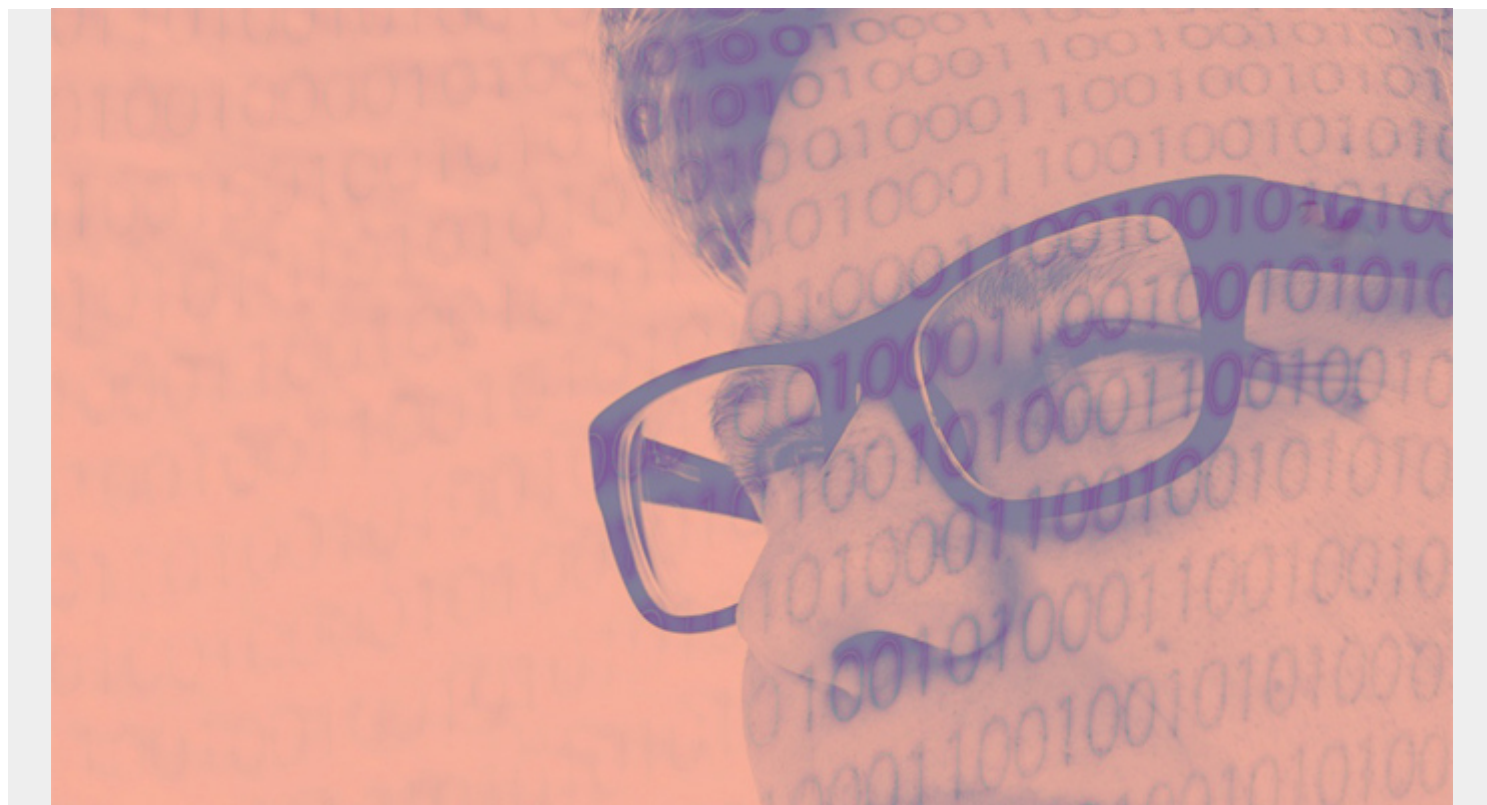


IBM UTILITIES IN DB2 12



(This article is part of our [Db2 Guide](#). Use the right-hand menu to navigate.)

BACKUP SYSTEM

```
. -FULL-----.
>>-BACKUP SYSTEM--+-----+-----+-----+----->
                        '-DATA ONLY-'  +-ESTABLISH INCREMENTAL-+
                        '-END INCREMENTAL-----'

>--+-----+-----+-----+-----+----->
    +--ALTERNATE_CP (copy-pool)--+-----+-----+-----+
                                '-DBBSG(stogroup)-'  '-LGBSG(stogroup-'
>--+-----+-----+-----+-----+-----><
+-FORCE-----+-----+-----+-----+ +--DUMP-----+
-----+-----+-----+-----+ | '- dumpclass-spec---+ '-
FORCE-' | '-DUMPNONLY--+-----+-----+-----+' '-
TOKEN- (X'byte-string')' '- dumpclass-spec --' dumpclass-spec: >--DUMPCCLASS-(-
-dc1---)----->< | -dc2- |
                | -dc3- |
                | -dc4- |
                | -dc5- |
```

CATMAINT

[illegible]

CHECK DATA

```

      V                                     |
>>-CHECK--DATA---table-space-spec--+-----+-----+----->
                                   '-PART--integer-' .
                                           .--SHRLEVEL-REFERENCE-.
>+-----+-----+-----+-----+-----+-----+----->
| INCLUDE XML TABLESPACES+---ALL---| '-CLONE-'   '--SHRLEVEL--CHANGE---'
          | xml-spec |
        .-SCOPE--PENDING-----,
>--drain-spec--+-----+-----+-----+-----+----->
              '-SCOPE--AUXONLY+-'
                  +-ALL-----+
                  '-REFONLY-'
            .-AUXERROR--REPORT-----,
>+-----+-----+-----+-----+-----+----->
    '-AUXERROR--INVALIDATE----'
    .-LOBERROR--REPORT-----,    .-XMLERROR--REPORT-----,
>+-----+-----+-----+-----+-----+----->
    '-LOBERROR--INVALIDATE-'     '-XMLERROR--INVALIDATE-'

>+-----+-----+-----+-----+-----+----->
|               ,-----, |
|               V         | |
'-FOR--EXCEPTION---IN--table-name1--USE--table-name2--+'
.-DELETE--NO-----,    .-EXCEPTIONS--0-----,
>+-----+-----+-----+-----+-----+----->
|               ,-LOG--YES- | '-EXCEPTIONS--integer-'

```



```

                                '-SHRLEVEL--CHANGE----'
                                .-EXCEPTIONS--0-----,
>--drain-spec--+-----+-----+-----+-----+----->
                                '-EXCEPTIONS--integer-'
>--+-----+-----+-----+-----+-----+----->
    |                .-SYSPUNCH-. | '-SORTDEVT--device-type-'
    '-PUNCHDDN--+-ddname---+-'
>--+-----+-----+-----+-----+-----+----->
    '-SORTNUM--integer-'

Lob-table-space-spec:
>-TABLESPACE+-----+lob-table-space-name--+-----+----->
            '-database-name-'                        '-CLONE-'

```

```

drain-spec:
    .-DRAIN_WAIT--IRLMRWT value-. .-RETRY--UTIMOUT value-.
>--+-----+-----+-----+-----+-----+-----
+>
    '-DRAIN_WAIT--integer-----' '-RETRY--integer-----' '-RETRY_DELAY-int-'

```

COPY

```

                                .-FULL--YES-----,
>>+--LIST--listdef-name--| data-set-spec |--+-----+-----
-----+----->
    |                                +-FULL--NO-----+
    |                                '-| changelimit-spec |-'
    |                                '-| changelimit-spec |-'
    | .-----+-----+-----+-----+-----+-----
-----+-----+|
    | V                                .-FULL--YES-----, .DSNUM--ALL-----,
    |                                '-| changelimit-spec |-'
    '----+--table-space-spec+--+-----+-----+-----+-----+-----
+--data-set-spec+--'
    '-index-name-spec-' +-FULL--NO-----+ |                                |
                                '-| changelimit-spec |-' '-DSNUM--integer-----'
>--+-----+-----+-----+-----+-----+-----
->
    '-PARALLEL+-----+-----+-----+-----+-----+-----'
    '-(num-objects)-' '-TAPEUNITS--(--num-tape-units--)-'

```


'-creator-id.-'

