

XML

DS inside DS

```
Columns . . . : 6 80 Browse GOP2LIB/QRPGLESRC
SEU==> XML1
FMT * *. 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7 ...+... 8
***** Beginning of data *****
0000.01 *CONST keyword is used to define a variable or constant 250131
0000.02 *that cannot be modified after its declaration. 250131
0001.00 DCL-C XMLFLD CONST('<ORDINFO> + 250131
0002.01 <ORDER> + 250131
0002.02 <ITEM>CAR</ITEM> + 250131
0002.03 <QTY>5</QTY> + 250131
0002.04 <SPCLTY> + 250131
0002.05 <COLOR>RED</COLOR> + 250131
0002.06 <SPEC>PETROL</SPEC> + 250131
0002.07 </SPCLTY> + 250131
0002.08 </ORDER> + 250131
0002.09 <ORDER> + 250131
0002.10 <ITEM>BIKE</ITEM> + 250131
0002.11 <QTY>5</QTY> + 250131
0002.12 </ORDER> + 250131
0002.13 </ORDINFO>'); 250131
0002.14 250131
0002.15 *POS(372): Specifies the position of the field within the program 250131
0002.16 *status data structure. In this case,COUNT_ELEM starts at position 372. 250131

0002.17 DCL-DS PGMDS PSDS; 250131
0002.18 COUNT_ELEM INT(20) POS(372); 250131
0002.19 END-DS; 250131
0005.00 250130
0006.00 DCL-DS ORDER DIM(5) QUALIFIED; 250130
0007.00 ITEM CHAR(10); 250130
0008.00 QTY ZONED(3:0); 250130
0008.01 DCL-DS SPCLTY DIM(2); 250131
0008.02 COLOR CHAR(10); 250131
0008.03 SPEC CHAR(10); 250131
0008.04 END-DS; 250131
0009.00 END-DS; 250130
0010.00 DCL-S OPTION CHAR(500) INZ; 250130
0010.01 250131
0010.02 CLEAR PGMDS; 250131
0010.03 CLEAR ORDER; 250131
0011.00 250130
0011.01 *CASE=ANY: This option usually means that case sensitivity is ignored 250131
0011.02 *ALLOWMISSING=YES: This typically allows missing values in the input. 250131
0011.03 *ALLOWEXTRA=YES: This generally means that extra values or fields that 250131

0011.04 *are not expected by the process will be ignored rather than 250131
0011.05 *causing an error 250131
0012.00 OPTION = 'CASE=ANY ALLOWMISSING=YES ALLOWEXTRA=YES'; 250130
0013.00 XML-INTO ORDER %XML(%TRIM(XMLFLD):%TRIM(OPTION)) ; 250130
0013.01 DSPLY COUNT_ELEM; 250131
0013.02 DSPLY ORDER(1).ITEM; 250130
0013.03 DSPLY ORDER(1).SPCLTY(1).COLOR; 250131
0014.00 *INLR = '1' ; 250130
***** End of data *****
```

Writing into pf using SQLRPGLE and XML

| Columns | 6 | 80 | Browse | GOP2LIB/QRPGLESRC | XML2 |
|-------------------------------|--|------------|---------------------|-------------------|------|
| SEU==> | | | | | |
| FMT * | *. 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7 ...+... 8 | | | | |
| ***** Beginning of data ***** | | | | | |
| 0000.02 | | | | 250131 | |
| 0000.03 | DCL-DS | PGMDS | PSDS; | 250131 | |
| 0000.04 | | COUNT_ELEM | INT(20) POS(372); | 250131 | |
| 0000.05 | END-DS; | | | 250131 | |
| 0000.06 | | | | 250131 | |
| 0000.07 | EXEC SQL | | | 250131 | |
| 0000.08 | SET OPTION | COMMIT = | *NONE; | 250131 | |
| 0001.00 | DCL-C | XMLFLD | '<ORDINFO> <ORDER> | 250131 | |
| 0001.02 | | | <ONO>13</ONO> | 250131 | |
| 0002.00 | | | <OAMT>450.00</OAMT> | 250131 | |
| 0002.01 | | | <VNO>101</VNO> | 250131 | |
| 0003.00 | | | </ORDER> | 250130 | |
| 0004.00 | | | </ORDINFO>' ; | 250130 | |
| 0005.00 | | | | 250130 | |
| 0006.00 | DCL-DS | ORDER | DIM(10) QUALIFIED; | 250131 | |
| 0007.00 | | ONO | PACKED(3:0); | 250131 | |
| 0007.01 | | OAMT | PACKED(10:2); | 250131 | |
| 0008.00 | | VNO | PACKED(3:0); | 250131 | |
| 0009.00 | END-DS; | | | 250130 | |

