1)
000400 //
              EXEC PGM=ISRLEMX,COND=(12,LE),
           PARM=('COB, CLHOLA01, B, N, , 4, , 00, ENU, 4, 7',
                '1,/,SYSALLDA')
000700 //
000800 //*
NAMANA //* INSERT A STEPLIB DD HERE IF ISRLEMX IS NOT IN YOUR SYSTEM LIBRARY
001000 //*
                    DSN=DM.USER001.SRC.
001100 //ISRLCODE DD
           DISP=SHR
001200 //
                    UNIT=SYSDA, DISP=(NEW, PASS), SPACE=(CYL, (2,2)),
001400 //
                     DSN=88TEMP1
001500 //ISRLMSG DD SYSOUT=(A)
                    PGM=IGYCRCTL, REGION=640K, COND=(12, LE),
 F1=Help
             F2=Split
                         F3=Exit
                                      F5=Rfind
                                                  F6=Rchange
                                                              F7=Up
```



SPOOL

Ver salida de ejecución de JOB



SPOOL

M More: Additional IBM Products

5 SDSF: Spool Search and Display Facility

ST: Status of jobs

```
Menu Utilities Compilers Options Status Help
                          ISPF Primary Option Menu
Option ===> M
Settings
                Terminal and user parameters
                                                       User ID . : USER001
   View
                Display source data or listings
                                                       Time. . . : 22:25
2 Edit
                Create or change source data
                                                       Terminal.: 3278
  Utilities
                Perform utility functions
                                                       Screen. . : 2
4 Foreground
               Interactive language processing
                                                       Language: : ENGLISH
                Submit job for language processing
  Batch
                                                       Appl ID . : ISR
  Command
                Enter TSO or Workstation commands
                                                       TSO logon: ISPFPROC
7 Dialog Test Perform dialog testing
                                                       TSO prefix:
8 LM Facility Library administrator functions
                                                       System ID: P390
  IBM Products IBM program development products
                                                       MVS acct. : ACCT#
                SW Configuration Library Manager
10 SCLM
                                                       Release . : ISPF 5.0
                ISPF Object/Action Workplace
11 Workplace
M More
                Additional IBM Products
    Enter X to Terminate using log/list defaults
 F1=Help
             F2=Split
                          F3=Exit
                                      F7=Backward F8=Forward F9=Swap
F10=Actions F12=Cancel
```

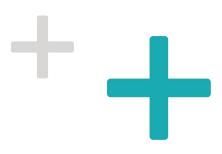
```
IBM Products Panel
Option ===> 5
                                                                  More:
  SMP/E
              System Modification Program/Extended
  ISMF
              Integrated Storage Management Facility
  RACE
              Resource Access Control Facility
  HCD
              Hardware Configuration Dialogs
  SDSF
              Spool Search and Display Facility
              Interactive Problem Control System
  IPCS
  DITTO
              DITTO/ESA for MVS Version 1
 RMF
              Resource Measurement Facility
  DESORT
              Data Facility Sort
10 OMVS
              MVS OpenEdition
11 DB2PM
              Database Preformance Monitor
12 DB2DC
              Database data collection
13 DB2
              Data Base Products
14 RRS
              Resource Recovery Services
15 DB2ADM
              Data Base Admin Tool
16 OMF
              Query Management Facility
                                       F7=Backward F8=Forward F9=Swap
F1=Help
             F2=Split
                          F3=Exit
F10=Actions F12=Cancel
```

