

COBOL Basics Lab 3

GOALS:

- Sign on to the mainframe, navigate the ISPF Primary Option Menu to find the dataset containing JCL (yourID.JCL.CNTL).
- Go into EDIT with the JCL member LAB3, Submit the JCL to the system.
- Note whether or not the return code is zero or not.
- If the return code is zeroes, go to SDSF and view the results. Then navigate out and sign off.

Step-by-step:

1. Sign on with your **ID** and **PASSWORD**, then press **ENTER** when you see this:

```
ICH70001I TS0ZC01 LAST ACCESS AT 14:29:41 ON THURSDAY, MARCH 18, 2021
IKJ56455I TS0ZC01 LOGON IN PROGRESS AT 14:39:26 ON MARCH 18, 2021
IKJ56951I NO BROADCAST MESSAGES
Allocating ISPF/PDF environment...
Test for Netmail
INMR003I You have no messages or data sets to receive.
%C12 EZCLQ1

Your assigned DB2 Subsystem is DSNCL

Allocating DB2 libraries now. Please wait for ***
You can hit enter once you see the three asterisk.

*** _
```

2. Press **ENTER** again to get to the **ISPF Primary Option Menu**:

```
Menu  Utilities  Compilers  Options  Status  Help
-----
                                ISPF Primary Option Menu
Option ==> _

0  Settings          Terminal and user parameters
1  View              Display source data or listings
2  Edit              Create or change source data
3  Utilities          Perform utility functions
4  Foreground        Interactive language processing
5  Batch              Submit job for language processing
6  Command            Enter TSO or Workstation commands
D  Db2                Db2 Menus
E  ITS MENU           ITS extended menu
S  SDSF              System Display and Search Facility
```

The cursor is near the top, to the right of the work **Option**.

- To retrieve the JCL type **3.4** and then press **ENTER**. This will take you to the **Data Set List Utility**. Your **ID** is shown in the middle, to the right of the words **Dsname Level**.

```

                                Data Set List Utility
Option ===> _____
                                More:
blank Display data set list          P Print data set list
    V Display VTOC information        PV Print VTOC information

Enter one or both of the parameters below:
Dsname Level . . . ISOZC01
Volume serial . . .           

```

4. Now press the **ENTER** key, and you will see a list of all your data sets.

```

DSLIS - Data Sets Matching TS0ZC01
Command ==> _____

Command - Enter "/" to select action
-----
      TS0ZC01
      TS0ZC01.COBOL.LABS
      TS0ZC01.DATA
      TS0ZC01.EXEC
      TS0ZC01.ISPF.PROFILE
      TS0ZC01.ISP01634.SPFLOG1.LIST
      TS0ZC01.ISP01636.SPFLOG1.LIST
      TS0ZC01.ISP01648.SPFLOG1.LIST
      TS0ZC01.ISP01648.SPFTEMP0.CNTL
      TS0ZC01.JCL.CNTL

```

The list of datasets reveals one by the name of **TSOZC01.JCL.CNTL**. The first part of the name (TSOZC01) is likely to be different, as each student will have a unique ID. Don't worry about this!

5. Place your cursor to the left of the **TSOZC01.JCL.CNTL** dataset and type **E**, then press the **ENTER** key. This will take you to a list of JCL members!

<u>M</u> enu	<u>F</u> unctions	<u>C</u> onfirm	<u>U</u> tilities	<u>H</u> elp
EDIT TSOZC01.JCL.CNTL				
Command ==> _____				
	Name	Prompt	Size	Created
_____	JOB CARD		9	2015/12/04
_____	LAB1		10	2021/03/18
_____	LAB2		10	2021/03/18
<u>E</u>	LAB3		14	2021/03/18

6. Place your cursor to the left of the **LAB3** JCL and type **E**.
7. Then press the **ENTER** key. This will take you to the JCL statements!

```
EDIT          TSOZC01.JCL.CNTL(LAB3) - 01.02
Command ==> SUBMIT_____
***** Top of Data *****
000100 //TSOZC012 JOB 30000000,'TSOZC01',MSGLEVEL=(1,1),
000200 //          CLASS=A,MSGCLASS=Q,NOTIFY=&SYSUID,REGION=0M
000300 //*****
000400 //*
000500 //*****
000600 //COMPILE EXEC IGYWCL,PARM=(OFFSET,NOLIST,ADV),
000700 //          PGMLIB='&&GOSET',GOPGM=HELLO2
000800 //COBOL.SYSIN DD DSN=TSOZC01.COBOL.LABS(HELLO2),
000900 //COBOL.SYSLIB DD DSN=TSOZC01.ONLINE.LOADLIB,DISP
001000 //*
002200 //STEP2      EXEC PGM=HELLO2
002300 //STEPLIB DD DSN=*.COMPILE.LKED.SYSLMOD,DISP=(OLD,
002400 //SYSOUT DD SYSOUT=*
002500 //*
```

This JCL has 2 steps. The first one, on line **600**, is named **COMPILE**. This step is going to compile and link the **HELLO2** program.

The second step is at line **2200** and is named **STEP2**. This step will run the **HELLO2** program, and put the results at a location called **SYSOUT** on line **2400**.

