



IBM Software Group

# DB2 Express-C 9 overview course

## *DB2 Environment*

**DB2** Information Management Software



# DB2: The big picture

## DB2 Commands & SQL/XML, Xquery Statements

### SQL/XML, Xquery Statements

create bufferpool  
create tablespace  
create table  
alter bufferpool  
alter tablespace  
alter table  
select  
insert  
update  
delete  
...

### DB2 System Commands

db2set  
db2start  
db2stop  
db2ilist  
db2icrt  
db2idrop  
...

### DB2 CLP Commands

db2 [ update dbm cfg  
catalog db  
list node directory  
create database  
list applications  
list tablespaces  
...  
<sql statement>  
xquery < > ]

## DB2 Tools

### Command Line Tools

Command Editor  
Command Line Processor  
Command Window

### Development Tools

DB2 Developer Workbench  
Project Deployment Tool

### General Administration Tools

Control Center  
Journal  
License Center  
Replication Center  
Task Center

### Information

Information Center  
Check for DB2 Updates

### Monitoring Tools

Event Analyzer  
Health Center  
Indoubt Transaction Manager  
Memory Visualizer  
Activity Monitor

### Setup Tools

Configuration Assistant  
Configure DB2 .Net Data Provider  
Default DB2 Selection Wizard  
First Steps  
Register Visual Studio Add-ins

## DB2 Environment

### Instance 'myinst'

Database Manager  
Configuration  
File (dbm cfg)

### Database MYDB1

Database  
Configuration  
File (db cfg)

Port

# DB2: The big picture

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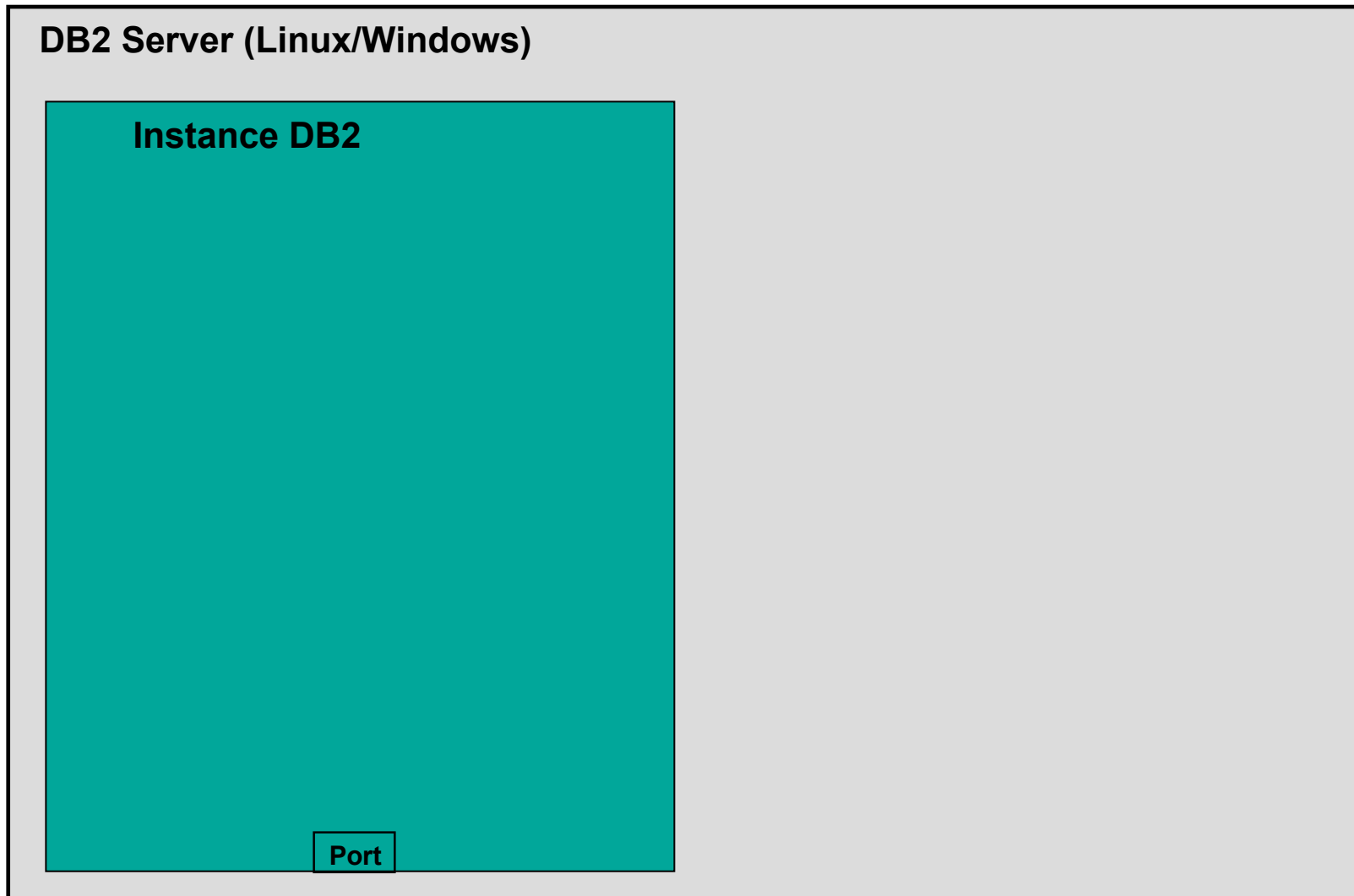
Database  
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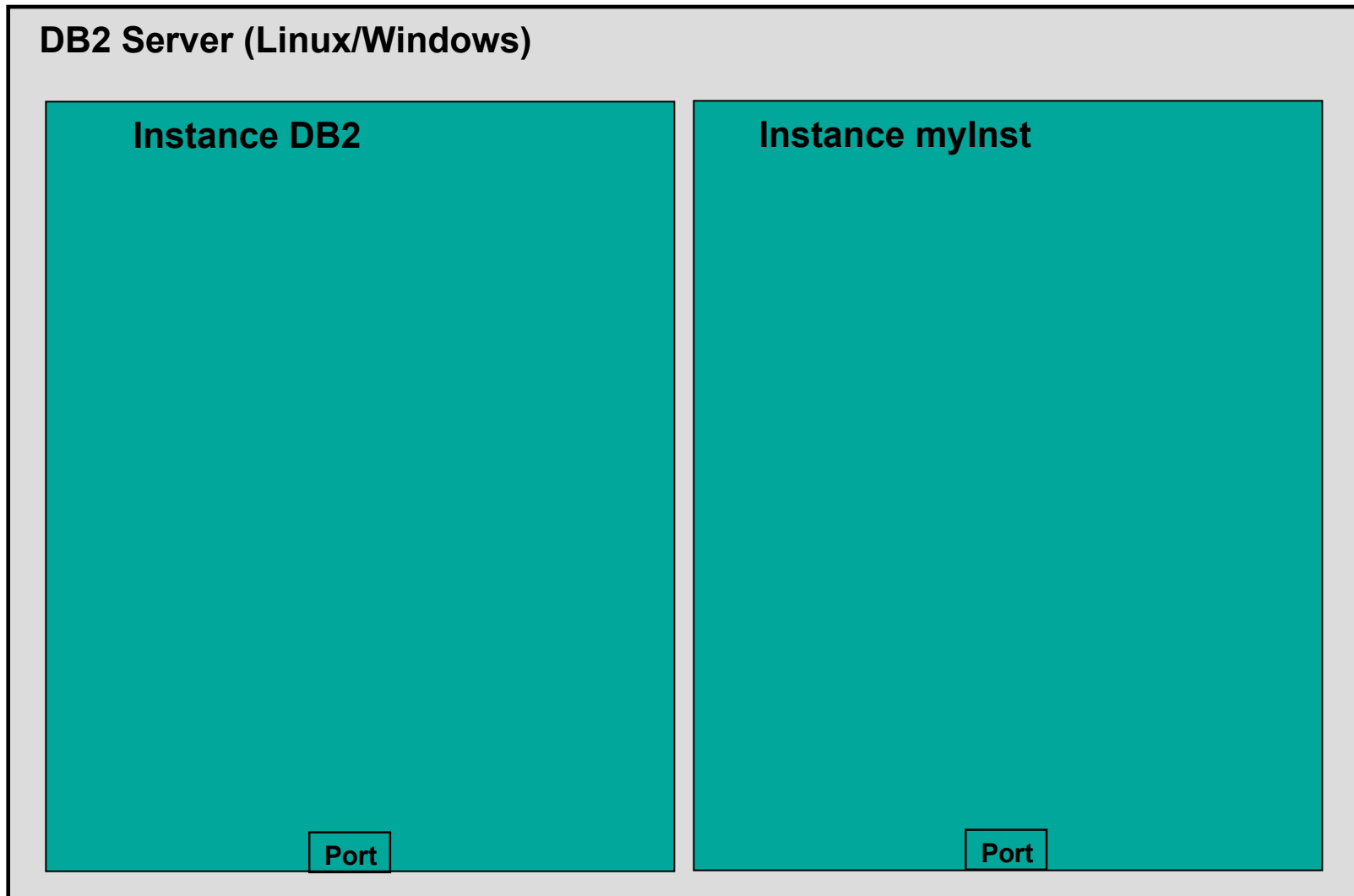
# The DB2 Environment