```
Display Filter View Print Options Help
HOX7703 ------ SDSF PRIMARY OPTION MENU ----------------
COMMAND INPUT ===> ST_
                                                           SCROLL ===>
     Active users
                                     INIT Initiators
     Input queue
                                     PR
                                           Printers
     Output queue
                                           Punches
     Held output queue
                                           Readers
     Status of jobs
                                     LINE Lines
                                     HODE
                                           Nodes
LOG
     System log
                                           Spool offload
     Members in the MAS
     Job classes
                                     ULOG User session loa
     Scheduling environments
     WLM resources
Licensed Materials - Property of IBM
5647-A01 (C) Copyright IBM Corp. 1981, 2000. All rights reserved.
US Government Users Restricted Rights - Use, duplication or
F1=HELP
                         F3=END
                                     F4=RETURN
             F2=SPLIT
                                                F5=IFIND
                                                              F6=BOOK
            F8=DOUN
                         F9=SUAP
                                    F10=LEFT
F7=UP
                                                 F11=RIGHT
                                                             F12=RETRIEVE
```





Sub JCL: Ver ejecución de J0B - Resultado de compilación



Comando para ver detalle de ejecución

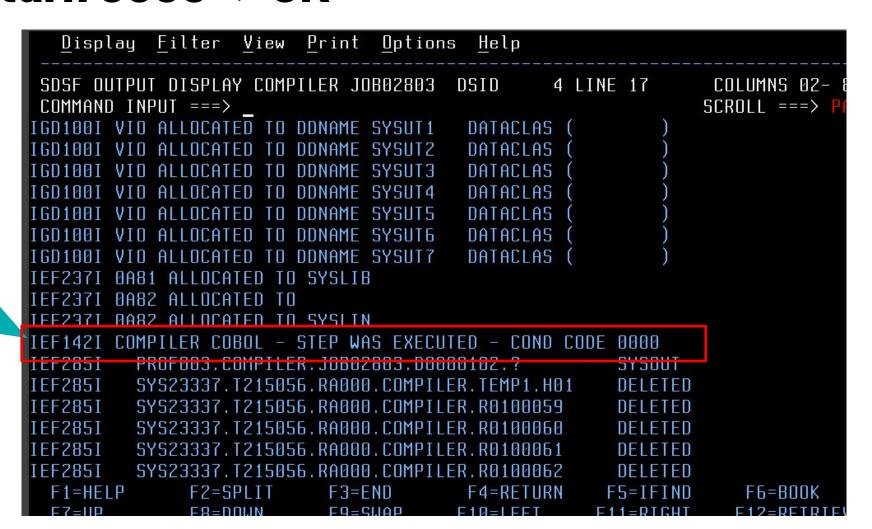
```
View
                         Print
                                Options
                                         Help
SDSF STATUS DISPLAY ALL CLASSES
                                                        LINE 1-2 (2)
COMMAND INPUT
                                                               SCROLL ===> PAGE
              ===>
     JOBNAME
              JohID
                       Owner
                                Prty Queue
                                                 C Pos
                                                        SAff
                                                               ASys Status
              TSU02800 PROF003
                                   5 EXECUTION
                                                         SYS1
                                                               SYS1
     COMPILER JOB02803 PROF003
                                   1 PRINT
                                                      12
```

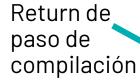
Comando para ver estado de compilación

```
Print
                                 Options
                   View
SDSF JOB DATA SET DISPLAY - JOB COMPILER (JOB02803)
                                                          DATA SET DISPLAYED
COMMAND INPUT ===>
                                                                SCROLL ===> PAG
     DDNAME
              StepName ProcStep DSID Owner
                                                C Dest
                                                                      Rec-Cnt PAG
     JESMSGLG JES2
                                    2 PR0F003
                                                K LOCAL
                                                                           16
              JES2
                                                                           34
     JESJCL
     JESYSMSG JES2
                                                                           46
     SYSPRINT COBOL
```



Sub JCL: return 0000 -> 0K









Sub JCL:

Ver ejecución de JOB – detalle de compilación

Comando para ver detalle de ejecución



Comando para ver detalle de compilación

```
View Print Uptions Help
SDSF JOB DATA SET DISPLAY - JOB COMPILER (JOB02803)
                                                          INVALID COMMAND
COMMAND INPUT ===>
                                                                SCROLL ===> PA
              StepName ProcStep DSID Owner
                                               C Dest
                                                                     Rec-Cnt Pf
     JESMSGLG JES2
                                               K LOCAL
                                                                           16
              JES2
     JESJOL
                                      PROFOOS
                                               K LOCAL
                                                                          34
     JESYSMSG JES2
                                    4 PROF003
                                                                          46
     SYSPRINT COBOL
                                               A LOCAL
                                                                          117
                                  102 PR0F003
```



Sub JCL : Detalle de compilación

Para ir al final de la página

M + F8