From-copy-spec:

```
.-FROMLASTCOPY-----,
>>+-----+-----><
+-FROMLASTFULLCOPY-----+ +-
FROMLASTINCRCOPY-----+ +-
FROMLASTFLASHCOPY-----+ '-
FROMCOPY-----dsn--+-----+-' '-
FROMVOLUME--+CATALOG-----+' '-volser--+-----+' '-
FROMSEQNO--n-' Data-set-spec >>+COPYDDN(+ddname1-----+-----+)-+
-----+----->< | |
'-,ddname-' | '-RECOVERYDDN(+ddname3-----+-----)-' |
| '-,ddname2-----' | '-
,ddname4-' | |
| '-,ddname4-----
-----' |
'-RECOVERYDDN(-|ddname3-----+-----)-
-----'
| '-,ddname4-' |
'-ddname4-----'
```

DIAGNOSE

```
>>-DIAGNOSE--+diagnose statement+-----
->< '-END-----' Diagnose-statement: >>+-----+-----
----->
| .-,-----, |
| V | |
'-TYPE(---integer+)-'
>+-----+-----+-----
->
'-ALLDUMPS+-----+-'
| .-,-----, |
| V | |
'- (---X'abend-code'+)-'
>+-----+-----+-----
->
'-NODUMPS+-----+-'
| .-,-----, |
| V | |
'- (---X'abend-code'+)-'
>+-----+-----+-----+-----
->< '-display statement-' '-wait statement-' '-abend statement-' Display-
```

```

statement: >>-DISPLAY-----
----->
>--+OBD-----+table-space-name-----+-----+-----+
->< | '-database-name--' +-ALL-----+ '-CLONE-' | | +-TABLES--+ | | '-
INDEXES-' | +-SYSUTIL-----
---+ +-MEPL-----+ +-
AVAILABLE-----+ '-DBET--+
DATABASE--database-name-----+-----+-----+ '-TABLESPACE--+
-----+table-space-name+ '-CLONE-' | '-database-name.--' | '-INDEX--
index-name-----' Wait-statement: .-----
-----, V | >>-WAIT----+MESSAGE--message-id--+---
-----+-----+----->< | '-INSTANCE--integer-' | '-
TRACEID--+X'trace-id'+-----+-----+ '-integer-----' '-INSTANCE-
-integer-' Abend-statement: >>-ABEND--+MESSAGE--message-id--+-----
-----+-----+----->< | '-INSTANCE--integer-'
| '-NODUMP-'
        '-TRACEID--+X'trace-id'+-----+-----+
                '-integer-----' '-INSTANCE--integer-'

```

EXEC SQL

```

>>-EXEC--SQL--+declare-cursor-spec-----+--ENDEXEC-----
->< '-non-select dynamic SQL statement-' Declare-cursor-spec: >>-DECLARE--
cursor-name--CURSOR--FOR--select-statement-----><

```

LISTDEF

```

                .-----,
                V                |
>>-LISTDEF--list-name-----list-options-----
->

List-options:
>--+INCLUDE+-----+--+LIST-ref-list+-----+-----+
+>
    'EXCLUDE' |                | '-init-obj-spec-' 'CLONED--+YES--+''-RI-' +-ALL--+
                '-type-spec-'                '-NO--'                +-BASE+
                                                +-LOB--+
                                                '-XML-'

    .-DEFINED YES-.
>--+-----+-----+-----+-----+-----+-----+-----+-----+
->
    +-DEFINED NO--+ +-HISTORY--+
    '-DEFINED ALL-' '-ARCHIVE-'

>--+-----+-----+-----+-----+-----+-----+-----+-----+

```

```

->< '-BASIC--+-NO--+-' '-EXTENDED--+-NO--+-' '-YES-' '-YES-' Init-obj-spec
>>-+DATABASE--database-name-+-+-----+-----+
->< +-table-space-spec-----+ '-PARTLEVEL--+-+-----+' +-index-space-spec----
-----+ '-(n)-' +-table-spec-----+ +-index-spec-----+ Table-
space-spec: TABLESPACE--+-+-----+--table-space-name-----
----->< '-database-name.-' Index-space-spec: >>-INDEXSPACE--+-+-----
-----+-index-space-name----->< '-database-name.-'
Table-spec: >>-TABLE--+-+-----+--table-name-----
----->< '-creator-id.-' Index-space: >>-INDEX--+-+-----+--index-
name----->< '-creator-id.-'

```

LOAD

```

      .-DATA-.      .-INDDN--SYSREC----- .
>>-LOAD--+-+-----+--+-----+--+-----+----->
      +-INDDN--ddname-----+ '-PREFORMAT-'
      +-INCURSOR--cursor-name-+

      .-PRESORTED--NO-- .
>-+-----+--+-----+--+-----+----->
  |      .-1----- . | '-PRESORTED--YES-'
  '-COPYDICTIONARY--+-integer-+-'

>-+-----+--+-----+--+-----+----->
  '-PARALLEL--+-+-----+' '-ROWFORMAT--+-BRF-+-'
      '-(num-subtasks)-'      '-RRF-'

>-+-----+--+-----+--+-----+----->
  '-RBALRSN_CONVERSION--+-NONE-----+'
      +-BASIC-----+
      '-EXTENDED-'

>-+-----+--+-----+--+-----+----->
  '-KEEPDICTIONARY-' '-REUSE-'

      .-LOG--YES----- .
>-+-----+--+-----+--+-----+----->
  '-LOG--NO--+-+-----+'
      '-NOCOPYPEND-'

      (1)
      .-SORTKEYS--0----- .      .-FLOAT(S390)- .
>-+-----+--+-----+--+-----+----->
  +-SORTKEYS--NO-----+      '-FLOAT(IEEE)-'
  '-SORTKEYS--integer-'

```



```

.-EBCDIC-.
>--+-----+--+-----+--+-----+--+-----+----->
+-ASCII---+ |      ,-----, |  '-NOSUBS-'
'-UNICODE-' |      V      |  |
              '-CCSID(---integer+-)-'

.-ENFORCE-CONSTRAINTS-.  .-ERRDDN--SYSERR-.
>--+-----+--+-----+--+-----+----->
'-ENFORCE--NO-----'  '-ERRDDN--ddname-'

.-MAPDDN--SYSMAP-.  .-DISCARDN--SYSDISC-.
>--+-----+--+-----+--+-----+----->
'-MAPDDN--ddname-'  '-DISCARDN--ddname--'

.-DISCARDS--0-----,
>--+-----+--+-----+--+-----+----->
'-DISCARDS--integer-'  '-SORTDEVT--device-type-'

>--+-----+--+-----+--+-----+----->
'-SORTNUM--integer-'

>--+-----+--+-----+--+-----+----->
'-CONTINUEIF(start+-----+)=+X'byte-string'-----+-'
              '-:end-'  '-character-string'-

>--+-----+--+-----+--+-----+----->
'-IGNORE(WHEN)-'  '-I decfloat-spec I-'

>--+-----+--+-----+--+-----+----->
'-I override-spec I-'

.-INDEXDEFER--NONE-----,
>--+-----+--+-----+--+-----+----->
'-INDEXDEFER--NPI+--+-----+-'
              '-ALL-'  '-NONUNIQUE-'

>--+-----+--+-----+--+-----+----->
'-IMPLICIT_TZ--'timezone-string'-

V      I
>----I INTO-TABLE-spec I+----->< Resume-
spec: .-RESUME--NO-.  .-SHRLEVEL-NONE-. >--+-----+--+-----+
+-----+--+-----+--+-----+--+>< I '-REPLACE-' 'copy-spec' '-stats-'
I I .-BACKOUT--NO-----, .-SHRLEVEL--NONE---, I '-RESUME--YES--+-----
-----+--+-----+--+-----+' I .-YES-. I '-SHRLEVEL--CHANGE-' '-
BACKOUT--+-----+-' Labelled-duration-expression >+--CURRENT_DATE-----

