

Lab 4. Reading Records

Note: All action items followed by a * sign, include exercise hints, which are located at the end of this exercise.

Overview

This lab demonstrates the ‘end-of-file’ COBOL coding technique for reading all data records from a sequential file.

Objectives

- Familiarize with COBOL source code vs. JCL
- Identify error in program using the IGY message
- Correct the source code
- **Analyze ABENDU4038 output**
- Correct the JCL

Lab instructions

1. If not already, open VSCode and select Zowe Explorer from the left sidebar.

Note: If you are opening a new instance of VSCode (i.e. you closed out of it after the previous usage), you may need to 'Select a filter' again. You can do so by selecting the search icon (🔍) next to your named connection in the DATA SETS section and then reselecting the filter previously used. It should be in the listed filters after you have selected the search symbol.

2. View these COBOL source code members listed in the **id.CBL** data set:
 - **CBL0001**
 - **CBL0002**

3. View these three JCL members in the **id.JCL** data set:
 - **CBL0001J**
 - **CBL0002J**
 - **CBL0003J**

The screenshot shows the Visual Studio Code interface with the Zowe Explorer extension. The left sidebar displays the 'DATA SETS' tree, where the 'Z99995.JCL' folder is expanded, showing members 'CBL0001J', 'CBL0002J', and 'CBL0003J'. The main editor area displays the content of 'Z99995.JCL(CBL0001J).jcl'. The code is a JCL job definition for 'CBL0001J' with various DD statements and EXEC statements. The status bar at the bottom indicates the file path: 'c:\Users> MakenzieManna > .vscode > extensions > zowe.vscode-extension-for-zowe-1.3.0 > resources > temp >'. The file name in the title bar is 'Z99995.JCL(CBL0001J).jcl - Visual Studio Code'.

```

1 //CBL0001J JOB 1,NOTIFY=&SYSUID                                00001000
2 //*****                                                        00005000
3 //COBRUN EXEC IGYWCL                                           00006000
4 //COBOL.SYSIN DD DSN=&SYSUID..CBL(CBL0001),DISP=SHR             00007000
5 //LKED.SYSLMOD DD DSN=&SYSUID..LOAD(CBL0001),DISP=SHR           00008000
6 //*****                                                        00030000
7 // IF RC = 0 THEN                                              00040000
8 //*****                                                        00050000
9 //RUN EXEC PGM=CBL0001                                         00060000
10 //STEPLIB DD DSN=&SYSUID..LOAD,DISP=SHR                        00070000
11 //ACCTREC DD DSN=&SYSUID..DATA,DISP=SHR                         00080001
12 //PRTLINE DD SYSOUT=*,OUTLIM=15000                             00090000
13 //SYSOUT DD SYSOUT=*,OUTLIM=15000                              00100000
14 //CEEDUMP DD DUMMY                                             00110000
15 //SYSUDUMP DD DUMMY                                             00120000
16 //*****                                                        00130000
17 // ELSE                                                         00140000
18 // ENDIF                                                        00150000
19

```

Figure 1. *Id.JCL(CBL0001J).jcl*

4. Submit job, **JCL(CBL0001J)**, within the DATA SET section.
5. View that job output using the JOBS section.
 - **COBRUN:SYSPRINT(101)** - COBOL program compiler output

- **RUN:PRTLINE(103)** - COBOL program execution output, shown in Figure 2.

