

IMS DB ONLINE TRAINING – DAY 10

Multiple DB Positioning

IMS allows you to keep more than one cursor in a same Database from a single program. This can be accomplished by having more than one PCB pointing to a same DB and we can issue calls to the database thru their corresponding PCB masks.

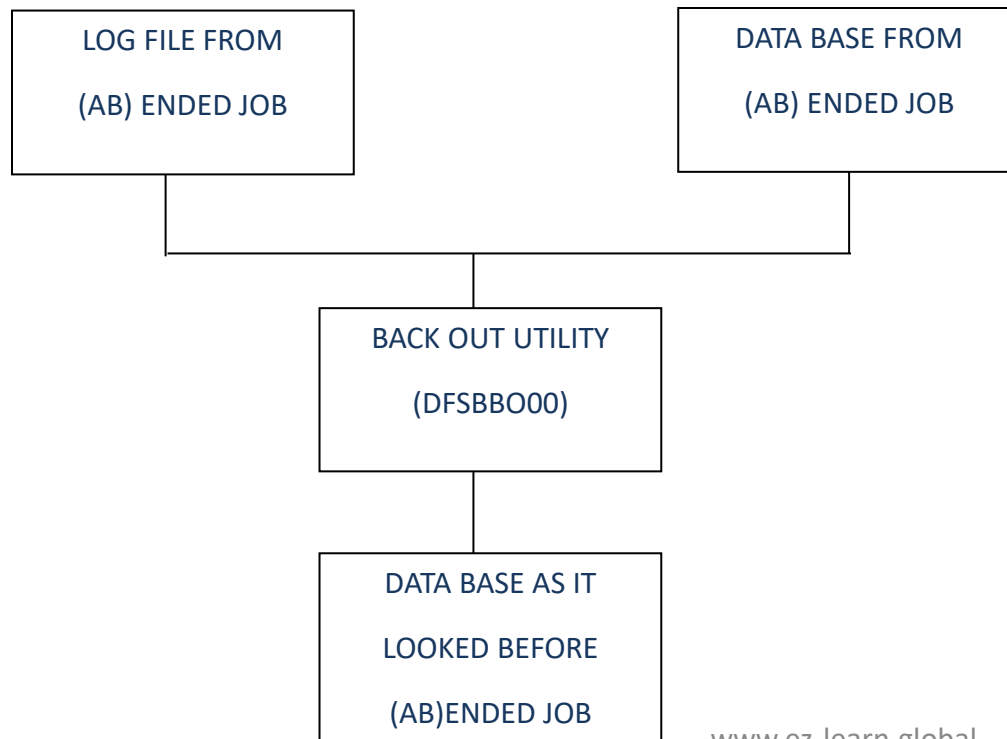
For Ex:- Consider a PSB with 2 PCBs pointing to a same DB.

- If you issue a call using first PCBMASK, system maintains one cursor
 - And if you issue a call using second PCBMASK system maintains another cursor
- Both the cursors are pointing to same DB and access different Segments.

```
PCB  TYPE=DB,NAME=VIDEODB,PROCOPT=A,KEYLEN=4
SENSEG NAME=RENTAL,PARENT=0
PCB  TYPE=DB,NAME=VIDEODB,PROCOPT=A,KEYLEN=4
SENSEG NAME=RENTAL,PARENT=0
PSBGEN PSBNAME=VIDPSBLS,LANG=COBOL
END
```

BATCH BACKOUT

Another important facility of IMS is the back out facility. To better understand the back out facility, suppose that a batch job performing updates abends during execution. Because the job performs updates, the integrity of the data base is now in question, To restore the integrity of the data base prior to the execution of the abended job the back out facility can be used.



As you can see, the input to the back out utility is the log file that was active at the time the batch job abended in the data base being updated. This log contains all the changes made to the data base during the execution of the job. The output of the back out is the data base, minus all changes made during execution.

Secondary Indexing

Secondary indexing is a solution to the different processing requirements of various applications. It allows you to have an index based on any field in the database, and not just the key field in the root segment.

Secondary indexes can be used with HISAM, HDAM, and HIDAM databases. A secondary index is in its own separate database and must use VSAM as its access method.

Secondary indexes are invisible to the application program. When an application program needs to do processing using the secondary index, this fact is communicated to IMS by coding the PROCSEQ= parameter in the PCB. If an application program needs to do processing using the regular processing sequence, PROCSEQ= is simply not coded. If the application program needs to do processing using both the regular processing sequence and the secondary index, the application program's PSB must contain two PCBs, one with PROCSEQ= coded and one without.

When two PCBs are used, it enables an application program to use two paths into the database and two sequence fields. One path and sequence field is provided by the regular processing sequence, and one is provided by the secondary index. The secondary index gives an application program both an alternative way to enter the database and an alternative way to sequentially process database records.

Logical Relationship

With logical relationships, you can give an application program access to a data structure that contains segments from more than one physical database.

An alternative to using logical relationships to resolve the different needs of applications is to create separate databases or carry duplicate data in a single database. However, in both cases this creates duplicate data. Avoid duplicate data because:

Extra maintenance is required when duplicate data exists. because both sets of data must be kept up to date. In addition, updates must be done simultaneously to maintain data consistency.

Extra space is required on DASD to hold duplicate data.

End of Day 10