```

```

-----+----->
'-CURRENT_TIMESTAMP-+-----+
'-WITH TIME ZONE-'

.-----,
V                                         I
>-----+ + -+-constant--+YEAR-----+----->< '- - -' +
YEARS-----+ +MONTH-----+ +MONTHS-----+ +DAY-----+ +DAYS-----
-----+ +HOUR-----+ +HOURS-----+ +MINUTE-----+ +MINUTES-----+ +
SECOND-----+ +SECONDS-----+ +MICROSECOND--+ +MICROSECONDS--+ Workddn-
spec: .-WORKDDN(SYSUT1, SORTOUT)-----, >>+-----
-----+----->
'-WORKDDN--+-(ddname1, ddname2)-----+-'
|          .-, SORTOUT-. |
+- (ddname1+-----+)-+
|    .-SYSUT1-. |
'- (-+-----+-, ddname2)--'

```

Copy-spec:

```

>>+-----+----->
|          .-(SYSCOPY)-----, |
'-COPYDDN--+-----+-'
+- (ddname1+-----+)-+
|          '-, ddname2-' |
'- (, ddname2)-----'

>--+-----+----->< '-
RECOVERYDDN(ddname3+-----+)-' '-, ddname4-' Flashcopy-spec: .-
FLASHCOPY--NO-----, >>+-----
-----+----->< '-FLASHCOPY--+
YES-----+--+-----+-' '-CONSISTENT-' '-
FCCOPYDDN--(--template-name--)-' Stats-spec: >>-STATISTICS--+-----
-----+--+----->
'-| stat-table-spec |-' '-| stat-index-spec |-'

.-REPORT--NO--. .-UPDATE--ALL-----,
>--+-----+-----+----->
'-REPORT--YES-' '-UPDATE--+ACCESPATH--+
+-SPACE-----+
+-NONE-----+
.-INVALIDATECACHE-NO--.
>--+-----+-----+----->
'-INVALIDATECACHE YES-' '-HISTORY--+ALL-----+-'
+-ACCESSPATH--+
+-SPACE-----+
'-NONE-----'

```

```
>+-----+-----><'-
FORCEROLLUP--+YES--+' '-NO--' Stat-table-spec: .-TABLE--(--ALL--)-. >>+--+
-----+-----+-----+-----><|'-SAMPLE--
integer-' '-USE PROFILE-' || .-----+-----+-----+-----+-----+-----
-----.| | V | | '---TABLE--(--table-name--)--+-----+-----+-----+-----
---' '-| table-stats-spec |- ' Table-stats-spec: .-COLUMN-ALL-----+-----
---. >>+-----+-----+-----+-----+-----+-----+-----+----->
    '-SAMPLE--integer-' |           .-,-----|. |
                        |           V         |   |
                        '- COLUMN--(----column-name+--)-'
```

```

>--+-----+>< | ., -
----- | | | ., -
. | | | V V | | | +---COLGROUP--(---column-name+---)--| colgroup-stats-spec
|+--+ '-USE PROFILE-----'
Colgroup-stats-spec: >--+-----+-----+-----+
----->
    '-FREQVAL--+-----+-'
        |                (1)  .-MOST--. |
        '-COUNT--integer-----+-----+-'
                                +-BOTH--+
                                '-LEAST-'

```

```
>-+-----+----->< | .-
NUMQUANTILES--100-----, | '-HISTOGRAM--+-----+-' '-
NUMQUANTILES--integer-' Stat-index-spec: .-INDEX--(--ALL--)-. >-+--+-----
-----| correlation-stats-spec |-----+>< | .-----
-----, | | V | | '-INDEX--(----index-name--| correlation-stats-
spec |+--)-' Correlation-stats-spec: .-KEYCARD-----, >-+-----+-----
----->
```

```
.-FREQVAL--NUMCOLS--1--COUNT--10-----  
>--+-----+-->  
| .-----| |  
| V-----| |  
'---FREQVAL--NUMCOLS--integer--+-----+'  
                                     |                (2) .-MOST--.|  
  
                                '-COUNT--integer-----+-----+'  
                                             +-BOTH--+  
                                             '-LEAST-'  
  
. -NUMCOLS--1--NUMQUANTITIES--100-----  
>--HISTOGRAM--+-----+--< | .-  
NUMQUANTILES--100----.| '-NUMCOLS--integer--+-----+' '  
NUMQUANTILES--integer-' Format-spec: >>--+-----  
-----+--< '-FORMAT+-UNLOAD-----  
-----+-' +SQL/DSE-----
```

```

-----+ +-INTERNAL-----
-----+ | .-COLDEL--','-----
CHARDEL--'"----- .-DECPT--','--- | +-DELIMITED--+-----+-----
-----+--+-----+ | '-COLDEL--coldel-' '-CHARDEL--chardel-'
'-DECPT--decpt-' | '-SPANNED--+YES+-----
-----' '-NO--' Decfloat-spec: >--+-----
-----+----->
'-DECFLOAT_ROUNDMODE--+ROUND_CEILING---+-'
      +-ROUND_DOWN-----+
      +-ROUND_FLOOR-----+
      +-ROUND_HALF_DOWN--+
      +-ROUND_HALF_EVEN--+
      +-ROUND_HALF_UP---+
      '-ROUND_UP-----'

Override-spec:
      V-----,
>>-OVERRIDE--(-----+SYSTEMPERIOD-----+--)->< +-
IDENTITY-----+ +-TRANSID-----+ '-NONDETERMINISTIC-' INTO-TABLE-spec:
>>-INTO--TABLE-table-name--+-----+-----+-----+----->
      'PERIODOVERRIDE-' '-TRANSIDOVERRIDE-'
      .-IGNOREFIELDS--NO--.
>--+-----+----->
      '-IGNOREFIELDS--YES-'

>--+-----+-----
-----+>
      | .-INDDN -SYSREC-----
---. |
      '-PART-integer--+-----+--resume-spec--+-----
-----+-'
      '-PREFORMAT-' +-INDDN-ddname--+-----
-----++
      | '-'
DISCARDN-ddname-' |
      '-INCURSOR--cursor-name-----
-----'
>--+-----+-----+-----+-----+-----+-----
----->
      '-NUMRECS-integer-' '-WHEN--SQL/DS='table-name'-----+-'
      '-field selection criterion-'
>--+-----+-----+-----+-----+-----+-----
----->< | .-,----- . | | V | | '-(---field specification+--)-'
>--+-----+-----+-----+-----+-----+-----
->< | .-,----- . | | V | | '-(---field specification+--)-'
Resume-spec: .-RESUME--NO----- >>--+--+-----+--+-----
-----+--+----->

```

```
|          '-REPLACE--+-----+--+-----+-' |
|          '-REUSE-'   '-copy-spec-'   |
'-RESUME--YES-----'
```

```
>--+-----+----->< '-
KEEPDICTIONARY-' Field selection criterion: >>+-field-name-----+---+--
X'byte-string'----->< '-(start+-----+)-' +-'character-
string'+ '-:end-' +-'G'graphic-string'+ +-'N'graphic-string'+ Field
specification: >>-field-name-spec----->
```

```
>--+-----
----->
+-CHAR--+-----+-----
-----+
|      +-BIT-(length)-strip-spec-----+
|
|      +-CCSID 1208-strip-spec-----+
|
|      +-MIXED--strip-spec-----+
|
|      +-BLOBF--+-----+--+-----+-----+
|
|      |          '-PRESERVE WHITESPACE-' '-BINARYXML-'      |
|
|      +-CLOBF--+-----+--+-----+--+-----+--+
|
|      |          '-MIXED-' '-PRESERVE WHITESPACE-' '-CCSID 1208-' |
|
|      '-DBCLOBF--+-----+--+-----+-----'
|
|          '-PRESERVE WHITESPACE-' '-CCSID 1200-'
|
+-VARCHAR--+-----+-----+-----+-----+
strip-spec+
|      +-BIT-----+-----+
|
|      +-CCSID 1208-----+-----+
|
|      +-MIXED-----+-----+
|
|      +-BLOBF--+-----+--+-----+-----+
|
|      |          '-PRESERVE WHITESPACE-' '-BINARYXML-'      |
|
|      +-CLOBF--+-----+-----+-----+--+
|
|      |          '-+-----+--+-----+-----+-----'
|
```

```

|
|          |          '-MIXED-' '-PRESERVE WHITESPACE-' '-CCSID 1208-'
|
|          '-DBCLOBF-+-+-----+-----+-----+-----+'
|
|          '-PRESERVE WHITESPACE-' '-CCSID 1200-'
|
+-GRAPHIC-+-+-----+-----+-----+-----+-----+
-----+
|          '-EXTERNAL-' '-(length)-'          '-CCSID 1200-'
|
+-VARGRAPHIC--strip-spec--+-+-----+-----+-----+
-----+
|          '-CCSID 1200-'
|
+-SMALLINT-----+
-----+
+-INTEGER-+-+-----+-----+-----+
-----+
|          '-EXTERNAL-+-+-----+-----+'
|
|          .-(length)-'
|
+-BIGINT-----+
-----+
+-BINARY-+-+-----+-----+-----+-----+
-----+
|          '-(length)-'
|
+-+VARBINARY-----+-----+-----+-----+
-----+
| '-BINARY VARYING-'
|
+-decimal-spec-----+
-----+
+-FLOAT-+-+-----+-----+-----+
-----+
|          '-EXTERNAL-' '-(length)-'
|
+-DATE--EXTERNAL--+-+-----+-----+-----+
-----+
|          '-(--+length-----+)-'
|
|          '-date-format-'
|
+-TIME--EXTERNAL--+-+-----+-----+-----+
-----+