**DB2 Server (Linux/Windows)**

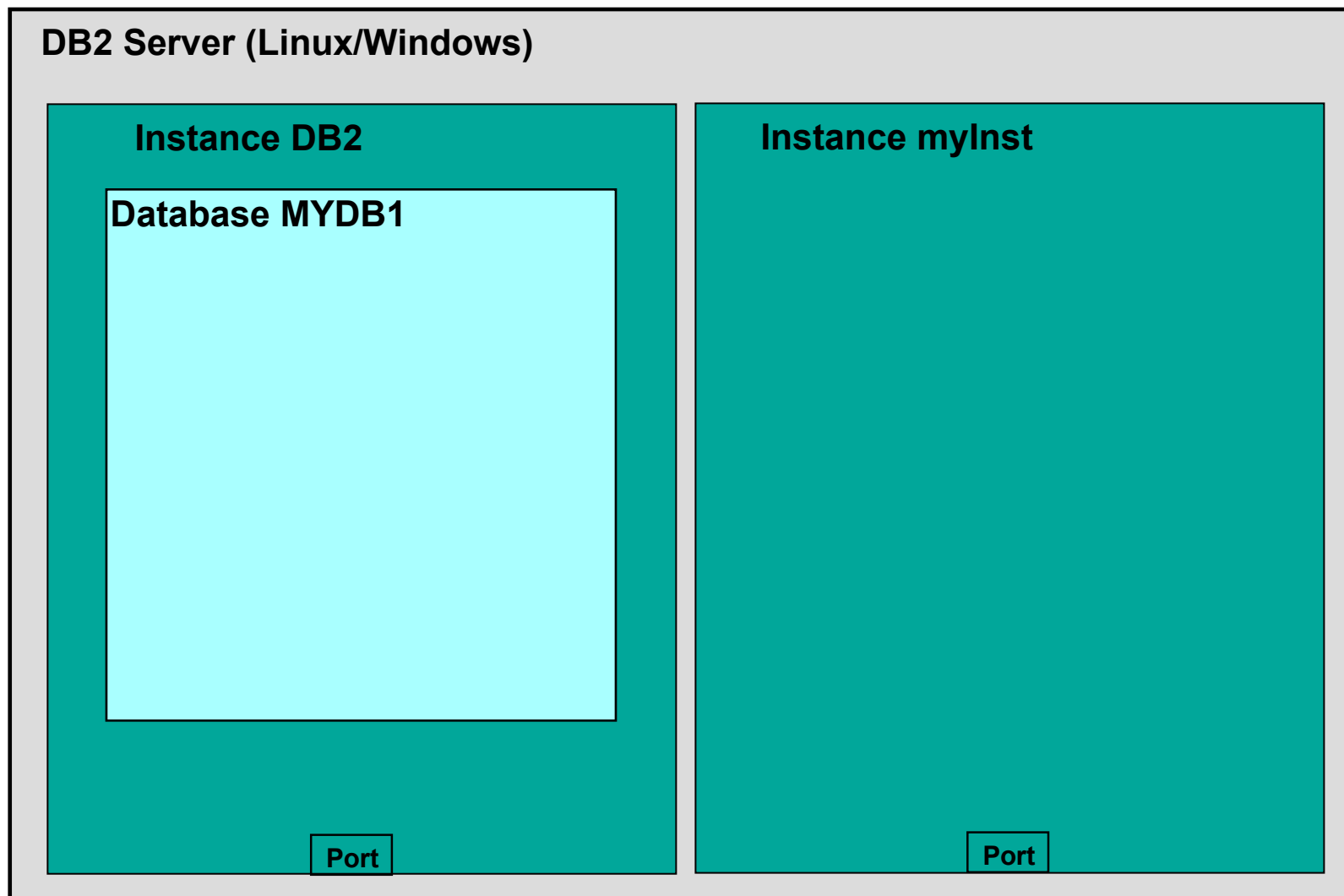
# The DB2 Environment



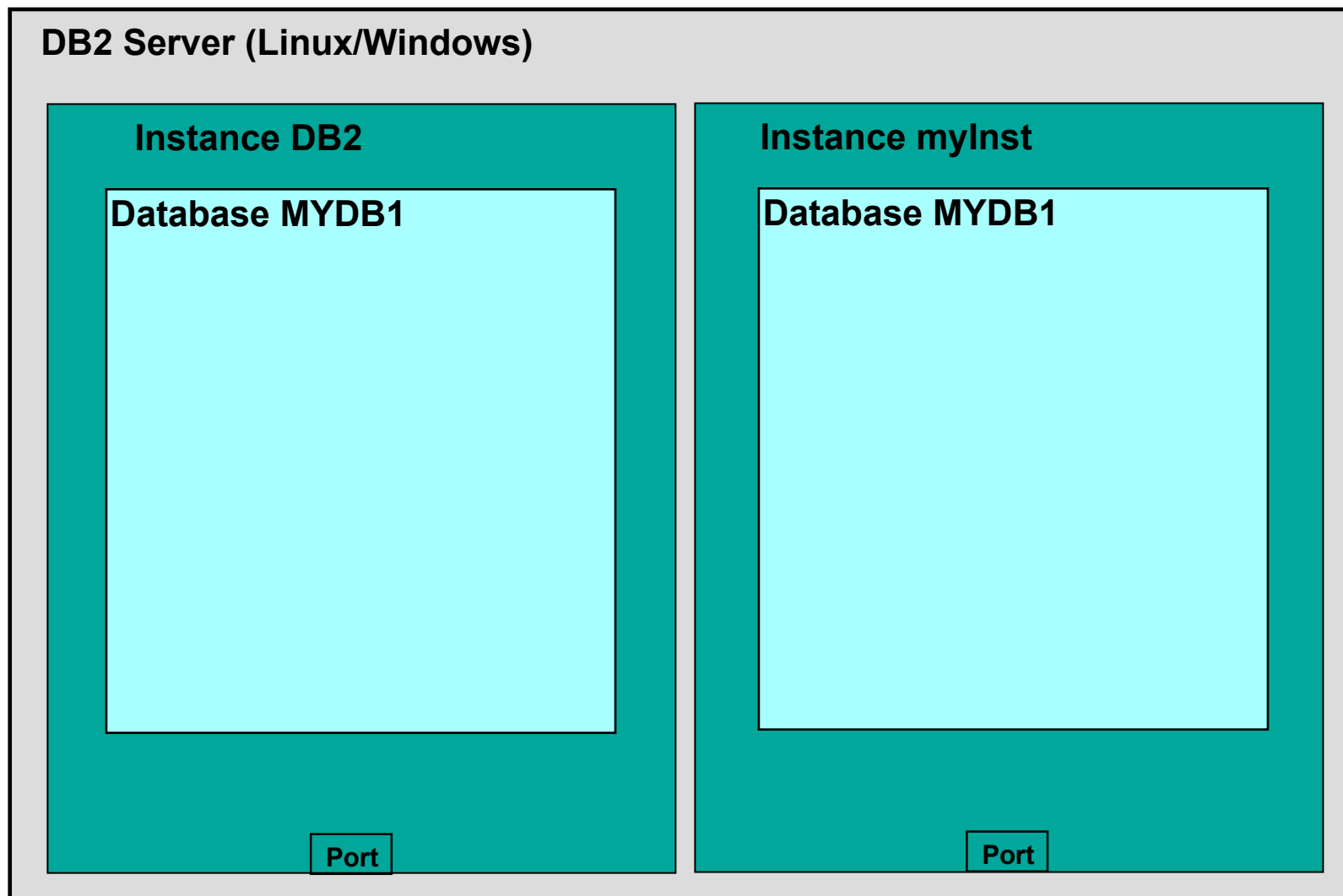
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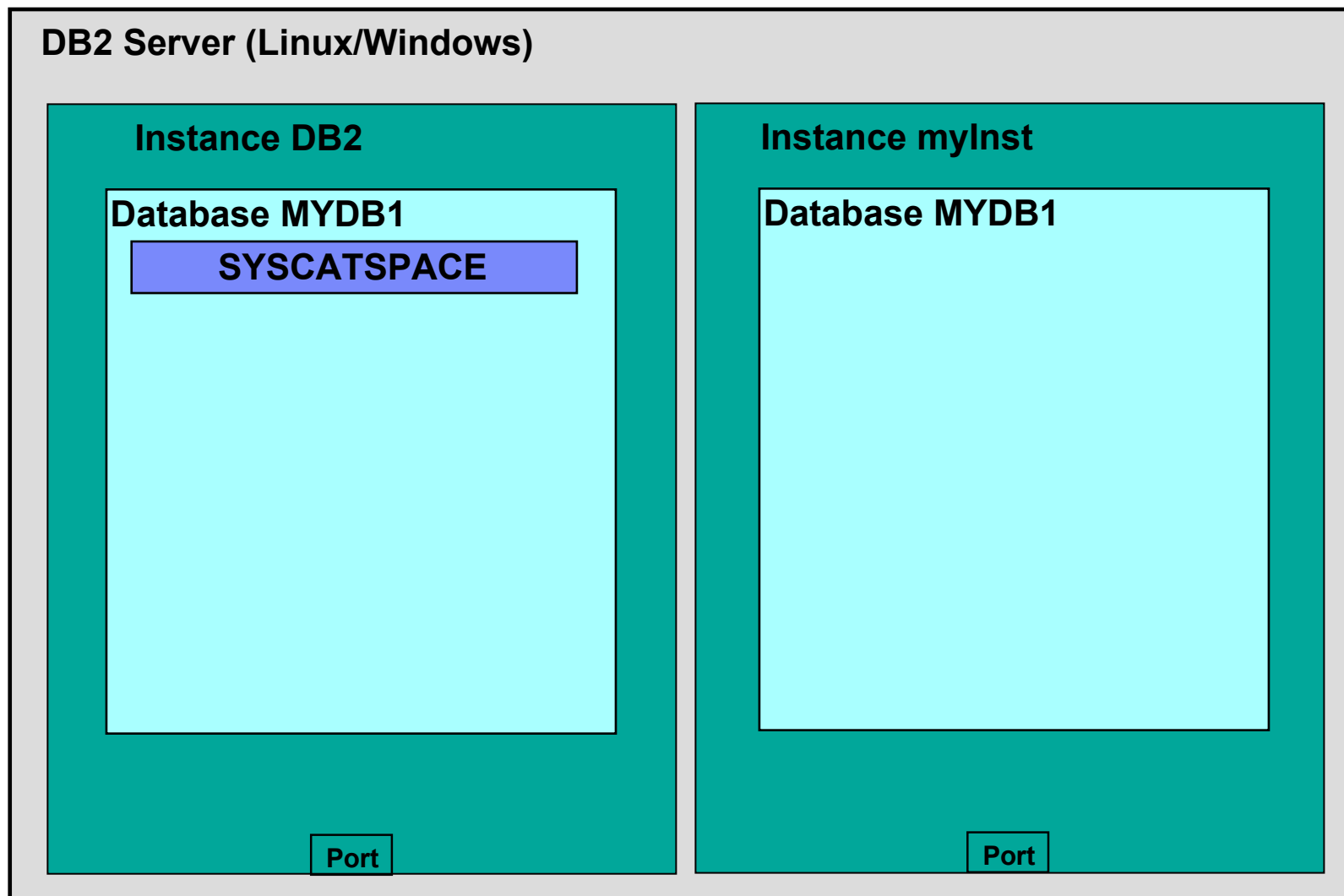