| | | |
|---------|--|--------|
| 0010.00 | DCL-S OPTION CHAR(500) INZ; | 250130 |
| 0010.02 | DCL-S I ZONED(3:0) ; | 250131 |
| 0010.03 | DCL-S VAL1 packed(3:0) ; | 250131 |
| 0010.04 | DCL-S VAL2 packed(10:2) ; | 250131 |
| 0010.05 | DCL-S VAL3 packed(3:0) ; | 250131 |
| 0010.06 | | 250131 |
| 0010.07 | CLEAR PGMD5; | 250131 |
| 0010.08 | CLEAR ORDER; | 250131 |
| 0011.00 | | 250130 |
| 0012.00 | OPTION = 'CASE=ANY ALLOWMISSING=YES ALLOWEXTRA=YES'; | 250130 |
| 0013.00 | XML-INTO ORDER %XML(%TRIM(XMLFLD):%TRIM(OPTION)) ; | 250130 |
| 0013.02 | FOR I = 1 TO COUNT_ELEM BY 1; | 250131 |
| 0013.03 | VAL1 = ORDER(I).ONO; | 250131 |
| 0013.04 | VAL2 = ORDER(I).OAMT ; | 250131 |
| 0013.05 | VAL3 = ORDER(I).VNO ; | 250131 |
| 0013.06 | IF VAL1 = 0; | 250131 |
| 0013.07 | DSPLY 'LEAVING PROGRAM'; | 250131 |
| 0013.08 | LEAVE; | 250131 |
| 0013.09 | ENDIF; | 250131 |
| 0013.10 | EXEC SQL | 250131 |

| | | |
|-------------------------|--------------------------------------|--------|
| 0013.11 | INSERT INTO ORDERPF3(ONO, OAMT, VNO) | 250131 |
| 0013.12 | VALUES (:VAL1, :VAL2, :VAL3) ; | 250131 |
| 0013.13 | IF SQLCODE = 0; | 250131 |
| 0013.14 | DSPLY 'SUCCESS'; | 250131 |
| 0013.15 | ELSE; | 250131 |
| 0013.16 | DSPLY 'ERROR'; | 250131 |
| 0013.17 | ENDIF; | 250131 |
| 0013.18 | ENDFOR ; | 250131 |
| 0014.00 | *INLR = '1' ; | 250130 |
| ***** End of data ***** | | |