```

```

|          '-(-+-length-----+)-'
|
|          '-timestamp-format-'
|
+-TIMESTAMP-WITH-TIME-ZONE--EXTERNAL--+-+-----+-----+
-----+
|          '-(length)-'
|
+-ROWID-----+
-----+
+-BLOB-----+
-----+
+-CLOB-+-+-----+-----+
-----+
|          '-MIXED--+-+-----+--'
|
|          '-CCSID 1208-'
|
+-DBCLOB-+-+-----+-----+
-----+
|          '-CCSID 1208-'
|
|          .-(34)-----,
|
+-DECFLOAT-+-+-----+-----+
-----+
|          +--(16)-----+
|
|          '-EXTERNAL--+-+-----+--'
|
|          '-(length)-'
|
'-XML-+-+-----+--+-----+-----+
-----'
'-PRESERVE WHITESPACE-' '-BINARYXML-'

>--+-----+-----+-----+-----+----->< +-NULLIF--
field selection criterion----+ '-DEFAULTIF--field selection criterion-' Field
name spec: >>-field-name-+-+-----+-----+-----+-----+-----+
-->< +-POSITION(start-+-+-----+)------+ | '-:end-' | '-CONSTANT(+-
'string'-----+)-' +-X'hex-string'-----+ +-integer-----+ +-CURRENT
DATE-----+ +-CURRENT TIME-----+ +-CURRENT TIMESTAMP-+ '-NULL-----'
Strip-spec: >>-+-+-----+-----+-----+-----+-----+
---->
|          .-BOTH ----,
|
'-STRIP-+-+-----+--+-----+-----+-----+-----'

```



```

>--+-----+--+-----+-----+----->
  '-DSNUM--integer-' '-CLONE-'
>--+-----+--+-----+-----+----->
  '-DELETDS-' '-NOCOPYPEND-'
>--+DELETE--+-----+-----+-----+-----><
|          +-AGE--integer-+++          |
|          |          '-(*)-----' |          |
|          |          '-DATE--integer-+-' |          |
|          |          '-(*)-----' |          |
|          '-RETAIN---+-LAST--(--integer-)------+---'
|          +-LOGLIMIT-----+
|          '-GDGLIMIT-+-+-----+-'
|          +-LAST--(--integer--)-+
|          '-LOGLIMIT-----'

```

MODIFY STATISTICS

```

>>-MODIFY--STATISTICS----->
>--+LIST-- listdef-name-----+----->
  +-TABLESPACE--+-----+--table-space-name-+
  |          '-database-name.-' |
  +-INDEXSPACE--+-----+--index-table-name-+
  |          '-database-name.-' |
  '-INDEX--+-----+--index-name-----'
          '-creator-id.-'
>--DELETE--ALL-----+--+AGE--(integer)-+--+-----><
+-ACCESSPATH-+ |          '-(*)-----' |
          '-SPACE-----' '-DATE--(integer)-+-'
                      '-(*)-----'

```

OPTIONS

```

>>-OPTIONS----->
>+-+-----+--+-----+--+-----+--+-----+--+><
| '-PREVIEW-' '-LISTDEFD-ddname-' '-TEMPLATEDD-ddname-' '-event-spec-' | +-
OFF-----+ '-KEY-
-key-value-----' Event-spec
.-ITEMERROR,HALT-. .-WARNING,RC4-. >>-EVENT--(--+-----+--+-----+--+
-----+--)->< '-ITEMERROR,SKIP-' '-,-' +WARNING,RC0-+
                    +-WARNING,RC8-'

```

QUIESCE

```
>>-QUIESCE----->
>--+LIST-listdef-name-----+>
| .-----|
| V-----||
|---+TABLESPACE-+-+-----+table-space-name-+-+-----+'
|          '-database-name.-'          '-PART-integer-' ||
| -TABLESPACESSET-+-+-----+table-space-name-|
|          '-TABLESPACE-' '-database-name.-'
|          .-WRITE--YES-.
>--+-----+
->< '-CLONE-' '-WRITE--NO--'
```

REBUILD INDEX

```

>>-REBUILD-----
----->

      .-,-----,
      v                                     |
>--+INDEX--+-(---creatorid.index-name-----+-----)-----+-----
-----+>
      |          |          '-PART--integer-'          |
      |          |          +- (ALL) --table-space-spec-----+
      |          |          '-LIST--listdef-name-----'
      |          |          .-,-----,
      |          |          v                                     |
      |          |          '-INDEXSPACE--+-(---+-----+--index-space-name--+-----
+---+---)---+'
      |          |          |          '-database-name.-'          '-PART--integer-
      |          |          |          +- (ALL) --table-space-spec-----
-----+
      |          |          '-LIST--listdef-name-----
-----'

      .-SHRLEVEL--REFERENCE-----,
>--+-----+--drain-spec--+-----+-----
->
      '-SHRLEVEL--CHANGE--change-spec-'          '-CLONE-'

```

```
.-SCOPE--ALL-----.  
>--+-----+--+-----+--+-----+-----  
->  
    '-SCOPE--PENDING-'   '-REUSE-'   '-SORTDEVT--device-type-'  
  
>--+-----+--+-----+-----  
->  
    '-SORTNUM--integer-'   '-stats-spec-'  
  
. -FLASHCOPY--NO-----.  
>--+-----+-----  
-->  
    '-FLASHCOPY--+-YES-----+--+-----+-'  
        '-CONSISTENT-'   '-FCCOPYDDN--(--template-name--)-'  
  
. -PARALLEL--(0)-----.  
>--+-----+-----  
-->  
    '-PARALLEL--(--num-subtasks--)-'  
  
>--+-----+-----  
-->  
    '-RBALRSN-CONVERSION--+-NONE-----+'  
        +-BASIC-----+  
        '-EXTENDED-'
```

Table-space-spec

```
>>-TABLESPACE--+-----+--table-space-name----->
      '-database-name.-'

>--+-----+----->< '-
PART-integer-' Change-spec: .-MAXRO--integer-. .-LONGLOG--CONTINUE-. >>-+-----
-----+--+-----+----->
      '-MAXRO--DEFER---'    +-LONGLOG--TERM-----+
                          '-LONGLOG--DRAIN-----'

      .-DELAY--1200----.

>--+-----+----->< '-DELAY--
integer-' Drain-sec: .-DRAIN_WAIT--IRLMRWT value-. .-RETRY--UTIMOUT value-.
>>-+-----+----->
      '-DRAIN_WAIT--integer-----'    '-RETRY--integer-----'

>--+-----+----->< '-
RETRY_DELAY--integer-' Stats-spec: .-REPORT--NO--. >>-STATISTICS--+-----
---+--correlation-stats-spec----->
```

'-REPORT--YES-'

```
.-UPDATE-ALL-----,.-INVALIDATECACHE NO--.
>--+-----+-----+-----+-----+----->
'-UPDATE--+-ACCESSPATH-+-' '-INVALIDATECACHE YES-'
+-SPACE -----+
'-NONE-----'

>--+-----+-----+-----+-----+----->< '-
HISTORY--+-ALL-----+-' '-FORCEROLLUP--+-YES-+-' +-ACCESSPATH-+ '-NO--' +-
SPACE -----+ '-NONE-----' Correlation-stats-spec: .-KEYCARD-----, >--+-----
-----+-----+-----+-----+----->
```

```
.-FREQVAL--NUMCOLS--1--COUNT--10-----,
>--+-----+-----+-----+-----+-----+----->
| | |-----, |
| V | |
'---FREQVAL--NUMCOLS--integer--+-----+-----+-----'
| |-----,.-MOST--. |
'-COUNT--integer-----+-----+-----'
+-BOTH--+
'-LEAST-'
```

```
.-NUMCOLS--1--NUMQUANTILES--100-----,
>--HISTOGRAM--+-----+-----+-----+-----+----->< |
.-NUMQUANTILES--100-----, |
| NUMCOLS--integer--+-----+-----+-----'
'-NUMQUANTILES--integer-'
```