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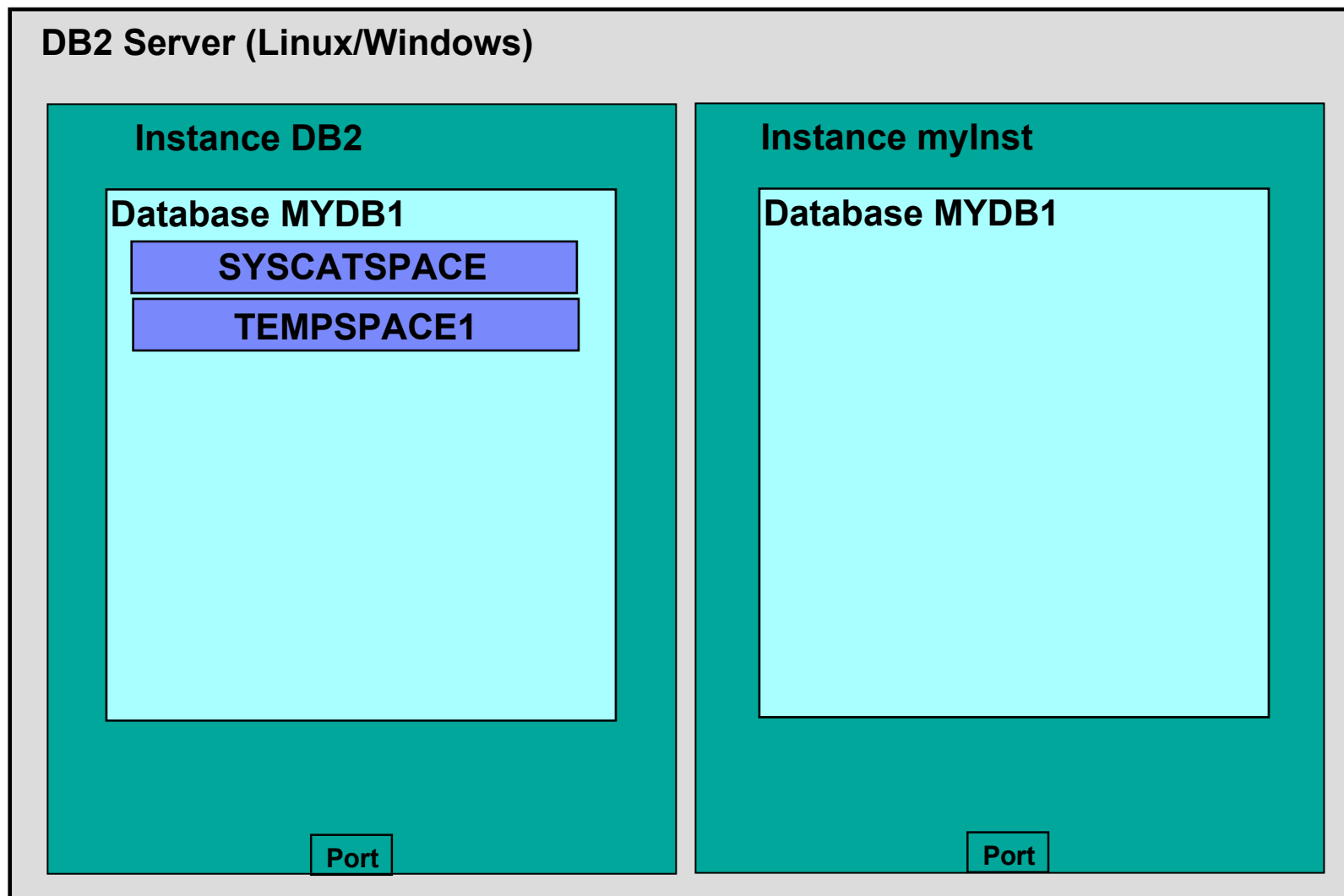