Line	Date	Time	Salary	Name	Description
1	17891797		\$10,000.00	\$188.74WASHINGTON	George longed to retire to his fields at Mount
2	17971801		\$10,000.00	\$3,188.33ADAMS	John retired to his farm in Quincy
3	18011809		\$10,000.00	\$7,008.13JEFFERSON	Thomas retired to Monticello
4	18091817		\$10,000.00	\$503.13MADISON	James retirement at Montpelier
5	18171825		\$10,000.00	\$31,313.13MONROE	James Russia must not encroach southward
6	18251829		\$10,000.00	\$31,250.33ADAMS II	John Quincy collapsed on the floor of the House fro
7	18291837		\$10,000.00	\$3,318.30JACKSON	Andrew that to the victors belong the spoils
8	18371841		\$10,000.00	\$325.00VAN BUREN	Martin independent treasury system
9	18411841		\$10,000.00	\$313.50HARRISON	William Henry ornate with classical allusions
10	18411845		\$10,000.00	\$121.65TYLER	John opposed the Missouri Compromise
11	18451849		\$10,000.00	\$314.05POLK	James health undermined from hard work
12	18491850		\$10,000.00	\$828.20TAYLOR	Zachary acted at times as though he were above
13	18501853		\$10,000.00	\$373.10FILLMORE	Millard signed the Fugitive Slave Act
14	18531857		\$10,000.00	\$315.07PIERCE	Franklin he tried to persuade Spain to sell Cuba
15	18571861		\$10,000.00	\$7.90BUCHANAN	James widening rift over slavery
16	18611865		\$100,000.00	\$313.13LINCOLN	Abraham new birth of freedom
17	18651869		\$100,000.00	\$603.14JOHNSON	Andrew freedmen were beginning to appear

Figure 2. RUN:PRTLINE(103) for JCL(CBL0001J)

6. Submit job, **JCL(CBL0002J)**, within the DATA SET section.

7. View that job output using the JOBS section.

- **COBRUN:SYSPRINT(101)** - COBOL program compiler output

Locate COBOL compiler severe message IGYPS2121-S within the output file referred to in step 7, shown in Figure 3.

```
==000074==> IGYPS2121-S "PRINT-REX" was not defined as a data-name. The statement was discarded.
```

Figure 3. IGYPS2121-S message

8. Edit **CBL(CBL0002)**:

- Determine appropriate spelling of PRINT-REX, correct it within the source code and save the updated source code.

9. Re-submit job, **JCL(CBL0002J)**, using the DATA SET section and view the output in the JOBS section.

- **COBRUN:SYSPRINT(101)** COBOL program compiler output
- **RUN:PRTLINE(103)** is the COBOL program execution output (if correction is successful)

10. Submit job, **JCL(CBL0003J)**, using the DATA SET section.

11. View **CBL0003J ABENDU4038** output, using the JOBS section:

- View the **IGZ00355** abend message in **RUN:SYSOUT(104)** from the COBOL program execution output.
- **IGZ00355** reads, program is unable to open or close ACCTREC file name, shown in Figure 4. guiding you to the root of the error.