RECOVER

```
>>-RECOVER-----
->
>--+--LIST-listdef-name-----+--list-options-spec+-----
->
| | |-----, |
| | V |-----, | |
| '---object+-----+-----' |
| |-----' |
| |-----, |
+-object--+-----+-----recover-options-spec-----+
| |-----' |
'-object--PAGE--page-number--+-----+-----'
'-CONTINUE-'
.-LOGRANGES--YES-----,
```

```
>--+--TOCOPY--data-set--+-----+--+tocopy-options-spec--+>< | '-
image-copy-spec-' | +--TOLASTCOPY--topcopy-options-spec-----
----+ +--TOLASTFULLCOPY--tocopy-options-spec-----+ '-ERROR-
-RANGE-----' Tcopy-options-spec .-
ENFORCE--YES-, >>+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+
-----
```

```
-->
'-REUSE-' '-CURRENTCOPYONLY-' '-ENFORCE--NO--'

>+-----+----->
'-NOSYSCOPY--+-'
      +-INLCOPY-+
      '-FCCOPY--'

>+-----+----->< '-
FLASHCOPY_PRCP--+-NO-----+' +-PMNO---+ +-PMPREF-+ '-PMREQ -' Image-copy-
spec: >>-TOVOLUME-+-CATALOG-----+----->< '-
vol-ser-+------+
      '-TOSEQNO--integer-'
```

REORG INDEX

```
>>-REORG--+-INDEX--LIST--listdef-name-+-+-----+----->
      '-index-name-spec-----' '-REUSE-' '-CLONE-'

      .-SHRLEVEL NONE-----.
>+-----+----->
      '-SHRLEVEL-+-REFERENCE--deadline-spec--drain-spec-----+'
      '-CHANGE--deadline-spec--drain-spec--change-spec-'

      .-FASTSWITCH YES----.
>+-----+----->
      '-FASTSWITCH NO----'

      .-FORCE--NONE----.
>+-----+-----+----->
      '-LEAFDISTLIMIT-+-+-----+-----+' +-FORCE--READERS-+
      '-integer-' '-REPORTONLY-' '-FORCE--ALL----'

      .-UNLOAD--CONTINUE-----.
>+-----+-----+----->
      '-UNLOAD--+-PAUSE-----+' '-stats-spec-----'
      '-ONLY-----'
      .-WORKDDN--(SYSUT1)-.
>+-----+-----+----->
      '-WORKDDN--(ddname)-' '-PREFORMAT-'

>+-----+-----><
| .-NO-----. | '-FLASHCOPY--+-YES-----+-----+' '-
CONSISTENT-' '-FCCOPYDDN(ddname)-' >+-----+-----+-----
----->< '-RBALRSN_CONVERSION--+-NONE-----+' +-
BASIC-----+ '-EXTENDED-' Index-name-spec >>-+-INDEX-+-+-----+-----index-
name-----+----->
```

```
|      '-creator-id.-' |  
'-INDEXSPACE-+-----+index-space-name-'  
            '-database-name.-'  
  
>--+-----+-----<<  
'-PART--integer-' Deadline-spec .-DEADLINE--NONE-----.  
>>+-----+-----<<  
. -DEADLINE--+timestamp-----+' '-labeled-duration-expression-'  
Drain-spec >>+-----+-----+-----+-----  
----->  
        '-DRAIN_WAIT--integer-'          '-RETRY--integer-'  
  
                                     _TIMEOUT TERM---  
>--+-----+-----|-----(------<<  
'-RETRY_DELAY--integer-' |_TIMEOUT ABEND__| Change-spec .-DRAIN--ALL-----.  
>>+-----+--+-----+----->  
    |                                (1) |   '-DRAIN--WRITERS-'  
    '-MAXRO--+integer+-----'  
        '-DEFER---'  
  
        .-LONGLOG--CONTINUE--.    .-DELAY--1200----..  
>--+-----+--+-----+----->  
    '-LONGLOG--+TERM--+-'     '-DELAY--integer-'  
        '-DRAIN-'  
  
        .-LOGRANGES--YES-.  
>--+-----+----->  
    '-LOGRANGES--NO--'  
  
        .-SWITCHTIME--NONE-----,  
>--+-----+-----+-----+-----<<  
| .-NEWMAXRO--NONE----. | '-SWITCHTIME--+timestamp-----+--+-----  
-----+' '-labeled-duration-expression-' '-NEWMAXRO--integer-'  
Labelled-duration-expression >>+-CURRENT_DATE-----  
----->  
    '-CURENT_TIMESTAMP--+-----+-----'  
                        '-WITH TIME ZONE-'  
  
.,  
V                          I  
  
>-----+ + ---constant--+YEAR-----+-----+-----  
->< ++YEARS-----+ --MONTH-----+ MONTHS-----+ --DAY-----+ +  
DAYS-----+ + HOUR-----+ HOURS-----+ MINUTE-----+ MINUTES--  
-----+ ++SECOND-----+ SECONDS-----+ MICROSECOND--+ MICROSECONDS+  
Stats-spec .-REPORT--NO--. >>-STATISTICS--+-----correlation-stats-  
spec----->  
                '-REPORT--YES-'  
  
        .-UPDATE-ALL-----.
```



```
>-----+--+-----+--+-----+--+-----+--+----->  
->  
    '-LOG--NO--'                                '-NOSYSREC-'  
        .-AUTOESTSPACE YES-.  
>-| copy-spec |-----+-----+-----+-----+----->  
->  
        '-AUTOESTSPACE NO--'  
  
. -SHRLEVEL NONE-----<br>>-----<br>' -SHRLEVEL---+-REFERENCE---| deadline-spec |--| drain-spec |-----+-->  
    '-CHANGE-|deadline-spec|--|drain-spec|--|table-change-spec|-'  
  
. -FASTSWITCH YES-.   .-AUX NO--.           .-FORCE--NONE----.  
>-+-----+--+-----+--+-----+--+-----+-----+----->  
    '-FASTSWITCH NO--.  -'AUX YES-'         +-FORCE--READERS-+  
                                         '-FORCE--ALL-----'  
  
>-+-----+-----+-----+-----+-----+----->  
+ -SORTNPSI--AUTO---+  
+ -SORTNPSI--YES----+  
' -SORTNPSI--NO-----'  
  
>-+-----+-----+-----+-----+-----+----->  
->  
    |               .-10-----.                .-10-----.          |  
' -OFFPOSTLIMIT--+-+-----+-INDREFLIMIT--+-+-----+-+-----+'  
            '-integer-'              '-integer-' '-REPORTONLY-'  
        .-UNLOAD--CONTINUE--.  
>-+-----+-----+-----+-----+-----+-----+----->  
    | |             (1) |  '-KEEPDICTIONARY-'  '-| statistics-spec |-'|  
    | '-UNLOAD--PAUSE-----'|  
+ -UNLOAD--ONLY-----+  
' -UNLOAD--EXTERNAL--+-+-----+-----+-----+-----+'  
                    '-NOPAD-'      | .-----|. |  
                                   | V                     | |  
                                  '---| FROM-TABLE-spec |--+'  
  
. -PUNCHDDN--SYSPUNCH-.     .-DISCARDDBD--SYSDDISC-.  
>-+-----+-----+-----+-----+-----+----->  
->  
    '-PUNCHDDN--ddname---'    '-DISCARDDBD--ddname--'  
>-+-----+-----+-----+-----+-----+----->  
->  
    '-| reorg tablespace options |-'
```

```

>+-----+-----+
->
|                                     |
|                                     V                                     |
'-DISCARD--+-----+---| FROM-TABLE-spec |--+-'
          '-NOPAD-'
.-PARALLEL=0-----
>+-----+-----+
->
'-PARALLEL--(--num-subtasks--)-'