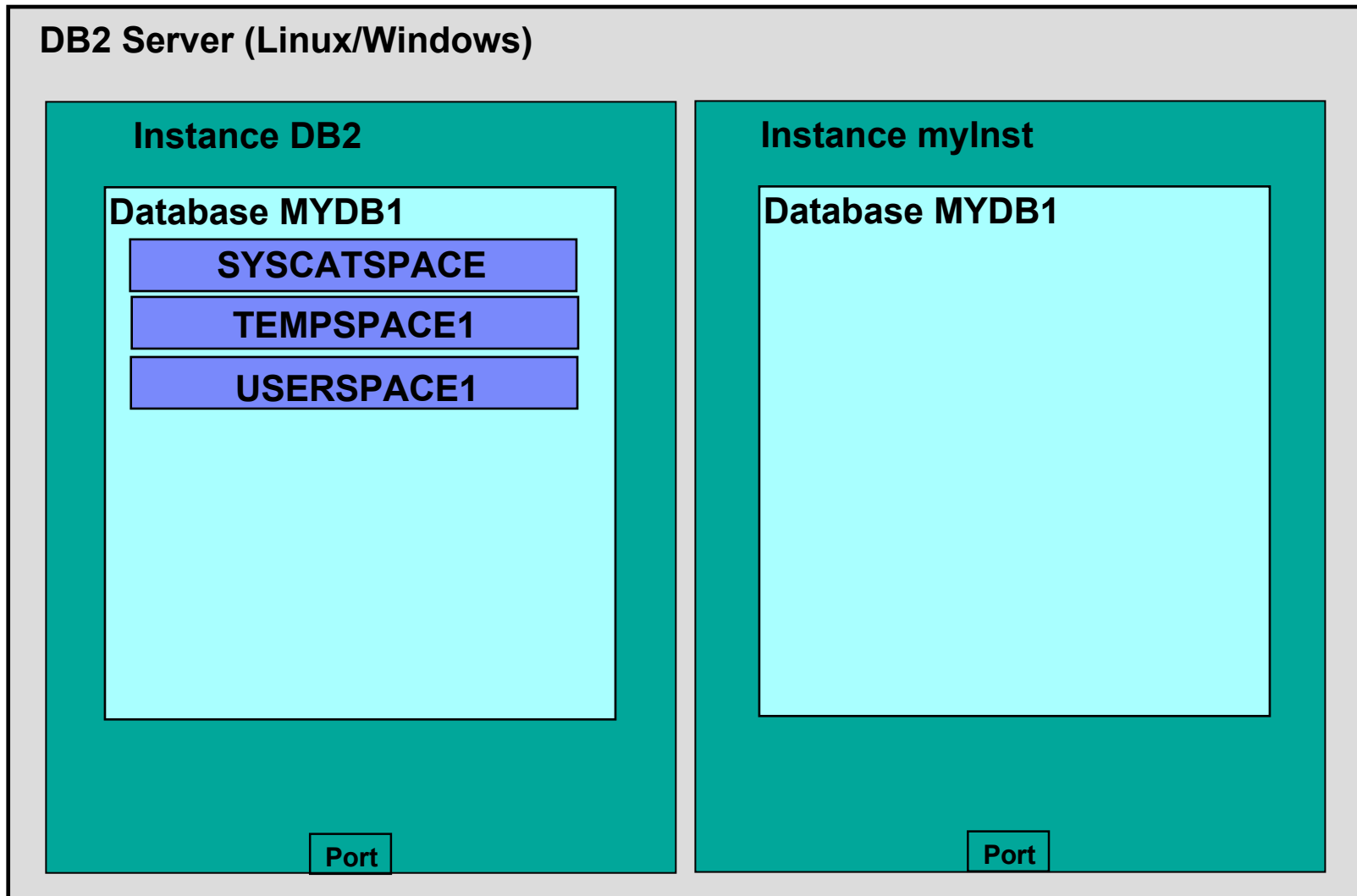
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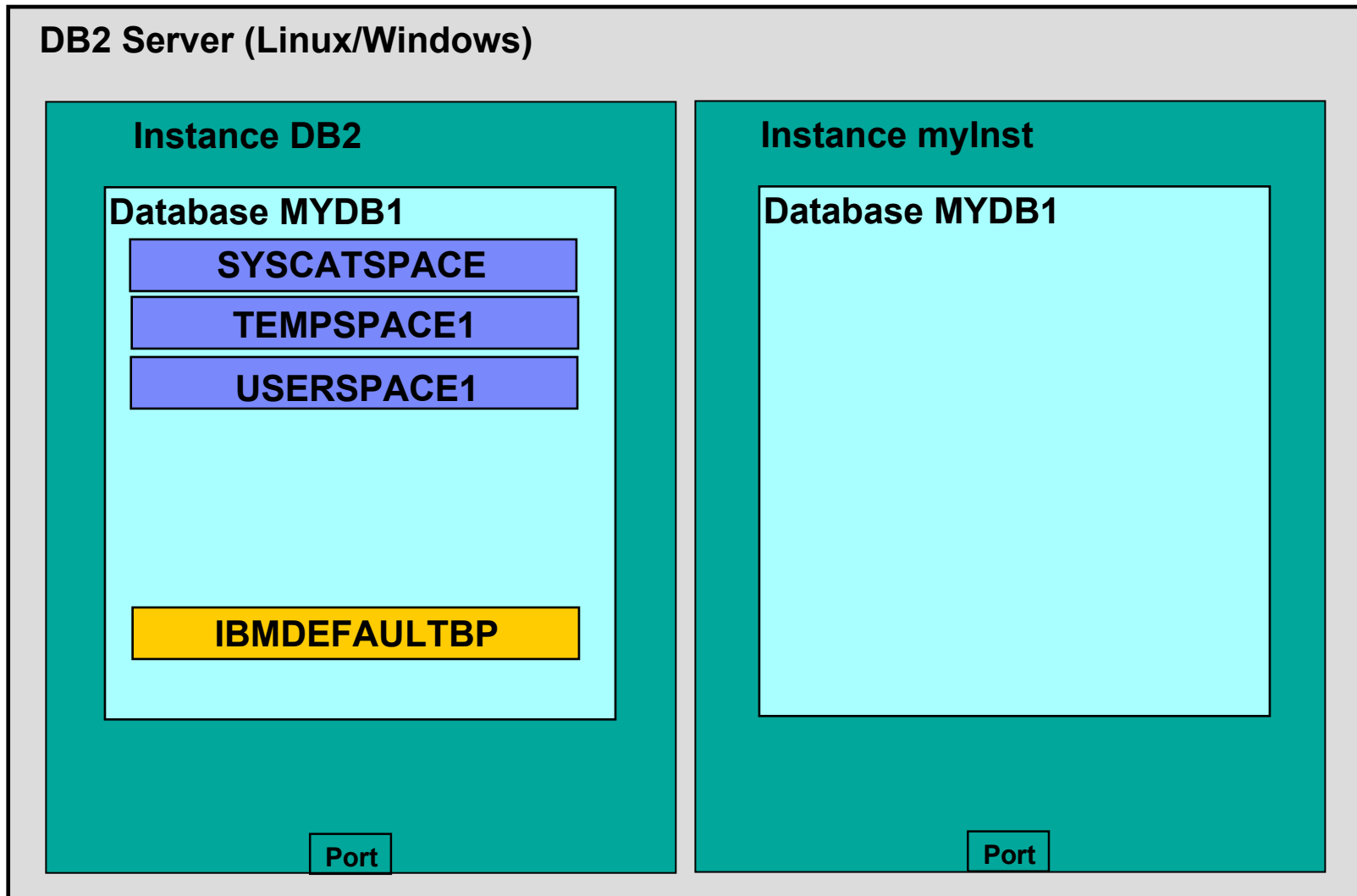
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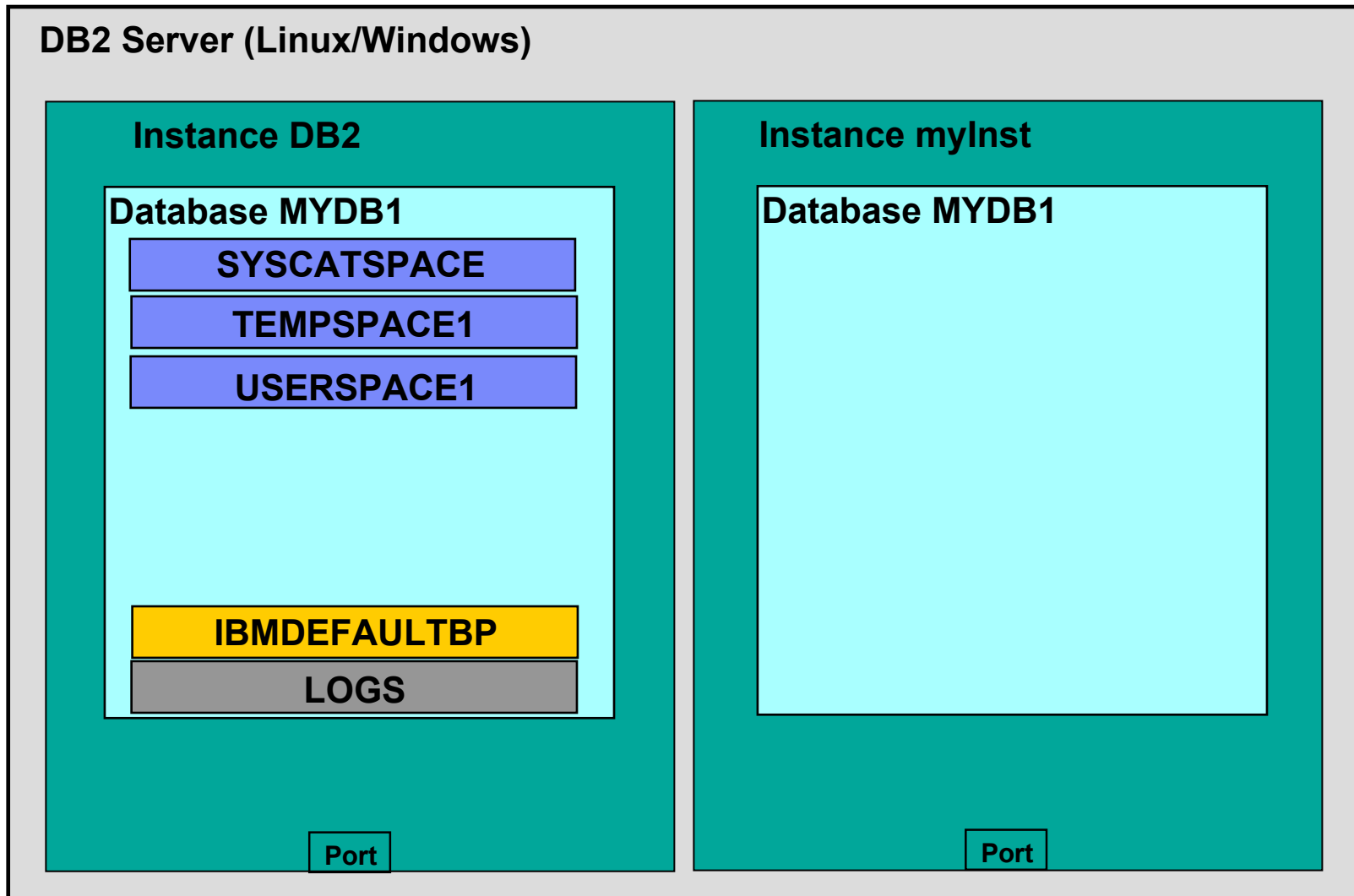
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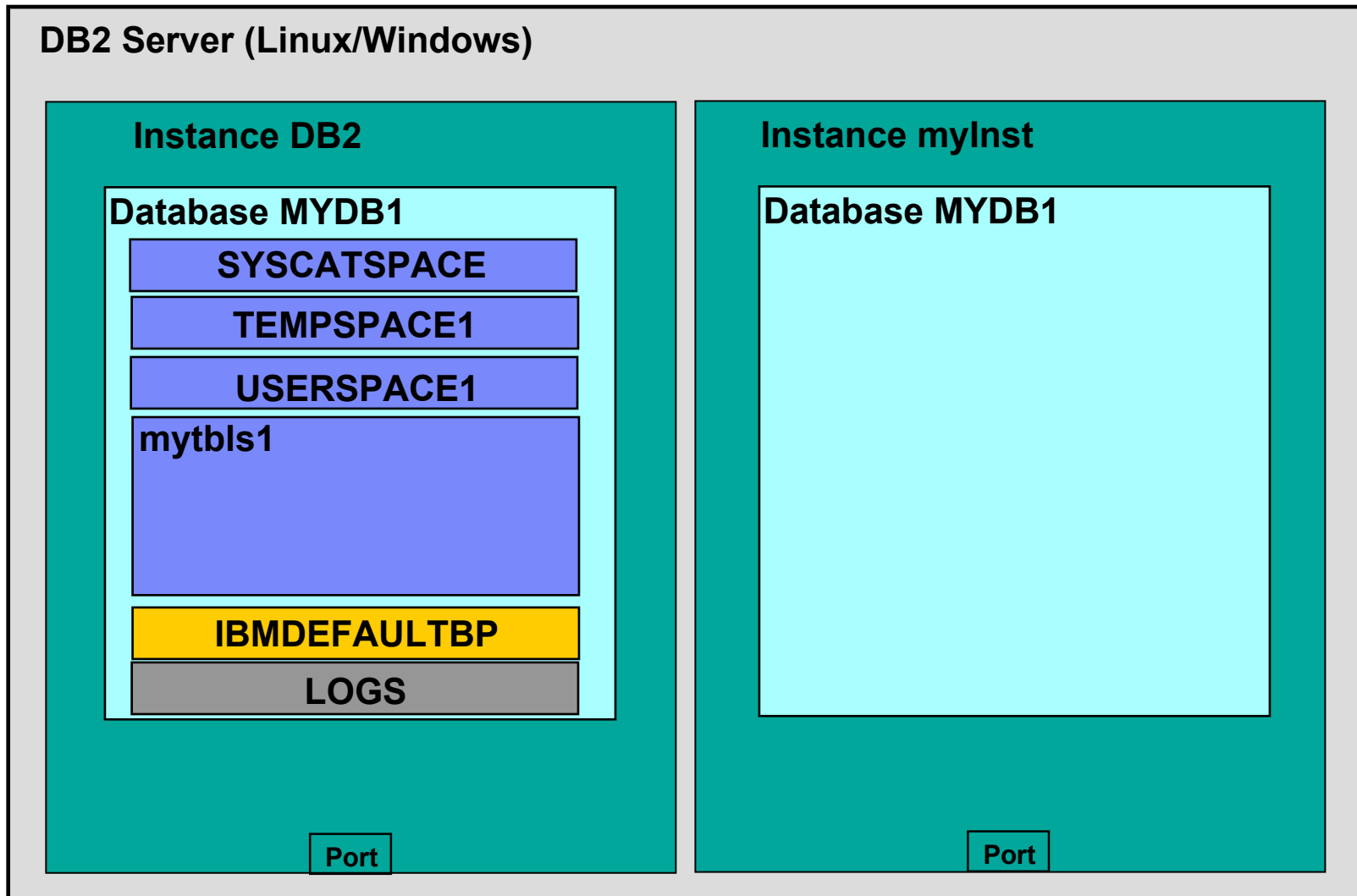
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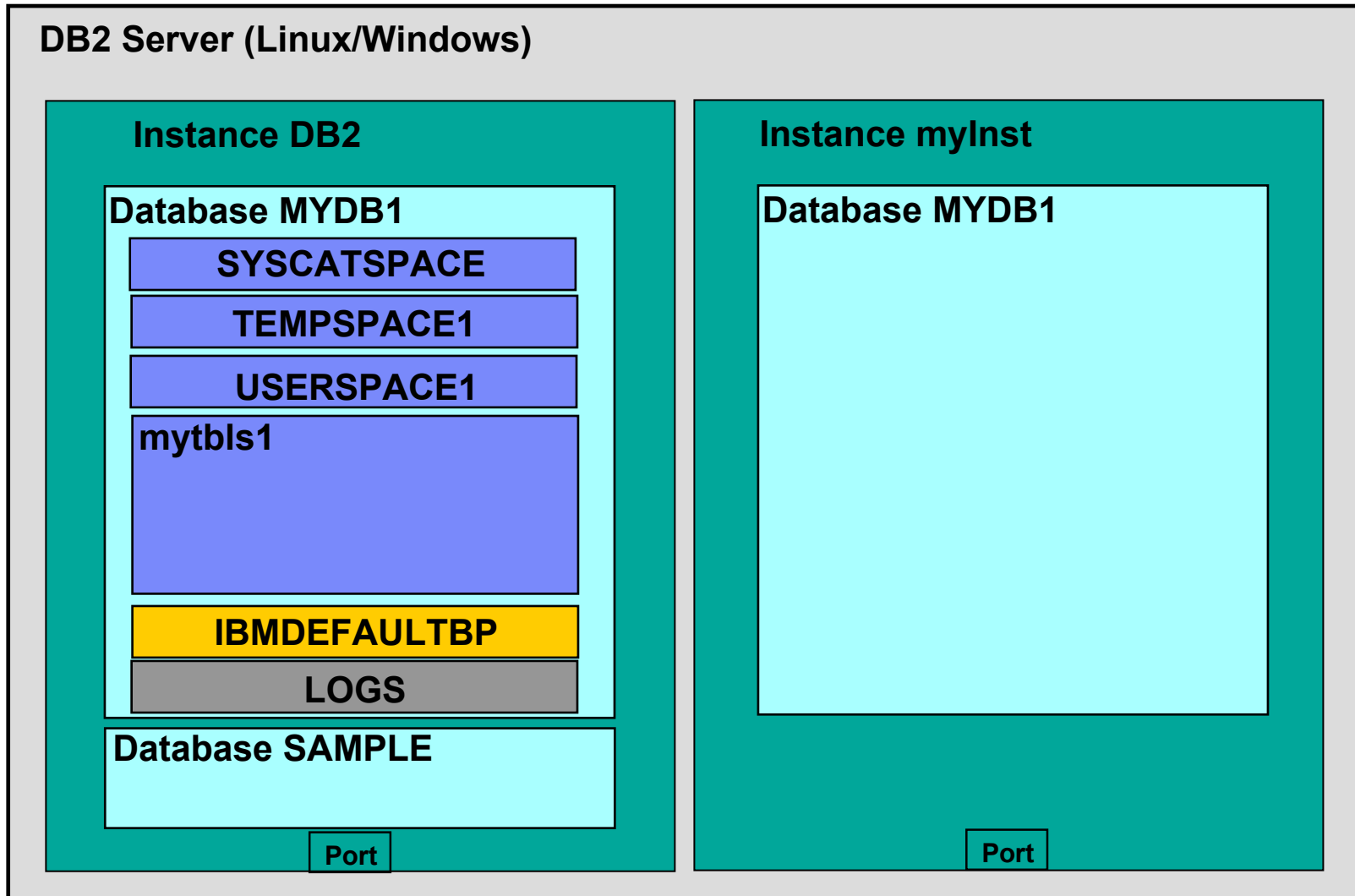
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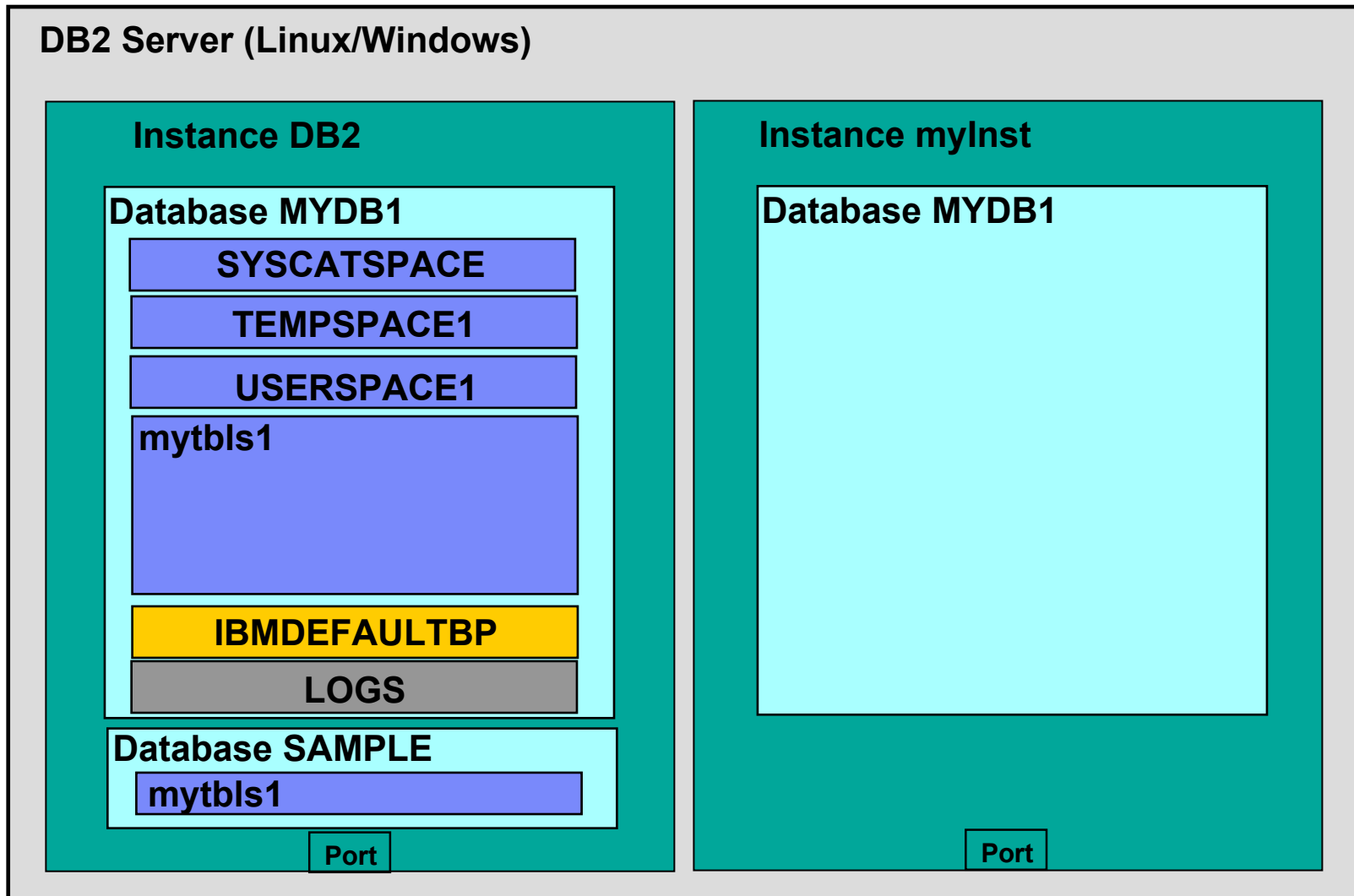
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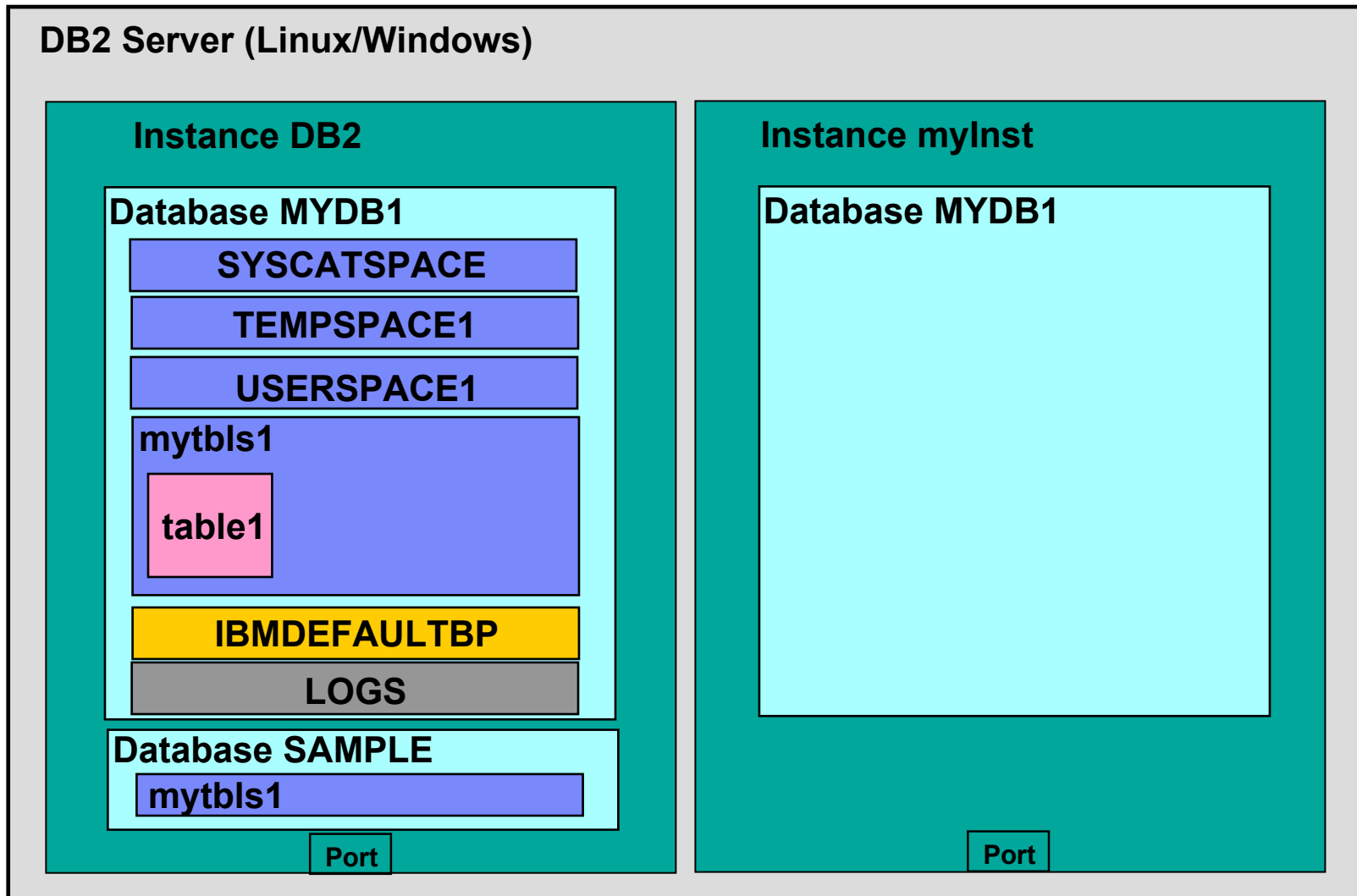


