

# SINGLE CONTAINER EXAMPLE

## INVOKING PROGRAM (INCOMPLETE CODE SNIPPET)

01 NWEX-DYN-DATA.

05 WS-DATA1 PIC X.

05 WS-DATA2 PIC 9.

EXEC CICS PUT

CONTAINER ('NWEX-DYN-DATA')

CHANNEL ('NWEX-CHANL')

FROM (NWEX-DYN-DATA)

END-EXEC.

EXEC CICS LINK

PROGRAM (SUBPROG)

CHANNEL ('NWEX-CHANL')

END-EXEC.

EXEC CICS GET

CONTAINER ('NWEX-DYN-DATA')

CHANNEL ('NWEX-CHANL')

INTO (NWEX-DYN-DATA)

END-EXEC.

# SUB-PROGRAM

01 NWEX-DYN-DATA.

05 WS-DATA1 PIC X.

05 WS-DATA2 PIC 9.

EXEC CICS GET

CONTAINER ('NWEX-DYN-DATA')

CHANNEL ('NWEX-CHANL')

INTO (NWEX-DYN-DATA)

END-EXEC.

PERFORM BUSINESS-LOGIC.

EXEC CICS PUT

CONTAINER ('NWEX-DYN-DATA')

CHANNEL ('NWEX-CHANL')

FROM (NWEX-DYN-DATA)

END-EXEC.

EXEC CICS RETURN

END-EXEC.

# MULTIPLE CONTAINER EXAMPLE

## INVOKING PROGRAM

```
05 WS-SECU-CONTAINER    PIC XX.  
05 WS-NAVI-CONTAINER    PIC XX.  
05 WS-DATA-CONTAINER    PIC XX.
```

```
EXEC CICS PUT
```

```
    CONTAINER ('SECU-CONTAINER')  
    CHANNEL   ('NWEX-CHANL')  
    FROM      (WS-SECU-CONTAINER)
```

```
END-EXEC.
```

```
EXEC CICS PUT
```

```
    CONTAINER ('NAVI-CONTAINER')  
    CHANNEL   ('NWEX-CHANL')  
    FROM      (WS-NAVI-CONTAINER)
```

```
END-EXEC.
```

```
EXEC CICS PUT
```

```
    CONTAINER ('DATA-CONTAINER')  
    CHANNEL   ('NWEX-CHANL')  
    FROM      (WS-DATA-CONTAINER)
```

```
END-EXEC.
```

```
EXEC CICS XCTL    PROGRAM(NEXTPROG)
```

```
    CHANNEL ('NWEX-CHANL')
```

```
END-EXEC.
```

# SUB PROGRAM

05 WS-SECU-CONTAINER PIC XX.

05 WS-DATA-CONTAINER PIC XX.

EXEC CICS GET

CONTAINER ('SECU-CONTAINER')

CHANNEL ('NWEX-CHANL')

INTO (WS-SECU-CONTAINER)

END-EXEC.

EXEC CICS GET

CONTAINER ('DATA-CONTAINER')

CHANNEL ('NWEX-CHANL')

INTO (WS-DATA-CONTAINER)

END-EXEC.

.

.

.

EXEC CICS PUT

CONTAINER ('DATA-CONTAINER')

CHANNEL ('NWEX-CHANL')

FROM (WS-DATA-CONTAINER)

END-EXEC.

.

.

.

.

.

# SINGLE CONTAINER EXAMPLE USING DEFAULT CHANNEL

## INVOKING PROGRAM

```
01 NWEX-DYN-DATA.  
    05 WS-DATA1      PIC X.  
    05 WS-DATA2      PIC 9.  
  
    EXEC CICS PUT  
        CONTAINER ('NWEX-DYN-DATA')  
        CHANNEL ('NWEX-CHANL')  
        FROM      (NWEX-DYN-DATA)  
    END-EXEC.  
    EXEC CICS LINK  
        PROGRAM   (SUBPROG)  
        CHANNEL   ('NWEX-CHANL')  
    END-EXEC.  
    EXEC CICS GET  
        CONTAINER ('NWEX-DYN-DATA')  
        CHANNEL   ('NWEX-CHANL')  
        INTO      (NWEX-DYN-DATA)  
    END-EXEC.
```

# SUB-PROGRAM

01 NWEX-DYN-DATA.

05 WS-DATA1 PIC X.

05 WS-DATA2 PIC 9.

EXEC CICS GET

CONTAINER ('NWEX-DYN-DATA')

INTO (NWEX-DYN-DATA)

END-EXEC.

PERFORM BUSINESS-LOGIC.

EXEC CICS PUT

CONTAINER ('NWEX-DYN-DATA')

FROM (NWEX-DYN-DATA)

END-EXEC.

EXEC CICS RETURN

END-EXEC.

