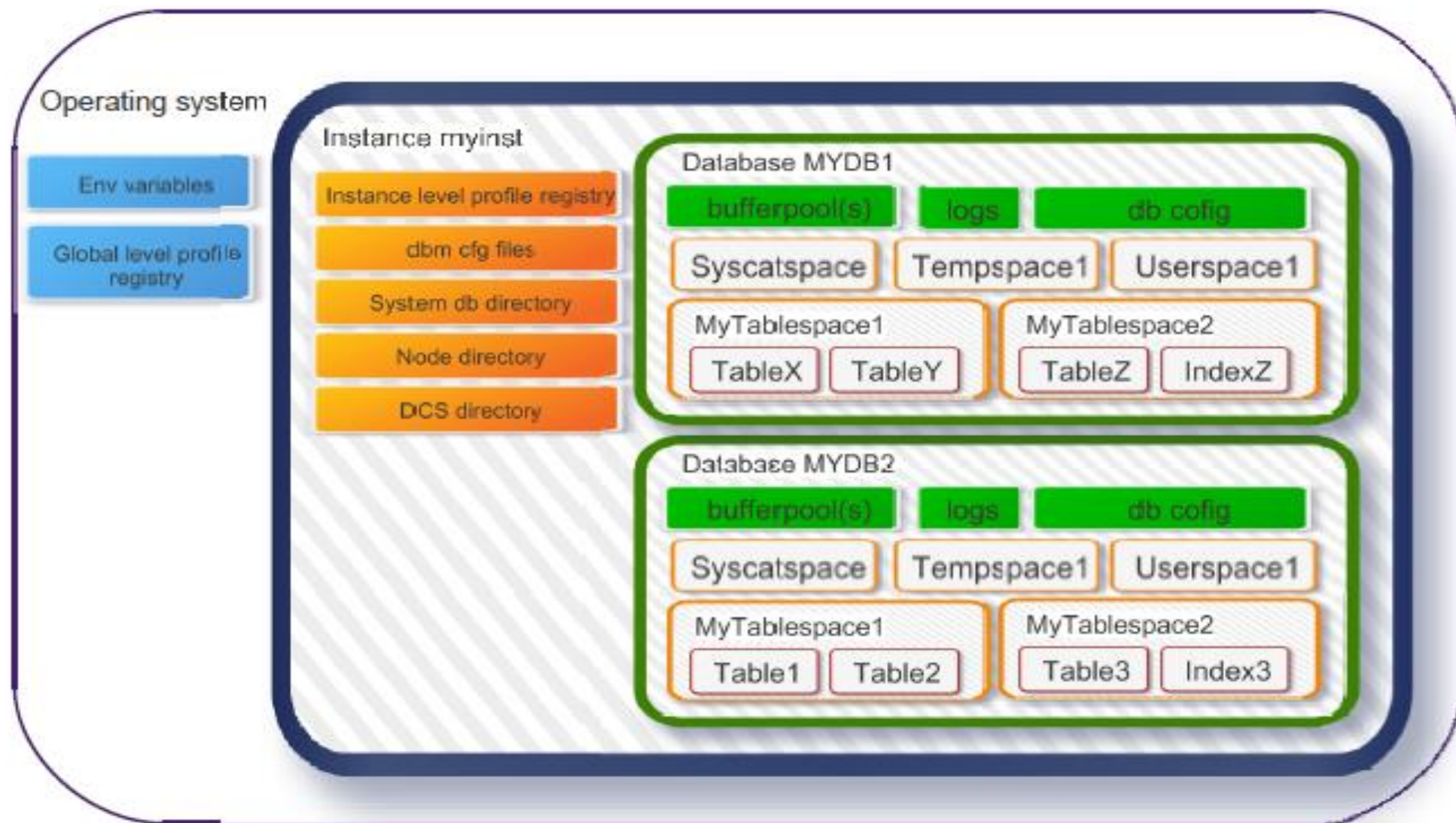# SECTION – 3
DB2 ARCHITECTURE

Lecture 3

DB2 Environment - Instances

Contents

- About Instances in DB2

- DB2 Profile Registries

- DBM Configuration File

- Connectivity Directories

The Big Picture

DB2 Instance

- An instance provides an independent environment where databases can be created

- Instances act as managers to the databases inside them

- Administrators can create multiple instances on a system

- Instances can have multiple databases inside them

Instance Design Consideration

You may want to have multiple instances per server for the following reasons :

- ☐ You want to separate your Production and Test environments but you cannot afford to have different servers.

- ☐ For security reasons, you want to have different instances.

- ☐ You want to configure instances differently depending on your application.

DBM configuration file (dbm cfg)

db2=> get dbm cfg

```
Administrator: DB2 CLP - DB2COPY1 - db2
db2 => get dbm cfg

          Database Manager Configuration

     Node type = Database Server with local and remote clients

Database manager configuration release level               = 0x0d00

CPU speed (millisec/instruction)            (CPUSPEED) = 2.834065e-007

Max number of concurrently active databases      (NUMDB) = 8
Federated Database System Support           (FEDERATED) = NO
Transaction processor monitor name         (TP_MON_NAME) =

Default charge-back account            (DFT_ACCOUNT_STR) =

Java Development Kit installation path       (JDK_PATH) = C:\PROGRA~1\IBM\SQLLIB\java\jdk

Diagnostic error capture level             (DIAGLEVEL) = 3
Notify Level                              (NOTIFYLEVEL) = 3
Diagnostic data directory path               (DIAGPATH) =
Alternate diagnostic data directory path (ALT_DIAGPATH) =
Size of rotating db2diag & notify logs (MB)  (DIAGSIZE) = 0

Default database monitor switches
  Buffer pool                         (DFT_MON_BUFPOOL) = OFF
  Lock                                   (DFT_MON_LOCK) = OFF
  Sort                                   (DFT_MON_SORT) = OFF
  Statement                              (DFT_MON_STMT) = OFF
  Table                                 (DFT_MON_TABLE) = OFF
  Timestamp                         (DFT_MON_TIMESTAMP) = ON
  Unit of work                            (DFT_MON_UOW) = OFF
Monitor health of instance and databases    (HEALTH_MON) = ON

SYSADM group name                         (SYSADM_GROUP) =
SYSCTRL group name                       (SYSCTRL_GROUP) =
SYSMAINT group name                     (SYSMAINT_GROUP) =
SYSMON group name                         (SYSMON_GROUP) =
```

The DB2 Profile Registry

☐ The DB2 registry variables provide a centralized location where some key variables influencing DB2's behavior reside.

    ☐ The DB2 instance-level profile registry

        ■ Variables set at this level apply only to a specific instance

    ☐ The DB2 global-level profile registry

        ■ Variables set at this level apply globally to all instances

To view the current DB2 registry variables, issue the following command from the *CLP*: **db2set -all**

Connectivity and Directories

In DB2, directories are used to store connectivity information about databases and the servers on which they reside.

Configuration Assistant graphical tool may be used very conveniently to set up database and server connectivity.

- ❑ System Database Directory (list db directory)
- ❑ Node Directory (list node directory)
- ❑ DCS Directory (list dcs directory)