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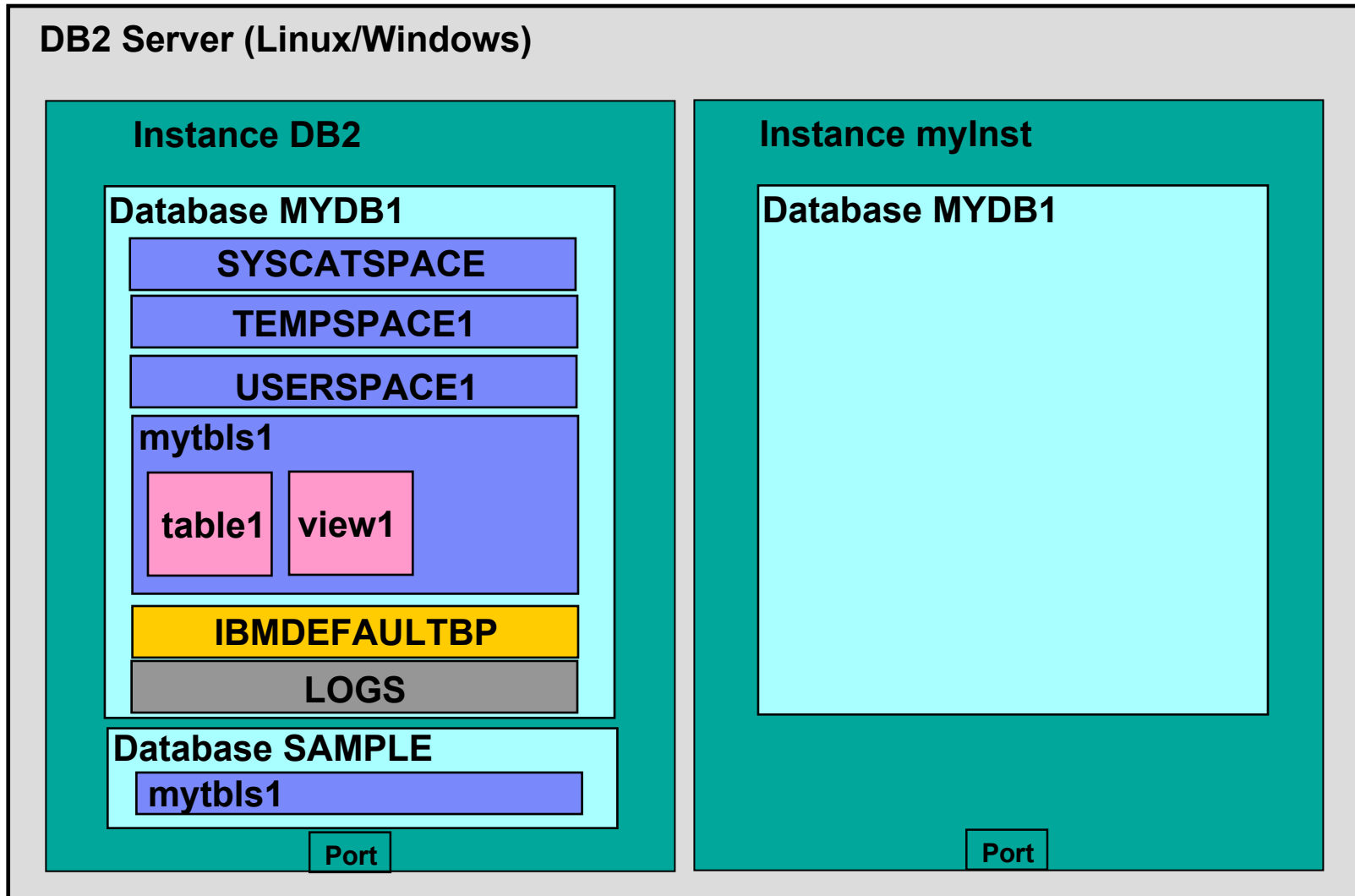