# POOR CODING TECHNIQUE EXAMPLE

```
01 WORKING-STORAGE-ITEM.  
  05 NWEX-DYN-DATA.  
    10 XXXX          PIC X(200).  
    10 YYYY          PIC X(300).  
  EXEC CICS PUT  
    CONTAINER      ('NWEX-DYN-DATA')  
    CHANNEL        ('NWEX-CHANL')  
    FROM           (NWEX-DYN-DATA)  
  END-EXEC.
```

# BETTER CODING TECHNIQUE EXAMPLE

```
COPY NWEXCOPY.  
01 WORKING-STORAGE-ITEM.          NWEXCOPY  
  05  NAME-CONTAINER              PIC X(16) VALUE 'NWEX-DYN-DATA'.  NWEXCOPY  
  05  NAME-CHANNEL                PIC X(16) VALUE 'NWEX-CHANL'.  NWEXCOPY  
  05  NWEX-DYN-DATA.              NWEXCOPY  
    10 XXXX                      PIC X(200).                    NWEXCOPY  
    10 YYYY                      PIC X(300).                    NWEXCOPY  
  
  EXEC CICS PUT  
    CONTAINER      (NAME-CONTAINER)  
    CHANNEL        (NAME-CHANNEL)  
    FROM           (NWEX-DYN-DATA)  
    RESP          (RC)  
  END-EXEC.  
  IF RC NOT = DFHRESP(NORMAL)
```

# CONVERTING A COMMAREA PROGRAM TO A CONTAINER PROGRAM EXAMPLE

## COMMAREA PROGRAM

WORKING-STORAGE SECTION.

01 NWEX-DYN-DATA                    PIC X(29000).

LINKAGE SECTION.

01 DFHCOMMAREA.

    05 OUR-COMMAREA                OCCURS 0 TO 32000  
                                      DEPENDING ON EIBCALEN PIC X(01).

PROCEDURE DIVISION.

    EVALUATE EIBCALEN

        WHEN LENGTH OF NWEX-DYN-DATA  
            MOVE DFHCOMMAREA    TO    NWEX-DYN-DATA

        WHEN 0

            PERFORM    INIT-NWEX-DYN-DATA

        WHEN OTHER

            GO TO BIG-BAD-ERRR1

    END-EVALUATE.

    PERFORM BUSINESS-LOGIC.

    EXEC CICS RETURN            TRANSID (EIBTRNID)  
                                  COMMAREA (NWEX-DYN-DATA)

    END-EXEC.



# EQUIVALENT CONTAINER PROGRAM

## WORKING-STORAGE SECTION.

```
01 NWEX-DYN-DATA      PIC X(42000).
01 WS-CHAN-NAME       PIC X(16)    VALUE 'NWEX-CHANL'.
01 WS-CONT-NAME       PIC X(16)    VALUE 'NWEX-DYN-DATA'.
01 RC                 PIC S9(9) BINARY.
01 WS-TEST-CNAME     PIC X(16).
```

## PROCEDURE DIVISION.

```
EXEC CICS ASSIGN      CHANNEL(WS-TEST-CNAME)
```

```
END-EXEC.
```

```
EVALUATE WS-TEST-CNAME
```

```
  WHEN SPACES
```

```
    PERFORM INIT-NWEX-DYN-DATA
```

```
  WHEN OTHER
```

```
    EXEC CICS GET
```

```
      CONTAINER (WS-CONT-NAME)
```

```
      CHANNEL   (WS-CHAN-NAME)
```

```
      INTO     (NWEX-DYN-DATA)
```

```
      RESP    (RC)
```

```
    END-EXEC
```

```
    IF RC NOT = DFHRESP(NORMAL)
```

```
      THEN GO TO BIG-BAD-ERROR1
```

```
    END-IF
```

```
END-EVALUATE.
```

```
  PERFORM BUSINESS-LOGIC.
```

```
EXEC CICS PUT
```

```
  CONTAINER (WS-CONT-NAME)
```

```
  CHANNEL   (WS-CHAN-NAME)
```

```
  FROM     (NWEX-DYN-DATA)
```

END-EXEC.

EXEC CICS RETURN

TRANSID

(EIBTRNID)

CHANNEL

(WS-CHAN-NAME)

END-EXEC.

# Dual Invocation Example

## WORKING-STORAGE SECTION.

```
01 NWEX-DYN-DATA      PIC X(6000).
01 WS-CHAN-NAME       PIC X(16)    VALUE 'NWEX-DYN-DATA'.
01 WS-CONT-NAME       PIC X(16)    VALUE 'NWEX-CHANL'.
01 WS-TEST-CNAME      PIC X(16).
01 RC                 PIC S9(9) BINARY.
```

## LINKAGE SECTION

```
01 DFHCOMMAREA.
    05 COMMA          PIC X OCCURS 0 TO 32000
                       DEPENDING ON EIBCALEN.
```

## PROCEDURE DIVISION.

```
    EXEC CICS ASSIGN
        CHANNEL        (WS-TEST-CNAME)
    END-EXEC.
    EVALUATE  WS-TEST-CNAME
        WHEN SPACES
            PERFORM LOOK-FOR-COMMA
        WHEN OTHER
            PERFORM LOOK-FOR-CONTAINER
    END-EVALUATE
```

```
    PERFORM BUSINESS-LOGIC.
```

```
    .
    .
    .
```

## LOOK-FOR-COMMA.

```
    EVALUATE EIBCALEN
```

```
      WHEN      LENGTH OF NWEX-DYN-DATA
              MOVE DFHCOMMAREA TO
              NWEX-DYN-DATA
      WHEN      0
              PERFORM INIT-NWEX-DYN-DATA
      WHEN      OTHER
              GO TO ERROR-BAD-COMMA
END-EVALUATE.
```

LOOK-FOR-CONTAINER.

```
EXEC CICS GET
```

```
  CONTAINER (WS-CONT-NAME)
```

```
  CHANNEL (WS-CHAN-NAME)
```

```
  INTO (NWEX-DYN-DATA)
```

```
  RESP (RC)
```

```
END-EXEC.
```

```
IF RC NOT = DFHRESP(NORMAL)
```

```
  THEN GO TO ERROR-BAD-CONTAINER
```

```
END-IF.
```