



# What you need to know about DB2

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This work was performed under the auspices of the U.S. Department of Energy  
by University of California, Lawrence Livermore National Laboratory under  
Contract W-7405-Eng-48.



## Most Important Points

- ☀ This is just a survey of the ideas
  - See HPSS Installation and Management Guides
  - Ask HPSS support folks
  - See DB2 documentation
- ☀ HPSS / DB2 Works
- ☀ DB2 has plenty of capacity to run HPSS

## Most Important Points

- ☀ DB2 is easy to work with
- ☀ Copious detailed documentation
  - On-line
    - Web pages
    - PDFs
  - Printed
- ☀ Excellent Support
  - From HPSS support
  - Indirectly from IBM support

## 30000 Ft View

- ☀ DB2 stores HPSS metadata
  - Metadata that used to be in records in SFS files is now in rows of DB2 tables.
- ☀ Each HPSS system uses at least two databases
  - CFG
    - Contains HPSS configuration tables
    - Contains global server metadata (e.g. PVL)
  - SUBSYS1
    - Contains Core Server and MPS metadata
    - Each sub-system has its own database, subsys2, subsys3, etc.

## 30000 Ft View

- ☀ All tables have fixed names
  - Tables are made unique by their placement in unique databases (subsys1, subsys2).
- ☀ All HPSS databases are contained in schema “hpss”

## What You Need to Do

- ☀ Start DB2
  - As needed (e.g. after bringing a node up)
  - Db2start
- ☀ Stop DB2
  - As needed (e.g. when taking a node down)
  - Take HPSS down
  - Db2 force application all
  - Db2stop

## What You Need to Do

- ☀ Develop a backup & restore plan
  - How often?
  - What type?
  - Stored where?
  - Duplicate copies?

## What You Need to Do

- ☀ Backup DB2 regularly
  - Chapter 12 in the Management Guide covers this topic in detail
  - Several types of backups
    - Full offline
      - HPSS not running
    - Full online
      - HPSS running
    - Delta
    - Incremental

## What You Need to Do

- ☀ Backup DB2 regularly
  - Many ways to store backup data
    - Commercial backup system
      - TSM
      - Legato Networker
      - Other XBSA compliant systems

## What You Need to Do

- ☀ Backup DB2 regularly
  - Many ways to store backup data
    - HPSS supplied XBSA tools
      - Automates the storage and retrieval of DB2 backup data to and from tape.
      - Stores backup data on disk, then spools it to tape.
      - Can also store and retrieve DB2 log files.
    - Home grown
      - May be a realistic option if your needs are simple or can't be met by other systems. The basic backup command is simple to understand and use. A backup system could be a tape drive, some tapes and a script.

## What You Need to Do

- ☀ Backup DB2 regularly
  - Several ways to restore DB2
    - Restore to point of failure
    - Restore to a point in time
  - See DB2 “Data Recovery and HA Guide” for all the details.

## What You Need to Do

- ☀ Archive DB2 log files
  - Must provide a place to store finished log files
  - Must provide a user exit program
    - DB2 supplied program easily configured
  - Monitor log archiving for failures
  - May want to keep duplicate copies
  - Store logs as long as necessary per backup.
  - See DB2 “Data Recovery and HA Guide” for all the details.

## What HPSS Will Do

- ☀ Complain when DB2 related errors occur
  - HPSS log messages contain DB2 detailed error text
- ☀ Warn when free table space gets low

## Things You Might Want to Do

- ☀ Monitor General Health of DB2
  - Snazzy GUI monitor tool
- ☀ Rehearse restore scenarios
- ☀ Run runstats or reorgchk
- ☀ Reorganize tables and indexes
- ☀ Tune for maximum performance
  - Everyday workload
  - Changes in workload characteristics
- ☀ None of the above



## Production Experience

- ☀ Excellent!

- DB2 has been running in development, test and production HPSS 5.1 systems without any known problems.
- We have been improving HPSS's use of DB2 and improving the way we recover from DB2 error returns.



## Production Experience

- We have been learning to manage DB2 logs and are working to reduce the number of active logs.
- Complete restorations of DB2 have been rehearsed and have worked flawlessly.