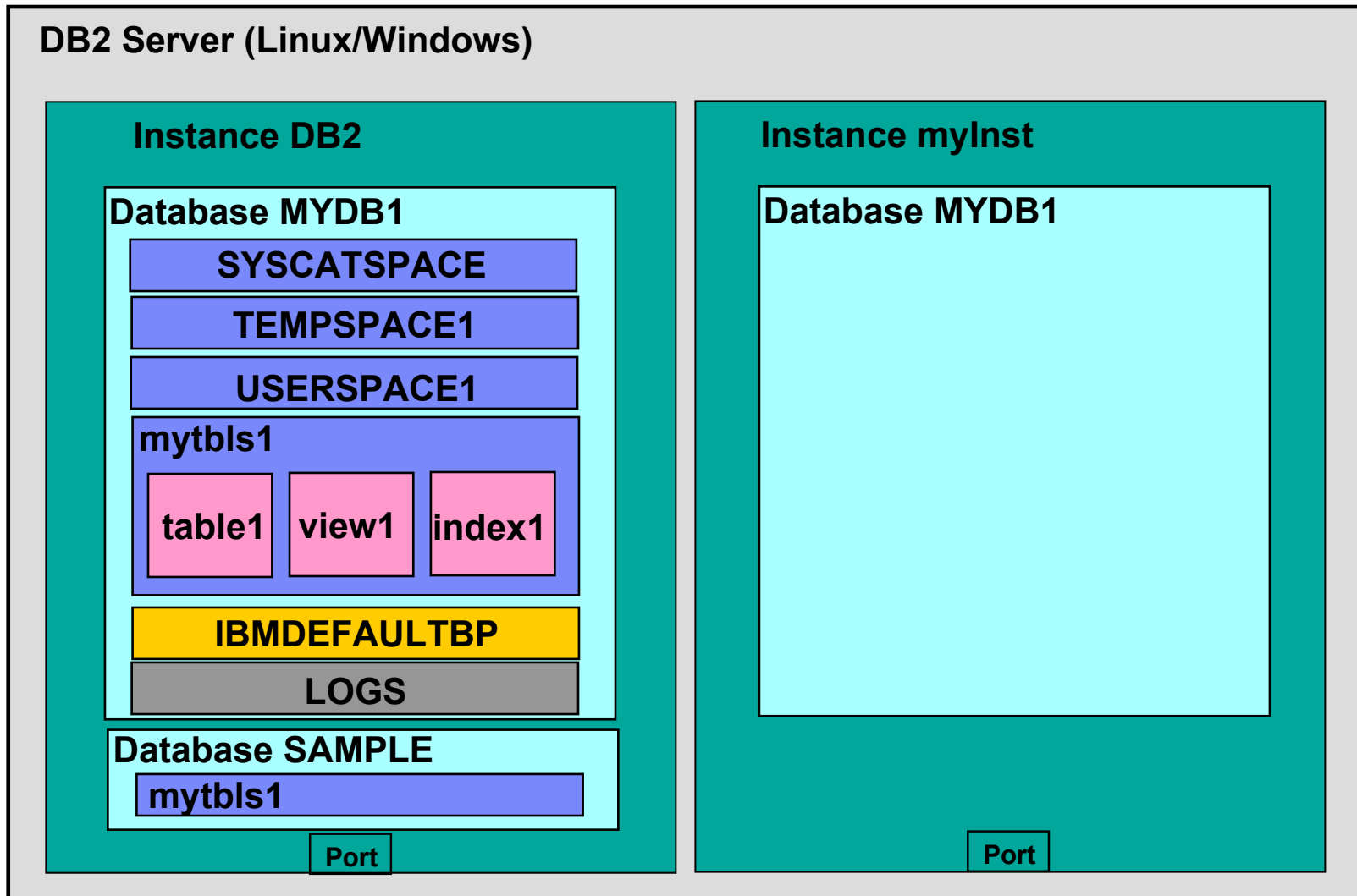
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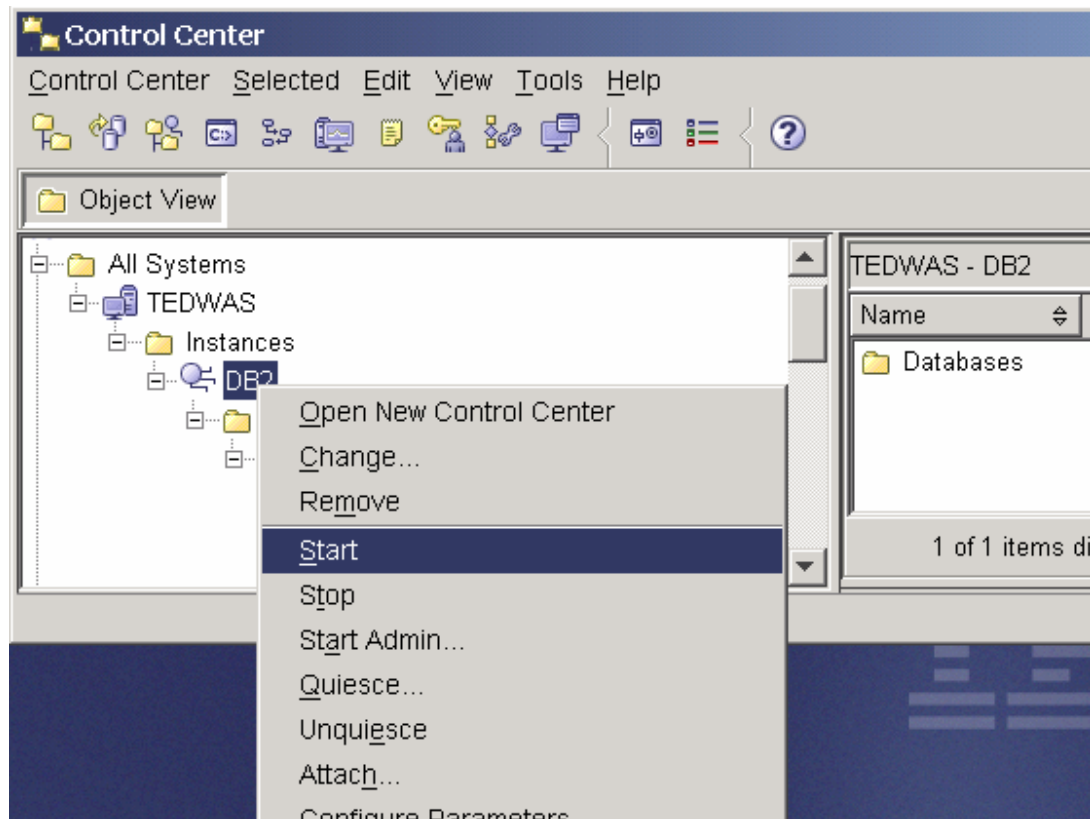