Writing using native rpg

```
Columns . . . :   6  80                               Browse                               GOPZLIB/QRPGLESRC
SEU==>                                                                                               XML4
FMT ** ... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7 ...+... 8
***** Beginning of data *****
0000.01      DCL-F ORDERPF3 DISK USAGE(*UPDATE:*OUTPUT) KEYED ;                               250131
0000.03                               250131
0000.04      DCL-DS PGMD5 PSDS;                               250131
0000.05          COUNT_ELEM INT(20) POS(372);                               250131
0000.06      END-DS;                               250131
0000.07                               250131
0000.08      EXEC SQL                               250131
0000.09      SET OPTION COMMIT = *NONE;                               250131
0001.00      DCL-C XMLFLD  '<ORDINFO> <ORDER>          +                               250131
0001.02                               <ONO>11</ONO>          +                               250131
0002.00                               <OAMT>500.00</OAMT>          +                               250130
0002.01                               <VNO>102</VNO>          +                               250131
0003.00                               </ORDER>          +                               250130
0004.00                               </ORDINFO>' ;                               250130
0005.00                               250130
0006.00      DCL-DS ORDER DIM(10) QUALIFIED;                               250131
0007.00          ONO PACKED(3:0);                               250131
0007.01          OAMT PACKED(10:2);                               250131
0008.00          VNO PACKED(3:0);                               250131
0009.00      END-DS;                               250130
0010.00      DCL-S OPTION CHAR(500) INZ;                               250130
0010.02      DCL-S I ZONED(3:0) ;                               250131
0010.06                               250131
0010.07      CLEAR PGMD5;                               250131
0010.08      CLEAR ORDER;                               250131
0011.00                               250130
0012.00      OPTION = 'CASE=ANY ALLOWMISSING=YES ALLOWEXTRA=YES';                               250130
0013.00      XML-INTO ORDER %XML(%TRIM(XMLFLD):%TRIM(OPTION)) ;                               250130
0013.02      FOR I = 1 TO COUNT_ELEM by 1;                               250131
0013.03          ONO = ORDER(I).ONO;                               250131
0013.04          OAMT = ORDER(I).OAMT ;                               250131
0013.05          VNO = ORDER(I).VNO ;                               250131
0013.06          IF ONO = 0;                               250131
0013.07              DSPLY 'LEAVING PROGRAM';                               250131
0013.08          LEAVE;                               250131
0013.09          ENDIF;                               250131
0013.10          WRITE OREC;                               250131
0013.18      ENDFOR ;                               250131
0014.00      *INLR = '1' ;                               250130
```

Using XML from IFS(Integrated File System)

First create a new file in the required directory using WRKLNK command

```
Selection or command
==> wrklnk gopika
```

Choose option to to add files or edit residing files

```
Directory: /gopika
Position to : _____ Record : _____ 1 of _____ 2
New File : _____
2=Edit 4=Delete File 5=Display 6=Path Size 9=Recursive Delete

Opt Name          Size      Owner      Changed          Used          CCSID or Symbolic Link
-  emppf.csv       8K      WING15     01/18/25 02:42   01/18/25 02:59   CCSID = 37
-  xmlfile1.xml     8K      WING15     01/31/25 02:00   01/31/25 02:10   CCSID = 37
```

Give the name for the new file along with '.xml' extension → ENTER → Add contents for new file → press F3 to save or exit

Now define that filepath in the rpgle prgm , give options → doc=file and then call into that filepath

```
Columns . . . : 6 80 Browse GOP2LIB/QRPGLESRC XML3
SEU==>
FMT ** ... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7 ...+... 8
***** Beginning of data *****
0006.00 DCL-DS ORDER DIM(5) QUALIFIED; 250130
0007.00 ITEM CHAR(10); 250130
0008.00 QTY ZONED(3:0); 250130
0009.00 END-DS; 250130
0010.00 DCL-S OPTION CHAR(500) INZ; 250130
0010.01 DCL-S FILENAME CHAR(500) INZ; 250131
0011.00 250130
0012.00 OPTION = 'CASE=ANY ALLOWMISSING=YES ALLOWEXTRA=YES DOC=FILE'; 250131
0012.01 FILENAME = '/GOPIKA/XMLFILE1.XML'; 250131
0013.00 XML-INTO ORDER %XML(%TRIM(FILENAME):%TRIM(OPTION)) ; 250131
0013.01 DSPLY ORDER(1).ITEM; 250130
0014.00 *INLR = '1' ; 250130
***** End of data *****
```

Create xml similar to vendor file details in ifs it should have vendor name, vendor address, vendor currency as tags and create free format sql rpgle program to fetch data from this xml to vendor table