```

Copy-spec

```

.-COPYDDN(SYSCOPY)-----
>>+-----+-----+
->
'-COPYDDN(--ddname1--+-----+--)-'
|               '-,ddname2-' |
'-,ddname2-----'
>+-----+-----+
->
'-RECOVERDDN(ddname3--+-----+--)-'
|               '-,ddname4-' |
>+-----+-----+
->< | .-NO-----, | '-FLASHCOPY--+YES-----+--+-----+-'
'-CONSISTENT-' '-FCCOPYDDN(ddname)-' Deadline-spec .-DEADLINE--NONE-----
-----, >>+-----+-----+
----->< '-DEADLINE--+timestamp-----+-' '-
labeled-duration-expression-' Drain-spec >>+-----+-----+
-----+----->
'-DRAIN_WAIT--integer-' '-RETRY--integer-'
.-TIMEOUT--TERM--
>+-----+-----+-----+-----+----->
'-RETRY_DELAY--integer-' '-TIMEOUT--ABEND-'
.-LOGRANGES--YES-. .-DRAIN_ALLPARTS--NO--.
>+-----+-----+-----+-----+-----+
->
'-LOGRANGES--NO--' '-DRAIN_ALLPARTS--YES-'
.-SWITCHTIME--NONE-----
>+-----+-----+-----+-----+-----+><
| .-NEWMAXRO--NONE----, | '-SWITCHTIME--+timestamp-----+--+-----
-----+-' '-labeled-duration-expression-' '-NEWMAXRO--integer-'
Change-spec: .-MAXRO-----, .-DRAIN--ALL-----, >>+-----+-----+

```

```

--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+>
    '-MAXRO--+integer--+-'      '-DRAIN--WRITERS- '
        '-DEFER---'

    .-LONGLOG--CONTINUE--.   .-DELAY--1200----.
>--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+>
    '-LONGLOG--+TERM--+-'      '-DELAY--integer- '
        '-DRAIN-'

```

Map - spec:

```
>>+-----+<->  
+-MAPPINGTABLE--table-name-----+ +-MAPPINGDATABASE--database-name-'  
Labelled-duration-expression >>+-CURRENT_DATE-----  
----->  
    '-CURRENT_TIMESTAMP---+-----+'  
                                '-WITH TIME ZONE-'  
  
    .-----.  
V                                  I  
  
>----+ + -++-constant--+YEAR-----+-----<->  
+-YEARS-----+ +-MONTH-----+ +-MONTHS-----+ +-DAY-----+ +-DAYS---  
-----+ +-HOUR-----+ +-HOURS-----+ +-MINUTE-----+ +-MINUTES-----+  
+-SECOND-----+ +-SECONDS-----+ +-MICROSECOND--+ +-MICROSECONDS--+  
Statistics-spec >>-STATISTICS-----  
----->  
        .-TABLE--(--ALL--)-.  
  
>--+-----+-----+-----+-----+  
->  
    |                                     '-SAMPLE--integer-'          |  
    | .-----, |  
    | V                                               | |  
    '|---TABLE--(--table-name--)--| table-stats-spec |+-'|  
  
        .-INDEX--(--ALL--)-.  
  
>--+-----+-----+-----+-----+ correlation-stats-spec |-----+-----  
->  
    |           .-',-----, |  
    |         V                               | |  
    '|-INDEX--(----index-name--| correlation-stats-spec |+-)-' |  
  
        .-REPORT--NO--.   .-UPDATE--ALL-----.  
  
>--+-----+-----+-----+-----+  
->  
    '-REPORT--YES-'      '-UPDATE--+-ACCESSPATH+-' |  
                            +-SPACE-----+  
                            '-NONE-----'
```

[illegible]

FROM-TABLE spec

```
>>-FROM--TABLE--table-name-----
->
>--+-----+-----
->< '-WHEN--(--selection-condition-spec--)-' Selection-condition spec >>--+
predicate-----+----->
    '-selection condition-'
        .-----.
        V               I
>--+-----+-----+-----><
'-+AND+--+predicate-----+ ' '-OR--' '-selection condition-'
Predicate >>--+basic predicate--+-----+
----->< +BETWEEN predicate+ +IN predicate-----+ +LIKE predicate-----+
'-NULL predicate----' Basic predicate >>-column-name--+ = --+-----
----->
        +- <> +-
        +- > --+
        +- < --+ +- >= +-
        '- < = -' >--+constant-----+-----
----->< '-labeled-duration-expression-' Between predicate
>>-column-name--+-----+BETWEEN----->
        '-NOT-'
>--+constant-----+AND----->
    '-labeled-duration-expression-'
>--+constant-----+-----><
'-labeled-duration-expression-' IN predicate .,-----, V I >>-column-name-
+-----+IN--(--constant+)------>< '-NOT- ' LIKE
predicate >>-column-name--+-----+LIKE--string-constant-----
----->
        '-NOT-'
>--+-----+-----><
'-ESCAPE--string-constant-' NULL predicate >>-column-name--IS--+-----+NULL-
----->< '-NOT-' Reorg tablespace options
.-UNLDDN--SYSREC-. >>--+-----+--+-----+-----
----->
    '-UNLDDN--ddname-' ' '-SORTDEVT--device-type-'
>--+-----+-----+-----+-----+----->
    '-SORTNUM--integer-' ' '-PREFORMAT-' ' '-ROWFORMAT--+BRF-'
                                   I -RRF- I
>--+-----+-----+-----><
'-RBALRSN_CONVERSION--NONE-----+-'
        +-BASIC-----+
        '-EXTENDED-'
```

REPAIR

```
>>-REPAIR-
>--+-----+----->
|                                     |
| .-OBJECT-. .-LOG--YES-.          V      | |
++-----++-----++-----set statement-++-----+
|           '-LOG--NO--' |   '-locate block--' | |
|                           |   '-dbd-statement----' |
+-level-id statement-----+
+-versions statement-----+
'-catalog statement-----+
>--+-----+-----><
'-CLONE-' Level-id statement >>-LEVELID-----
----->
>--+TABLESPACE--+-----+table-space-name+----->
|               '-database-name.-'         |
'-index-name-spec-----'
>--+-----+-----><
'-PART--integer-' Versions statement >>-VERSIONS-----
----->
>--+TABLESPACE--+-----+table-space-name+-----><
| '-database-name.-' | '-index-name-spec-----'
Catalog statement >>-CATALOG--TABLESPACE--+-----+table-space-
name----->
                '-database-name.-'
>--+-----+----->
'-TEST-'
```

Index-name spec

```
>>-+-INDEX-+------+-index-name-----+------><
| '-creator-id.-' | '-INDEXSPACE-+------+-index-space-name-' '-
database-name.-' Set statement >>-SET-----
----->
```

```
>+-|table-space-spec|+-----+--NOCOPYPEND-----+
-----+-----><|'-PART--integer-' +NORCVRPEND-----+|| +NOCHECKPEND-----+
|| +-NOAUXWARN-----+|| +-NOAUXCHKP-----+|| +-NOAREORPENDSTAR-+||
+-NOAREORPEND-----+|| +-PRO-----+|| +-NOPRO-----+|'-+-
INDEX+-(index-name+-----+)-+-----+--NOCOPYPEND-----+-'
|| '-PART--integer-'|| +-NORCVRPEND-----+|'-(--ALL--)--|table-space-
spec|-'|| +-NORBDPEND-----+ '-INDEXSPACE+-(+-----+index-space+---
-----+)-+-NOCHECKPEND-----+| '-database.-' '-PART-int'| +-
NOAREORPENDSTAR+ '-(--ALL--)--table-space-spec-----' +-NOAREORPEND--
--+ +-RBDPEND-----+ '-PSRBDPEND-----' Table-space-spec: >>-TABLESPACE--
+-----+table-space-name----->< '-database-
```

name.-'