```
Display Filter View Print Options Help
 SDSF OUTPUT DISPLAY COMPILER JOB02803
                                       DSID
                                               102 LINE
                                                         NOT PAGE MODE DATA
 COMMAND INPUT
                                                               SCROLL ===> PAGE
PP 5648-A25 IBM COBOL for OS/390 & VM 2.1.2
                                                                          Date 12
Invocation parameters:
NOTERM,
Options in effect:
    NOADATA
      ADV
    NOANALYZE
      QUOTE
    NOAWO
      BUFSIZE (4096)
    NOCMPR2
    NOCOMPILE(S)
    NOCURRENCY
      DATA(31)
    NODATEPROC
    NODBCS
  F1=HELP
               F2=SPLIT
                            F3=END
                                         F4=RETURN
                                                      F5=IFIND
                                                                   F6=800K
  F7=UP
               F8=DOWN
                            F9=SWAP
                                        F10=LEFT
                                                     F11=RIGHT
                                                                   F12=RETRIEVE
```



Sub JCL: Detalle de compilación

OK

```
Display Filter View Print Options Help
           SDSF OUTPUT DISPLAY COMPILER JOB02803 DSID 102 LINE 102
                                                                          COLUMNS 02-
            COMMAND INPUT ===> _
                                                                         SCROLL ===>
            000042
                                  2000-PROCESAR-PROGRAMA.
            000043
            000044
                                      DISPLAY 'HOLA ' WS-NOMBRE.
            000045
            000046
            000047
                                  2000-PROCESAR-PROGRAMA-FIN.
            000048
                                      EXIT.
Compilación
            000049
                                  END PROGRAM CLEJHOLA.
            000050
            000051
            Statistics for COBOL program CLEJHOLA:
               Source records = 51
               Data Division statements = 2
               Acedure Division statements = 7
           End of compilation 1, program CLEJHOLA, no statements flagged.
           Return code 0
```



Compilación NO OK

```
view Frint uptions
 SDSF OUTPUT DISPLAY COMPILER JOB02804
                                                    4 LINE 17
                                                                    COLUMNS 02-8
                                          DSID
 COMMAND INPUT ===>
                                                                   SCROLL ===>
              LOCATED TO DDNAME SYSUT1
                                           DATACLAS
                                           DATACLAS
            ALLOCATED
                                           DATACLAS
                                           DATACLAS
                                           DATACLAS
                                           DATACLAS
                                           DATACLAS
                        TO SYSLIB
IEF142I
IEF285I
          PROF003.COMPILER.JOB02804.D0000102.?
                                                          SYSOUT
IEF285I
          SYS23337. T215602. RADOO. COMPILER. TEMP1. HD1
                                                          DELETED
IEF285I
          SYS23337. T215602. RA000. COMPILER
                                                          DELETED
IEF285I
                                                          DELETED
IEF285I
          SYS23337. T215602. RA000. COMPILER. R0100068
                                                          DELETED
IEF285I
          SYS23337.T215602.RA000.COMPILER.R0100069
                                                          DELETED
```



Código de

retorno

Compilacion NO 0K



```
SDSF OUTPUT DISPLAY COMPILER JOB02804
                                      DSID
                                             102 LINE 108
                                                              COLUMNS 02- 81
 COMMAND INPUT ===>
                                                             SCROLL ===> PAGE
                       END PROGRAM CLEJHOLA.
 000048
 000049
PROGRAMA - EJERCICIO 1
                                                             CLEJHOLA
                                                                       Data
LineID Message code Message text
                     "WS-NOMBRE" was not defined as a data-name.
       IGYPS2121-S
                                                                 The statement
                                               43
                     Same message on line:
           Intal
                    Informational
                                     Warning
                                                        Severe
                                                                    erminating
Messages
                                                Error
Printed:
 Statistics for COBOL program CLEJHOLA:
    Source records = 49
    Data Division statements = 0
    Procedure Division statements = 7
End of compilation 1, program CLEJHOLA, highest severity 12.
Return code 12
********* BOTTOM
```

Detalle de error

Cantidad de error







Comunicación

Foro de consultas TEC:

https://campus.soysilvertech.org

Mails de consulta TEC:

consultasCOBOL@soysilvertech.org



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