Vendor no should be auto generated

```
Browse : /GOPIKA/vendor.xml
Record : 1 of 21 by 18
Control : 
.....1.....2.....3.....4.
*****Beginning of data*****
<VENDORINFO>
  <VENDOR>
    <NAME>RAM</NAME>
    <ADDR>KOCHI</ADDR>
    <CUR>INR</CUR>
  </VENDOR>
  <VENDOR>
    <NAME>ANN</NAME>
    <ADDR>TVM</ADDR>
    <CUR>INR</CUR>
  </VENDOR>
  <VENDOR>
    <NAME>ROSE</NAME>
    <ADDR>USA</ADDR>
    <CUR>USD</CUR>
  </VENDOR>
</VENDORINFO>
```

```

Columns . . . : 6 80 Browse GOPZLIB/QRPGLESRC XML5
SEU==>
FMT * *. 1 .... 2 .... 3 .... 4 .... 5 .... 6 .... 7 .... 8
***** Beginning of data *****
0000.02 250131
0000.03 DCL-DS PGMD5 PSDS; 250131
0000.04 COUNT_ELEM INT(20) POS(372); 250131
0000.05 END-DS; 250131
0000.06 250131
0000.07 EXEC SQL 250131
0000.08 SET OPTION COMMIT = *NONE; 250131
0005.00 250130
0006.00 DCL-DS VENDOR DIM(10) QUALIFIED; 250131
0007.00 NAME CHAR(10); 250131
0007.01 ADDR CHAR(10); 250131
0008.00 CUR CHAR(10); 250131
0009.00 END-DS; 250130
0010.00 DCL-S OPTION CHAR(500) IN2; 250130
0010.02 DCL-S I ZONED(3:0) ; 250131
0010.03 DCL-S N ZONED(3:0) ; 250131
0010.04 DCL-S VAL1 CHAR(10); 250131
0010.05 DCL-S VAL2 CHAR(10); 250131
0010.06 DCL-S VAL3 CHAR(10); 250131
F3=Exit F5=Refresh F9=Retrieve F10=Cursor F11=Toggle F12=Cancel

```

```

0010.07 250131
0010.08 DCL-S FILENAME CHAR(500); 250131
0010.09 250131
0010.10 EXEC SQL 250131
0010.11 SELECT MAX(VNO) INTO :N FROM VENDORTB; 250131
0010.12 250131
0010.13 CLEAR PGMD5; 250131
0010.14 CLEAR VENDOR; 250131
0010.15 250131
0010.16 FILENAME = '/GOPIKA/VENDOR.XML'; 250131
0011.00 250130
0012.00 OPTION = 'CASE=ANY ALLOWMISSING=YES ALLOWEXTRA=YES DOC=FILE'; 250131
0013.00 XML-INTO VENDOR %XML(%TRIM(FILENAME):%TRIM(OPTION)) ; 250131
0013.02 FOR I = 1 TO COUNT_ELEM BY 1; 250131
0013.03 N = N + 1; 250131
0013.04 VAL1 = VENDOR(I).NAME; 250131
0013.05 VAL2 = VENDOR(I).ADDR; 250131
0013.06 VAL3 = VENDOR(I).CUR; 250131
0013.07 IF VAL1 = ' '; 250131
0013.08 DSPLY 'LEAVING PROGRAM'; 250131

```

```

0013.09 LEAVE; 250131
0013.10 ENDIF; 250131
0013.11 EXEC SQL 250131
0013.12 INSERT INTO VENDORTB 250131
0013.13 VALUES (:N,:VAL1, :VAL2, :VAL3) ; 250131
0013.14 IF SQLCODE = 0; 250131
0013.15 DSPLY 'SUCCESS'; 250131
0013.16 ELSE; 250131
0013.17 DSPLY 'ERROR'; 250131
0013.18 ENDIF; 250131
0013.19 ENDFOR ; 250131
0014.00 *INLR = '1' ; 250130
***** End of data *****

```

```

Position to line . . . . .
Line ....+....1....+....2....+....3....+....4
VNO VNAME VADDR VCUR
000001 1 SHYAM TRISSUR INR
000002 2 RAVI KOCHI INR
000003 3 RAM KOCHI INR
000004 4 ANN TVM INR
000005 5 ROSE USA USD
***** End of report *****