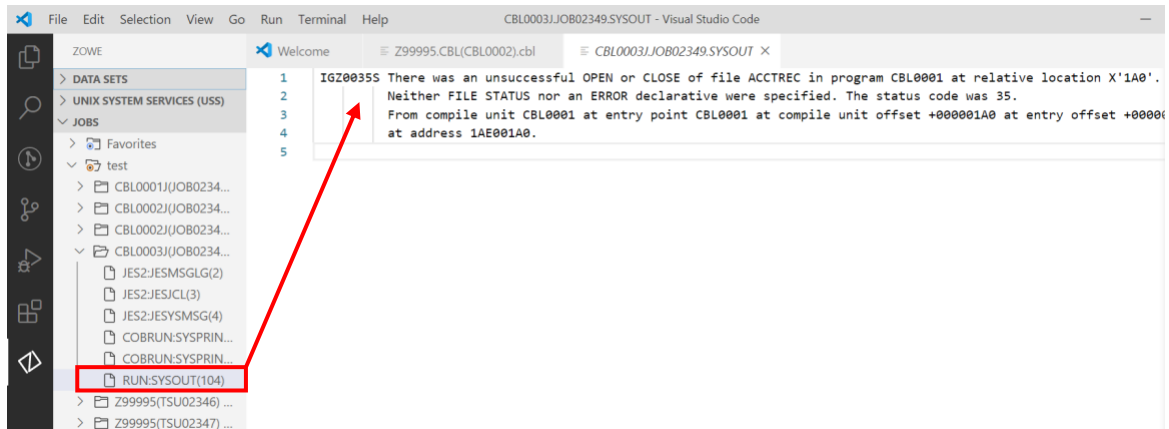


Figure 4. *RUN:SYSOUT(104)* message

12. Fix this error by editing **JCL(CBL0003J)**:

- Determine the DDNAME needed, but missing or misspelled. *
- Correct it within the code and save

13. Re-submit job, **JCL(CBL0003J)**, using the DATA SET section.

14. View **CBL0003J** output using the JOBS section, your output should look like Figure 5.

- **RUN:PRTLINE** - COBOL program execution output (if correction is successful)

The screenshot shows a Visual Studio Code window with a JCL file named `CBL0003J.JCL(CBL0003J).jcl` open. The left sidebar shows a project tree with folders like `DATA SETS`, `UNIX SYSTEM SERVICES (USS)`, and `JOBS`. The main editor displays the PRTLINE output of the JCL, which is a list of jobs and their associated data sets. The output is as follows:

Job ID	Job Name	Job Class	Job Status	Job Description	Job Owner	Job Remarks
1	17891797	\$10,000.00	\$188.74	WASHINGTON	George	longed to retire to his fields at Monticello
2	17971801	\$10,000.00	\$3,188.33	ADAMS	John	retired to his farm in Quincy
3	18011809	\$10,000.00	\$7,000.13	JEFFERSON	Thomas	retired to Monticello
4	18091817	\$10,000.00	\$503.13	MADISON	James	retirement at Montpelier
5	18171825	\$10,000.00	\$31,313.13	MONROE	James	Russia must not encroach southward
6	18251829	\$10,000.00	\$31,250.33	ADAMS II	John Quincy	collapsed on the floor of the House
7	18291837	\$10,000.00	\$3,318.30	JACKSON	Andrew	that to the victors belong the spoils
8	18371841	\$10,000.00	\$325.00	VAN BUREN	Martin	independent treasury system
9	18411841	\$10,000.00	\$313.50	HARRISON	William Henry	ornate with classical allusions
10	18411845	\$10,000.00	\$121.65	TYLER	John	opposed the Missouri Compromise
11	18451849	\$10,000.00	\$314.05	POLK	James	health undermined from hard work
12	18491850	\$10,000.00	\$828.20	TAYLOR	Zachary	acted at times as though he were at Monticello
13	18501853	\$10,000.00	\$373.10	FILLMORE	Millard	signed the Fugitive Slave Act
14	18531857	\$10,000.00	\$315.07	PIERCE	Franklin	he tried to persuade Spain to sell
15	18571861	\$10,000.00	\$7.90	BUCHANAN	James	widening rift over slavery
16	18611865	\$100,000.00	\$313.13	LINCOLN	Abraham	new birth of freedom
17	18651869	\$100,000.00	\$603.14	JOHNSON	Andrew	freedmen were beginning to appear
18	18691877	\$100,000.00	\$32,318.30	GRANT	Ulysses S.	he brought part of his Army staff to Monticello
19	18771881	\$100,000.00	\$5,860.55	HAYES	Rutherford B.	appointments must be made on merit

Figure 5. `RUN:PRTLINE(103)` for `JCL(CBL0003J)`

Lab hints

13. The error is located on line 11, adjust 'ACCTREX' accordingly.

10	//STEPLIB	DD DSN=&SYSUID..LOAD,DISP=SHR
11	//ACCTREX	DD DSN=&SYSUID..DATA,DISP=SHR
12	//PRTLINE	DD SYSOUT=*,OUTLIM=15000

Figure 6. Error in `id.JCL(CBL0003J).jcl`