# Demo



# Stopping/Starting Instance

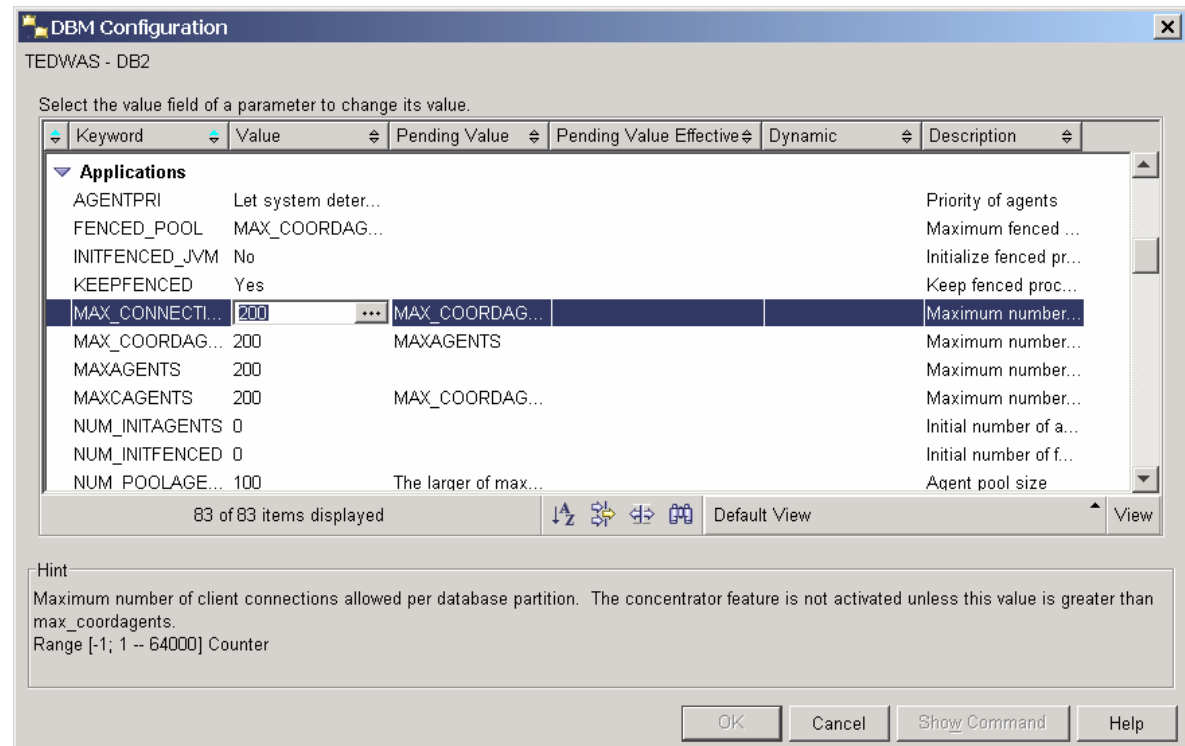
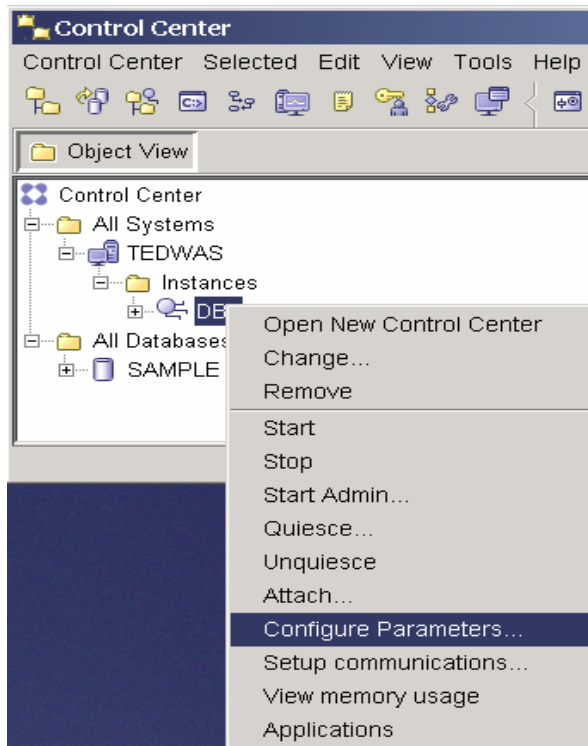
- It is sometimes necessary to stop and restart an instance
  - example: after changing a non-dynamic parameter in the DBM CFG



Control Center > (expand) Instances folder > (right-click) Instance > Start/Stop

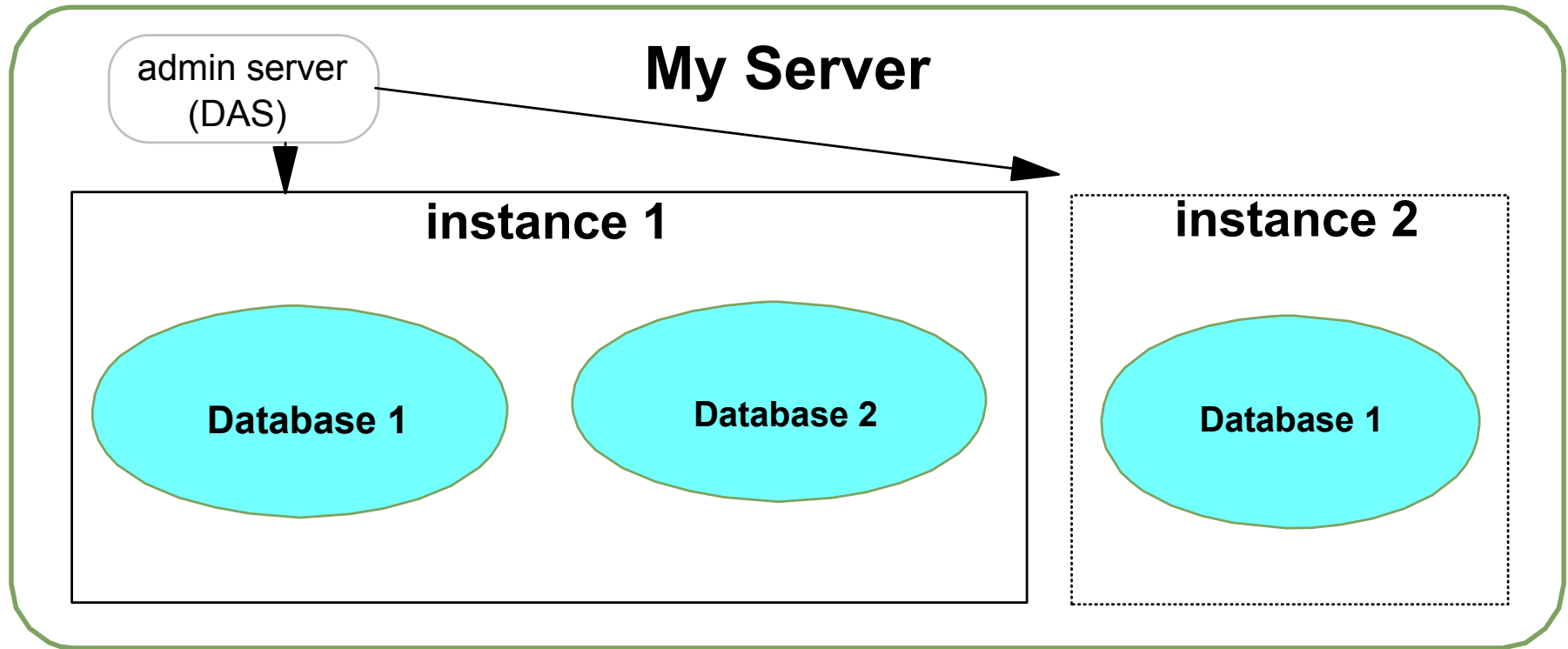
# Database Manager Configuration (DBM CFG) file

- Many parameters are dynamic (changes take effect immediately); changes to other parameters may require an instance restart



Control Center > (expand) Instances folder > (right-click) Instance > Configure Parameters