REPORT

```
>>-REPORT----->
                                     .-INDEX NONE-.
>-+-RECOVERY+-TABLESPACE+-LIST-listdef-name---++-----++-----><
| | '-tablespace-name-spec' '-INDEX ALL-' | 'info' | | '-index-list-spec-----
-----' | '-TABLESPACESET--++-----++-table-space-
name-spec--++-----+-' '-TABLESPACE-' '-SHOWDSNS-' Index-list-spec >>-+-
INDEXSPACE--++-----++-index-space-name-++----->< | |
'-database-name.-' | | | '-LIST-listdef-name-----' | '-INDEX--
++-----++-index-name-++-----' | '-creator-id.-' | '-LIST--
listdef-name-----' Info-options .-DSNUM--ALL----->>-+------+-
+------++-+-+-----+----->
        '-DSNUM--integer-' '-CURRENT-' '-SUMMARY-'
                                     .-ARCHLOG--1-----,
>-++-----++-+-----++-+-----++-+-----><
'-LOCALSITE-' '-RECOVERYSITE-' '-ARCHLOG--++2---+-' '-ALL-' Table-space-name-
spec >>-+------++-table-space-name-----
--->< '-database-name.-'
```

RESTORE SYSTEM

```
>>-RESTORE SYSTEM----->
>-+-| non-LOGONLY spec |-----+----->< '-
LOGONLY--++-----++-+-----+-----+----->< '-
+-----++-+-----+-----+-----+----->>-+-
-----+----->
        '-ALTERNATE_CP(copy-pool)-'
>-+-----+----->
        '-RESTOREBEFORE-- X'byte-string'- '
>-+-----+----->
+-FROMDUMP-+-+-----++-----++-----++-+
|           '-DUMPCLASS-(dcl)-''-RSA-(key-label)-''-TAPEUNITS-+-----+- '
|                                           'units' |
'-FLASHCOPY_PPRCP--++-NO-----+-----+-----'
                +-PMNO---+
                +-PMPREF-+
                '-PMREQ -'
```

RUNSTATS

```
>>-RUNSTATS--TABLESPACE--+-| listdef-spec |-----+----->
                                '-| table-space-spec |-'

        .-| statistics-spec |-.

>--+-----+----->< '-|
reset-spec |-----' Listdef-spec .-INVALIDATECACHE NO--. >>-LIST--listdef-
name--+-----+----->< '-INVALIDATECACHE
YES-' Table-space-spec >>--+-----+-----table-space-name-----
----->
        '-database-name.-'

>--+-----+----->
|                .-FORCEROLLUP--NO--. |
'-PART--integer--+-----+-'
                '-FORCEROLLUP--YES-'

        .-INVALIDATECACHE NO--.

>--+-----+----->< '-
INVALIDATECACHE YES-' Statistics-spec >>--+-----+-----
----->
|                .-(ALL)-. |
+-TABLE-----+-----+--| all-tables-spec |-----+
| .-,-----, |
| V | |
'---TABLE-----table-name--| named-tables-spec |+-'

>--+-----+-----+----->
'-+-INDEX-----(--ALL--)--| correlation-stats-spec |-----+-'
+-INDEX--(--*-----)--| correlation-stats-spec |-----+
|                .-,-----, |
|                V | |
'-INDEX--(----index-name--| correlation-stats-spec |+--)-'
        .-REGISTER--YES-.
        .-SHRLEVEL--CHANGE -+-----+-.
|                '-REGISTER--NO--' | .-REPORT--NO--.
>--+-----+-----+-----+----->
        '-SHRLEVEL--REFERENCE-----' '-REPORT--YES-'

        .-UPDATE--ALL-----,
>--+-----+-----+-----| history-spec |----->
        '---UPDATE--+-ACCESSPATH+---'
                +-SPACE-----+
                '-NONE-----'

>--+-----+----->< '-SORTDEVT-
```



```

-device-type- ' All-tables-spec >>---+ | sample-spec |---+-----
+---+----->< | '-| use-profile-spec |-' | '-DELETE PROFILE-----
-----' Named-tables-spec >>---+ | sample-spec |-----+ | column-
spec |---+-----+---+--->< | | '-| colgroup-spec |-' | | | | |
| '----| use-profile-spec |-----' | + | column-spec |---+-----
-----+---+-----+---+ | '-| colgroup-spec |-' | | | |
'-| set-profile-spec |-----' | | | '-DELETE PROFILE-----
-----' Sample-spec >>---+-----
-----+--->< | .-25-----, | + -SAMPLE---+-----
+-----+ | '-integer-' | | .-AUTO-----
-----, | '-TABLESAMPLE SYSTEM---+ numeric-literal---+---+-----+
' '-REPEATABLE-integer-' Use-profile-spec >>-USE PROFILE-----+-----
-----+----->< '-INCLUDE---+ (NPI)---+ '-NPI---' Column-spec:
.-COLUMN--(--ALL--)-----, >>---+-----
+----->
|
| .,-----, |
| V | |
'-COLUMN--(----column-name----+--)-'

>---+-----+----->< '-SORTNUM--
integer-' Colgroup-spec: .-----
----, | .,-----, | V V | | >>---COLGROUP--(----column-name---+---|
colgroup-stats-spec |--->< Colgroup-stats-spec: >>---+-----
-----+----->
'-FREQVAL +-----+-'
| .-MOST--, |
'-COUNT--integer-----+-----+-'
+-BOTH--+
'-LEAST-'

>---+-----+----->< | .-
NUMQUANTILES--100-----, | '-HISTOGRAM---+-----+-' '-
NUMQUANTILES--integer-' Correlation-stats-spec: >>---+-----+-----
----->
'-KEYCARD-----'

,-----,
V .-FREQVAL -NUMCOLS--1--COUNT--10--MOST-----, |
>---+-----+-----+--->
'-FREQVAL -NUMCOLS--integer-----+-----+-'
| .-MOST--, |
'-COUNT--integer-----+-----+-'
+-BOTH--+
'-LEAST-'

,-----,
V |

```



```
'-UNIT--name-----' '-MODELDB--dsname-'
.-BUFNO=30-----,
>+-----+--+-----+--+-----+--+-----+--+-----+
--->
'-BUFNO--integer-' '-DATACLAS--name-' '-MGMTCLAS--name-'
>+-----+--+-----+--+-----+--+-----+--+-----+
--->
'-STORCLAS--name-' +-RETPD integer+-
                     '-EXPDL' date'--'
>+-----+--+-----+--+-----+--+-----+--+-----+
--->
|               .-,-----.| | '-VOLCNT--integer-'
|                   V       | | 
'-VOLUMES--(---volser-+-)-'
                        .-GDGLIMIT--99-----,
>+-----+--+-----+--+-----+--+-----+--+-----+
-->
'-UNCNT--integer-'   '-GDGLIMIT--integer-'
>+-----+--+-----+--+-----+--+-----+--+-----+
-->
'-DISP--(--+-NEW+--,--+-DELETE--+,--+-DELETE--+-)-'
            +-OLD+      +-KEEP----+    +-KEEP----+
            +-SHR+      +-CATLG---+    +-CATLG---+
            '-MOD-'     '-UNCATLG-'    '-UNCATLG-'
>+-----+--+-----+--+-----+--+-----+--+-----+
->< '-LIMIT(n+-CYL+-,new_template)-' '-TIME--+-LOCAL+-' +GB--+ '-UTC---'
'MB--' Disk-options .-SPACE-CYL-----, >>+-----+
-----+--+-----+--+-----+--+-----+--+-----+
          '-SPACE--+-----+--+-----+--+-----+--+-----+'
              '(primary,secondary)-' +-TRK+
                                  '-MB--'
.-PCTPRIME--100-----,
>+-----+--+-----+--+-----+--+-----+--+-----+
-->
'-PCTPRIME--integer-' '-MAXPRIME--integer-'
.-NBRSECND--10-----,
>+-----+--+-----+--+-----+--+-----+--+-----+
-->
'-NBRSECND--integer-' '-DIR--integer-'
>+-----+--+-----+--+-----+--+-----+--+-----+
->< '-DSNTYPE--+LIBRARY+-' +PDS-----+ +HFS-----+ +NULL-----+ +BASIC---+
+LARGE---+ +EXTREQ--+ '-EXTPREF-' Tape-options .-STACK--NO-. .-TRTCH--
NONE-----, >>+-----+--+-----+--+-----+--+-----+--+-----+
----->< '-STACK--YES-' '-JES3DD--ddname-' '-TRTCH--+COMP---+' '-
NOCOMP-' Path-expression >>-PATH-pathname-----
----->
```

```

.-FILEDATA--RECORD--RECFM--VB--LRECL--32756-----.
>--+-----+----->
' -FILEDATA--+--TEXT--+--RECFM--+--VB--+--LRECL--int-'
      '-BINARY-'          +-V--+
                          +-FB--+
                          '-F--'

.-PATHOPTS--(--+--ORDONLY-----+--)-.
|              '-OCREAT,OWRONLY-----'      |
>--+-----+----->
|              .,-----.      |
|              V .-ORDONLY---. |      |
'-PATHOPTS--(--+--OCREAT-----+--)-'
              +-OWRONLY---+
              '-ONONBLOCK-'

.-PATHMODE--(SIRUSR)-----.
>--+-----+----->
|              .,-----.      |
|              V              |      |
'-PATHMODE--(--+--SIRUSR--+--)-'
              +-SIWUSR--+
              +-SIXUSR--+
              +-SIRWXU--+
              +-SIRGRP--+
              +-SIWGRP--+
              +-SIXGRP--+
              +-SIRWXG--+
              +-SIROTH--+
              +-SIWOTH--+
              +-SIXOTH--+
              +-SIRWXO--+

.-PATHDISP--(KEEP,KEEP)-----.
>--+-----+----->< '-PATHDISP-
- (--+--KEEP--+-- ,--+--KEEP--+--)-'
  '-DELETE-'      '-DELETE-'