```

NAMESPACES→ REMOVE AND MERGE

Namespace are used to avoid name conflicts

Remove

```
Columns . . . : 6 80 Browse GOPZLIB/QRPGLESRC
SEU==> XML6NS
FMT ** ... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7 ...+... 8
***** Beginning of data *****
0000.01 DCL-C XMLFLD '<O:ORDINFO>' + 250131
0000.02 <O:ORDER> + 250131
0000.03 <O:ITEM>CAR</O:ITEM> + 250131
0000.04 <O:QTY>5</O:QTY> + 250131
0000.05 <O:SPCLTY> + 250131
0000.06 <O:COLOR>RED</O:COLOR> + 250131
0000.07 <O:SPEC>PETROL</O:SPEC> + 250131
0000.08 </O:SPCLTY> + 250131
0000.09 </O:ORDER> + 250131
0000.10 <O:ORDER> + 250131
0000.11 <O:ITEM>BIKE</O:ITEM> + 250131
0000.12 <O:QTY>5</O:QTY> + 250131
0000.13 </O:ORDER> + 250131
0005.00 </O:ORDINFO>' ; 250131
0006.00 dcl-ds order dim(5) qualified ; 250130
0007.00 item char(10) ; 250130
0008.00 qty zoned(3:0) ; 250130
0009.00 end-ds ; 250130
0010.00 dcl-s option char(500) inz ; 250130

0011.00 250130
0012.00 option = 'case=any allowmissing=yes allowextra=yes ns=remove' ; 250131
0013.00 xml-into order %xml(%TRIM(xmlfld):%TRIM(option)) ; 250130
0013.01 DSPLY ORDER(1).ITEM; 250131
0014.00 *inlr = '1' ; 250130
***** End of data *****
```

Merge

```
Columns . . . : 6 80 Browse GOPZLIB/QRPGLESRC
SEU==> XML6NS2
FMT ** ... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7 ...+... 8
***** Beginning of data *****
0000.01 DCL-C XMLFLD '<O:ORDINFO>' + 250131
0000.02 <O:ORDER> + 250131
0000.03 <O:ITEM>CAR</O:ITEM> + 250131
0000.04 <O:QTY>5</O:QTY> + 250131
0000.05 <O:SPCLTY> + 250131
0000.06 <O:COLOR>RED</O:COLOR> + 250131
0000.07 <O:SPEC>PETROL</O:SPEC> + 250131
0000.08 </O:SPCLTY> + 250131
0000.09 </O:ORDER> + 250131
0000.10 <O:ORDER> + 250131
0000.11 <O:ITEM>BIKE</O:ITEM> + 250131
0000.12 <O:QTY>5</O:QTY> + 250131
0000.13 </O:ORDER> + 250131
0005.00 </O:ORDINFO>' ; 250131
0006.00 dcl-ds o_order dim(5) qualified ; 250131
0007.00 o_item char(10) ; 250131
0008.00 o_qty zoned(3:0) ; 250131
0009.00 end-ds ; 250130
0010.00 dcl-s option char(500) inz ; 250130

0011.00 250130
0012.00 option = 'case=any allowmissing=yes allowextra=yes ns=merge' ; 250131
0013.00 xml-into o_order %xml(%TRIM(xmlfld):%TRIM(option)) ; 250131
0013.01 DSPLY o_ORDER(1).o_item; 250131
0014.00 *inlr = '1' ; 250130
***** End of data *****
```

```
> CALL QSYS2.IFS_WRITE(PATH_NAME => '/gopika/NEW_file',
                        LINE => 'TEST ADD2' ,
                        OVERWRITE => 'REPLACE',
                        END_OF_LINE => 'LF')
CALL statement complete.
> SELECT CAST(LINE AS CHAR(500))
FROM TABLE(QSYS2.IFS_READ(PATH_NAME => '/gopika/vendor.XML'
)) as t2
SELECT statement run complete.
```