8. What do we need to do next? **SUBMIT** (which can be **SUB**) the job to the system so it can run! So – please type **SUBMIT** (or **SUB**) on the command line at the top.
9. Press **ENTER**. This will show that the **JOB** has been submitted, and provides us with the **JOB** name and the **JOB** number!

```
IKJ56250I JOB TSOZC012(JOB01650) SUBMITTED
***
```

10. When you press the **ENTER**, you will then see this:

```
21.00.51 JOB01650 $HASP165 TSOZC012 ENDED AT MVSCZ11 MAXCC=0000 CN(INTERNAL)
***
```

We hope the **MAXCC** will use the numbers 0000 again. That means everything is fine! If that is not the case, you (and perhaps some friends) will need to find out why – hint: often times it is a spelling error of some kind.

11. Press **ENTER** again and we are taken back to the JCL named **LAB3**:

```
EDIT          TSOZC01.JCL.CNTL(LAB3)
Command ==> =S
*****
000100 //TSOZC012 JOB 30000000,'TS
000200 //      CLASS=A,MSGCLASS=Q,NO
000300 //*****
000400 //*
000500 //*****
000600 //COMPILE EXEC IGYWCL,PARM=
000700 //      PGMLIB='&&GOSET',GOP
000800 //COBOL.SYSIN DD DSN=TSOZ
000900 //COBOL.SYSLIB DD DSN=TSOZ
001000 //*
002200 //STEP2 EXEC PGM=HELLO2
002300 //STEPLIB DD DSN=*.COMPILE.
002400 //SYSOUT DD SYSOUT=*
```

You have signed on, navigated the *Primary Option Menu* to find the *LAB3 JCL*, then submitted it as a *Job* to the system. How does someone learning *COBOL* view the results? It requires a journey to an application called SDSF.

12. To get there, we do *NOT* use the letter X. We type =S, which enters the **System Display and Search Facility (SDSF)**.

Note: There's a lot to SDSF, allow yourself time to explore.

13. Type **ST** and press **ENTER**.

This will show us the status of our job that we just submitted.

```
SDSF MENU V2R4M0      PLEX1      CZ11
COMMAND INPUT ==> ST
PREFIX=TSOZC01*  DEST=(ALL)  OWNER=*  SYSNAME=
NP   NAME        Description      Group
  DA      Active users              Jobs
  I       Input Queue               Jobs
  O       Output Queue              Output
  H       Held output Queue          Output
  ST      Status of jobs             Jobs
  JG      Job groups                 JES
  SYM     System symbols             System
  SE      Scheduling environments    WLM
```

```
SDSF STATUS DISPLAY ALL CLASSES
COMMAND INPUT ==>
PREFIX=TSOZC01*  DEST=(ALL)  OWNER=*
NP   JOBNAME     JobID      Owner      Prty
     TSOZC01     TSU01648    TSOZC01    15
     TSOZC01C    JOB01428    SCHDADM    1
     TSOZC012    JOB01647    TSOZC01    1
     TSOZC012    JOB01649    TSOZC01    1
     TSOZC012    JOB01650    TSOZC01    1
     TSOZC012    JOB01652    TSOZC01    1
     TSOZC012    JOB01654    TSOZC01    1
```

The first entry in the list tells us about our TSO ID, and that it is running:

```
JOBNAME  JobID  Owner  Prty Queue
TSOZC01  TSU01648 TSOZC01  15 EXECUTION
```

The entries after this are all the jobs that were submitted to the system by this TSO ID's session.

The last one, **JobID** number **01654** is the latest job, the one we just submitted. Notice, I have placed a question mark (?) next to it (there are other letters I could use, such as S, but we will use this method for now).

14. When we press **ENTER**, we will see something like this:

```
SDSF JOB DATA SET DISPLAY - J
COMMAND INPUT ===>
PREFIX=TSOZC01*  DEST=(ALL)
NP  DDNAME  StepName ProcSt
    JESMSGLG JES2
    JESJCL   JES2
    JESYSMSG JES2
    SYSPRINT COMPILE COBOL
    SYSPRINT COMPILE LKED
    S  SYSOUT  STEP2
```

15. The last line is what we will focus on now. Notice, the letter **S** has been placed to the left of the last line. Press **ENTER** and we see:

```
SDSF OUTPUT DISPLAY TSOZC012 JOB0
COMMAND INPUT ===> =X
*****
HELLO WORLD!
I AM LEARNING COBOL - HURRAY!
MY FAVORITE SPORTS TEAM IS BOSTON!
HELLO EVERYONE!
????????????????????????????????????????????
????????????????????????????????????????????
```

Yes, this is showing what we put in our COBOL program in the previous lab!

16. To leave, SDSF, we will use the **=X** method again, which will take us to TSO mode. Remember, type in **X** (or type the word **EXIT**), press **ENTER** and you will be logged off.

Congratulations! You signed on to mainframe, navigated the Primary Option Menu to find the dataset containing JCL (yourID.JCL.CNTL). You went into EDIT with the JCL member LAB3, and submitted the JCL to the system. Hopefully, your return code was zero. Then you went to SDSF to view the output results, then navigate out and sign off.

We are finished now!