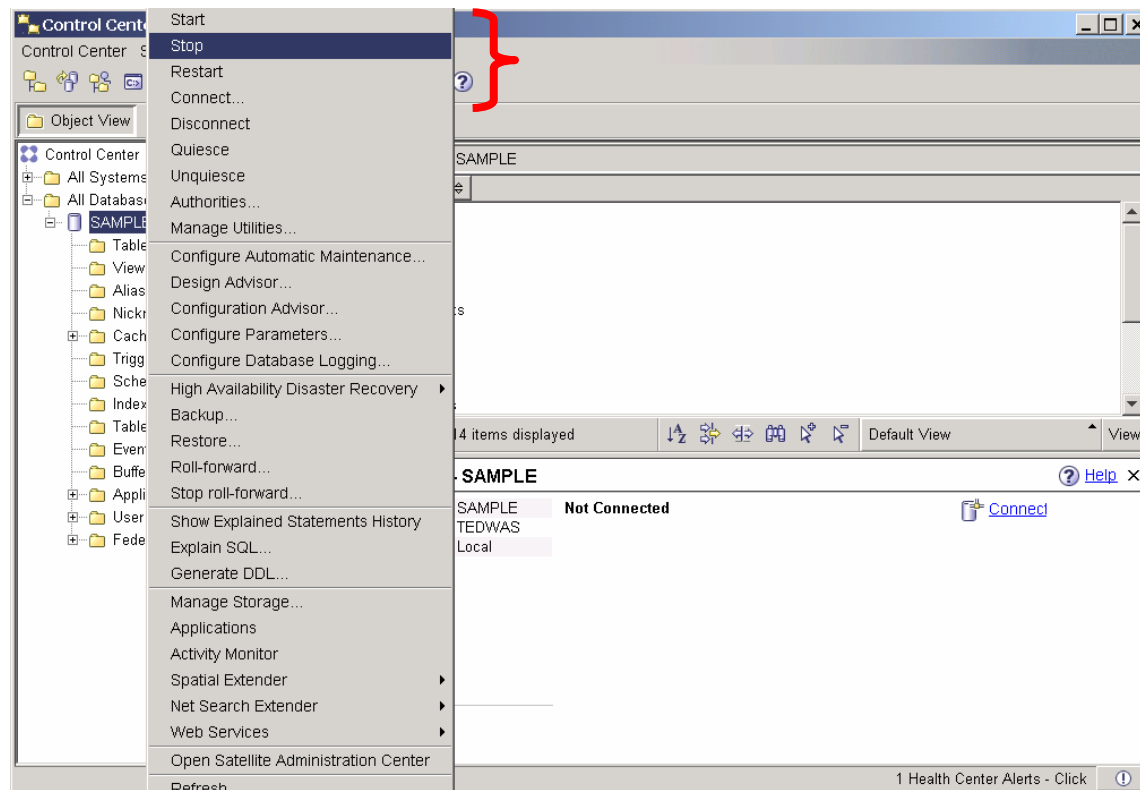
## DB2 data server big picture



- One physical machine has:
  - One Admin Server
  - One or multiple Instances
- Each Instance (Database Manager):
  - Is a logical server context
  - Can have one or more databases

# Stopping/Starting Database (Activate/deactivate db)

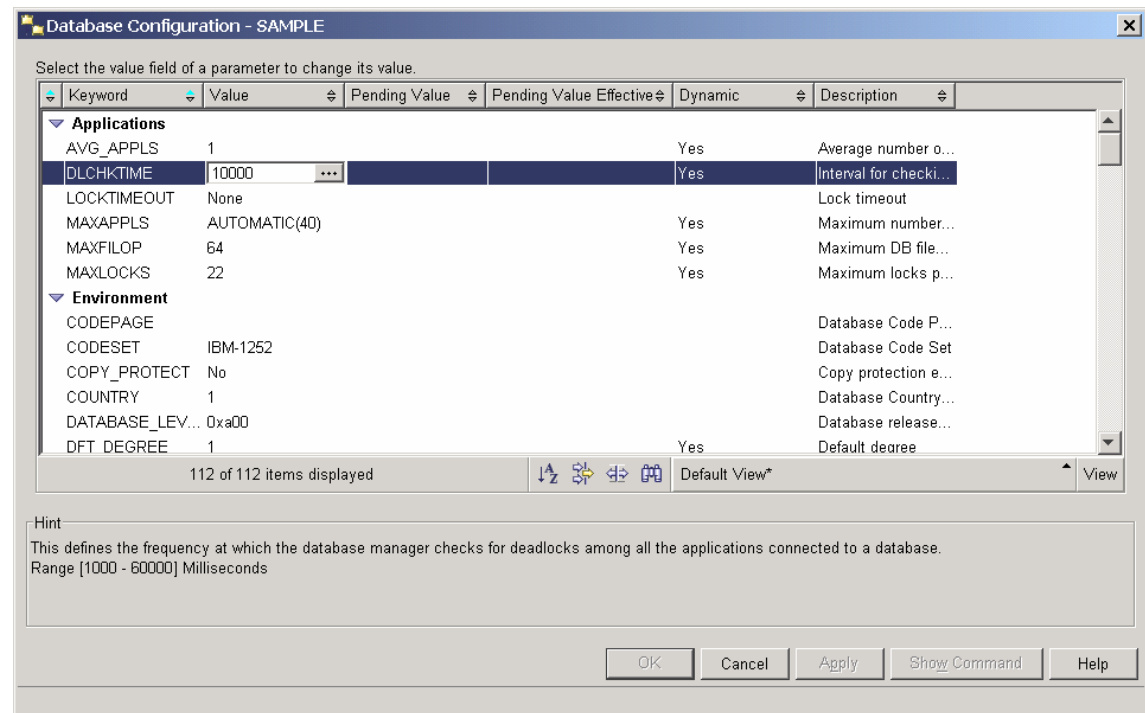
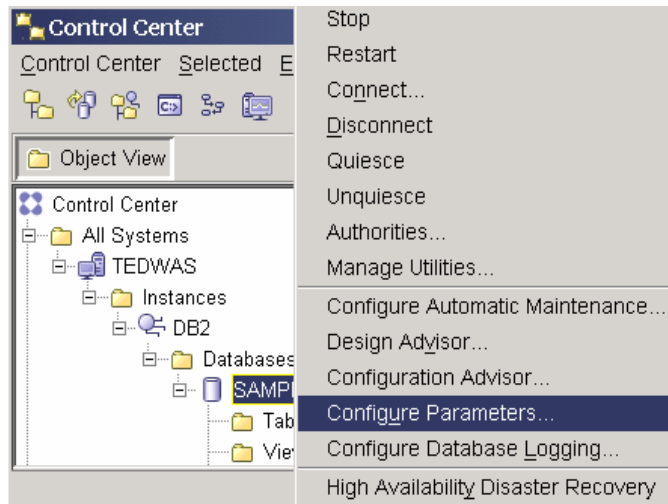
- It is sometimes necessary to stop and re-start a database
  - ▶ example: after changing a non-dynamic parameter in the DB CFG



Control Center > (expand) All Databases folder > (right-click) Database > Stop/Start



# DB CFG



Control Center > (expand) All Databases folder > (right-click) Database > Configure Parameters

# The DB2 Registry



- **A place to specify environment or platform specific settings**  
e.g. settings for RAID, optimizer paths not yet fully integrated,  
communication protocols, environment specific performance enhancements
- **Settings can be applied to various levels**
  - environment
  - instance
  - global (all instances)

# Environment & DB2 Registry variables

- **DB2INSTANCE**

- ▶ Determines the active instance in your machine

- **DB2\_COPY\_NAME**

- ▶ Stores the name of the copy of the DB2 version currently in use.
- ▶ To switch to a different DB2 copy installed, run the `installpath\bin\db2envvars.bat` command. This variable cannot be used for this purpose.

- **DB2COMM**

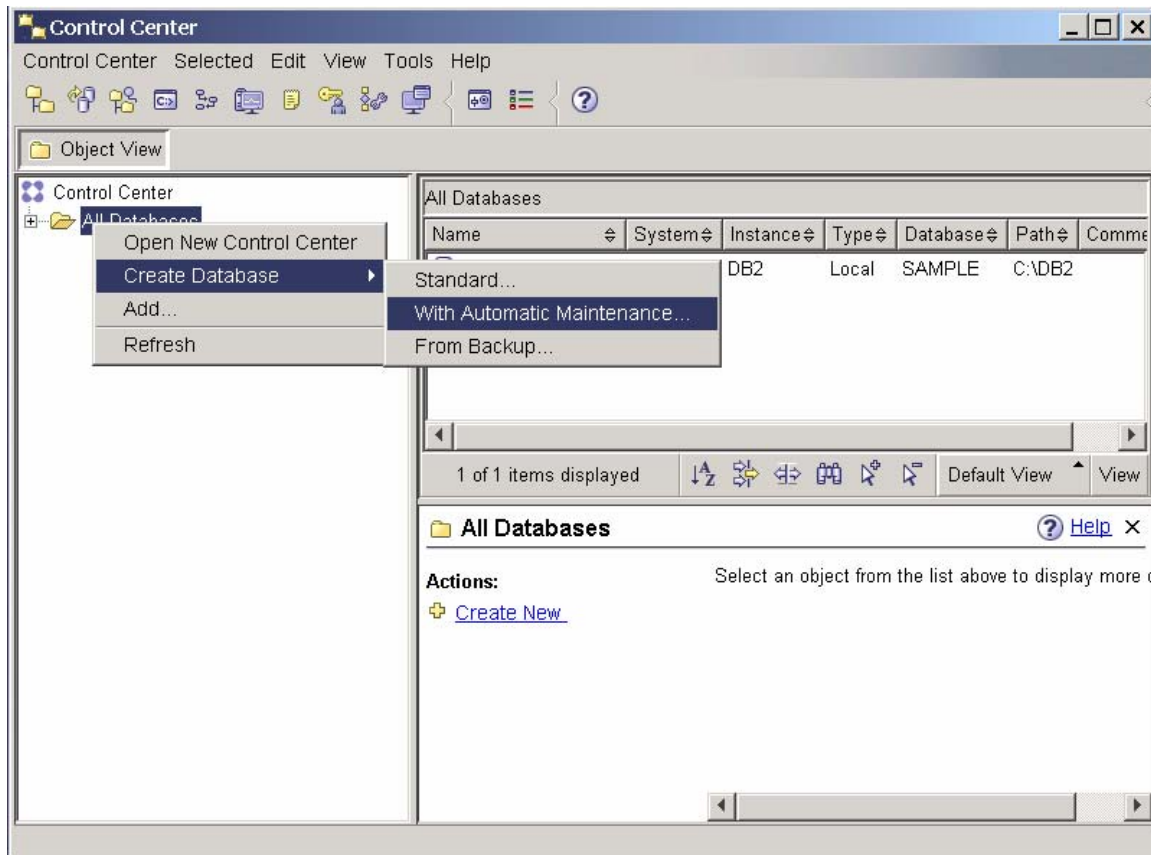
- ▶ Specifies the communication managers that are started when the database manager is started.

- **DB2\_EXTSECURITY**

- ▶ On Windows, prevents unauthorized access to DB2 by locking DB2 system files



# Creating A New Database



Control Center > (right-click) All Databases folder > Create Database > With Automatic Maintenance