```

UNLOAD

```

.-----.
V              |
>>-UNLOAD--+--DATA--from-table-spec-----+--+-----
-->
|              '-from-table-spec-'      |

```



```

'-DECFLOAT_ROUNDMODE--+-ROUND_CEILING---' '-IMPLICIT_TZ-timezone-string-'
+-ROUND_DOWN-----+
+-ROUND_FLOOR-----+
+-ROUND_HALF_DOWN--+
+-ROUND_HALF_EVEN--+
+-ROUND_HALF_UP---+
+-ROUND_UP-----+
>--+-----+-----+-----+-----+-----+-----+-----+-----+-----+
->
'-IMPLICIT_TZ--'timezone-string'- '
.-PARALLEL--0-----,
>--+-----+-----+-----+-----+-----+-----+-----+-----+-----+
->< '-PARALLEL--num-subtasks-' From-table spec >>-FROM--TABLE--table-name-----
-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
.-HEADER--OBID-----,
>--+-----+-----+-----+-----+-----+-----+-----+-----+-----+
->
'-HEADER--+-NONE-----+--'
'-CONST--+-'string'-----+--'
'-X'hex-string'- '
>--+-----+-----+-----+-----+-----+-----+-----+-----+-----+
->
'-SAMPLE--decimal-' '-LIMIT--integer-'
>--+-----+-----+-----+-----+-----+-----+-----+-----+-----+
->
| .,-----, |
| V | |
'-(---field-specification--)-'
>--+-----+-----+-----+-----+-----+-----+-----+-----+-----+
->< '-WHEN--(selection-condition)-' Field spec .-POSITION(*)-----, >>-field-
name--+-----+-----+-----+-----+-----+-----+-----+-----+-----+
'-POSITION(start)-'
>--+-----+-----+-----+-----+-----+-----+-----+-----+-----+><
+-CHAR--+-----+-----+-----+-----+-----+-----+-----+-----+-----+ | '-
(length)-' +-TRUNCATE-----+ | | '-+-BLOBF---+-
template-name---+-----+-----+ | | +-CLOBF---+ '-BINARYXML-' | | '-DBCLOBF-' |
+-VARCHAR--+-----+-----+-----+-----+-----+-----+-----+-----+-----+ | '-
(length)-' +-strip-spec-----+ | | '-+-BLOBF---+-
template-name--+-----+-----+ | | +-CLOBF---+ '-BINARYXML-' | | '-DBCLOBF-' |
+-GRAPHIC--+-----+-----+-----+-----+-----+-----+-----+-----+-----+ | '-
EXTERNAL-' '-(length)-' '-TRUNCATE-' | +-VARGRAPHIC+-----+strip-spec--
-----+ | '-(length)-' | +-SMALLINT-----
-----+ +INTEGER--+-----+-----+-----+-----+-----+-----+-----+
-----+ | '-EXTERNAL+-----+--' | | '-(length)-' |
+-BIGINT-----+-----+-----+-----+-----+-----+-----+-----+-----+ +BINARY-
+-+-----+-----+-----+-----+-----+-----+-----+-----+-----+ | '-(length)-' '-
TRUNCATE-' | +-+-VARBINARY-----+-----+-----+-----+-----+-----+-----+

```

```

--+ | '-BINARY VARYING-' | +-strip-spec-----
-----+ | .-PACKED---. | +-DECIMAL--+-----+---+-----
-----+-----+ | +-ZONED----+ | .-,0-----. | | | '-EXTERNAL-' '-
(length)-+-----+)-' | | '-,scale-' | +-FLOAT+-----+-----+---
-----+ | '-EXTERNAL-' '-(length)-' | +-DOUBLE-----
-----+-----+-----+ +-REAL-----
-----+-----+ +DATE--EXTERNAL--+-----+---
-----+ | '-(length)-' | +-TIME--EXTERNAL--+-----
-----+-----+-----+ | '-(length)-' | +-TIMESTAMP--
EXTERNAL--+-----+-----+ | '-(length)-' | +-
TIMESTAMP WITH THE ZONE EXTERNAL--+-----+-----+ | '-
(length)-' | +-CONSTANT--+-'string'-----+-----
--+ | '-X'hex-string-' | +-ROWID-----
-----+ +-BLOB+-----+-----+-----
-----+ | '-(length)-' '-TRUNCATE-' | +-CLOB+-----+-----+-----
-----+ | '-(length)-' '-TRUNCATE-' | +-DBCLOB+-----
--+-----+-----+ | '-(length)-' '-TRUNCATE-'
| | .-(34)-----+-----+ | +-DECFLOAT--+-----+-----
-----+ | +--(16)-----+ | | '-EXTERNAL--+-----
---++ | | '-(length)-' | '-XML--+-----+-----
-----+-----+ '-BINARYXML-' Strip spec >>+-----
-----+-----+----->
| .-BOTH----. |
'-STRIP--+-----+-----+'
+-TRAILING--+ | |
'-LEADING--' +- 'strip-char'-----+
'-X'strip-char'-----'

```

Selection-condition spec

```

>>+-predicate-----+-----
->
'-selection condition-'
.-----,
V |
>-----+-----+-----+-----
->< '-+AND+--+predicate-----+' '-OR--' '-selection condition-'
Predicate >>+-basic predicate-----+-----
----->< +-BETWEEN predicate+ +-IN predicate-----+ +-LIKE predicate----+
+-NULL predicate----+ Basic predicate >>-column-name--+ = --+-----
----->
+- <> +-
+- > --+
+- < --+ +- >= --+
'- < = -' >--+constant-----+-----
----->
'-labeled-duration-expression-'

```

IN predicate

```
      . , - - - - - .  
      V           I  
>>-column-name--+-----+--IN--(--constant--+)------><  
'-NOT-' LIKE predicate >>-column-name--+-----+--LIKE--string-constant-----  
----->  
      '-NOT-'  
>--+-----+-----+-----><  
'-ESCAPE--string-constant-' NULL predicate >>-column-name--IS--+-----+--NULL-  
----->< '-NOT-' Labeled-duration-  
expression >>-+-CURRENT_DATE-----+-----  
----->  
      '-CURRENT_TIMESTAMP-----+-----+-'  
      '-WITH TIME ZONE-'  
      . - - - - - .  
      V           I  
>----+- + -+-constant--+-YEAR-----+-----><  
+-YEARS-----+  
      +-MONTH-----+  
      +-MONTHS-----+  
      +-DAY-----+  
      +-DAYS-----+  
      +-HOUR-----+  
      +-HOURS-----+  
      +-MINUTE-----+  
      +-MINUTES-----+  
      +-SECOND-----+  
      +-SECONDS-----+  
      +-MICROSECOND--+  
      +-MICROSECONDS--+
```

Disclaimer: This Db2® 12 for z/OS Reference Guide was developed to help users in their daily activities in administrating and programming in Db2 for z/OS. There are no guarantees expressed or implied with the contents in this guide. We want to provide a quality and useful reference for users. Please notify us of any mistakes or errors in this reference guide at blogs@bmc.com. Db2 is a registered trademark of the IBM Corporation.