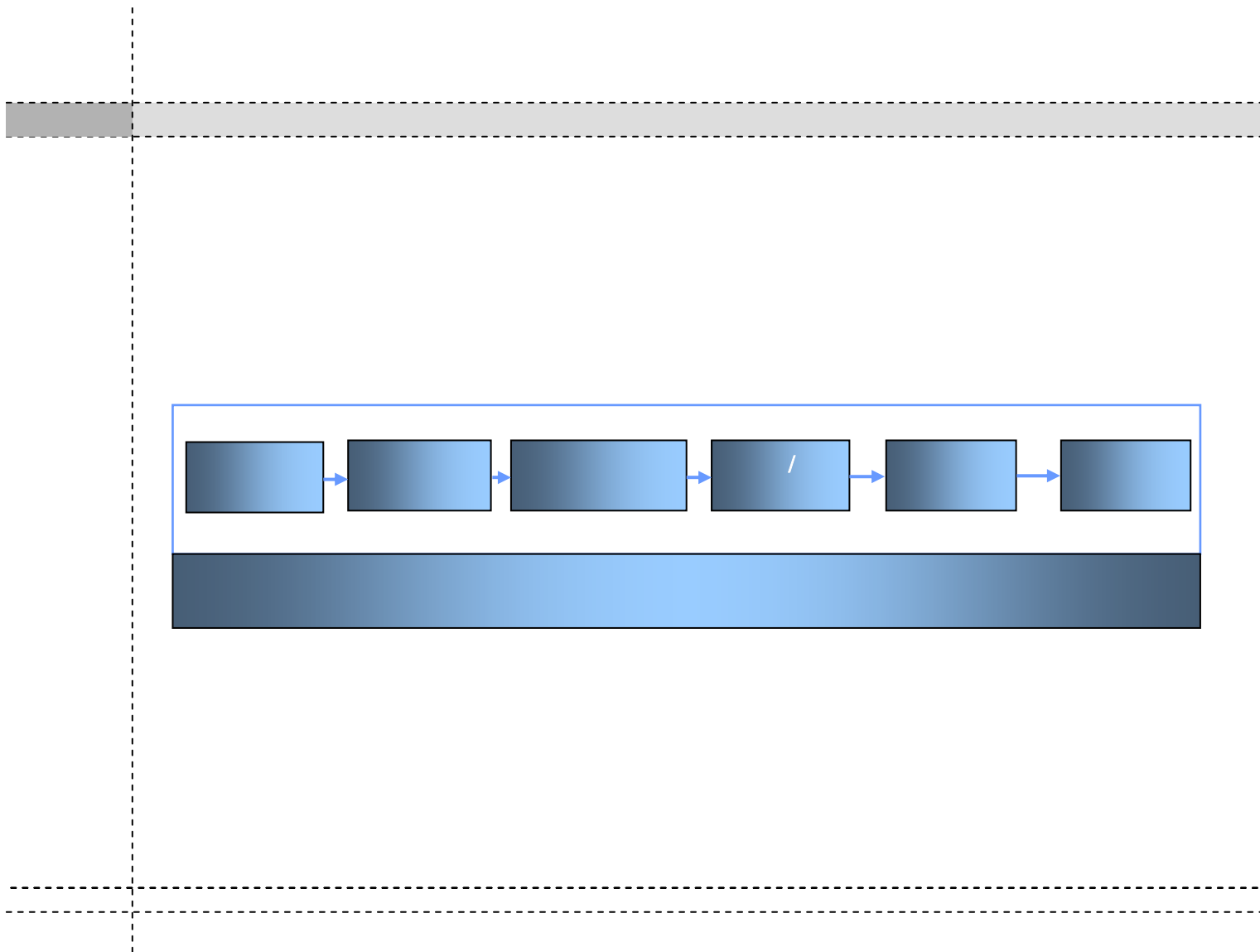
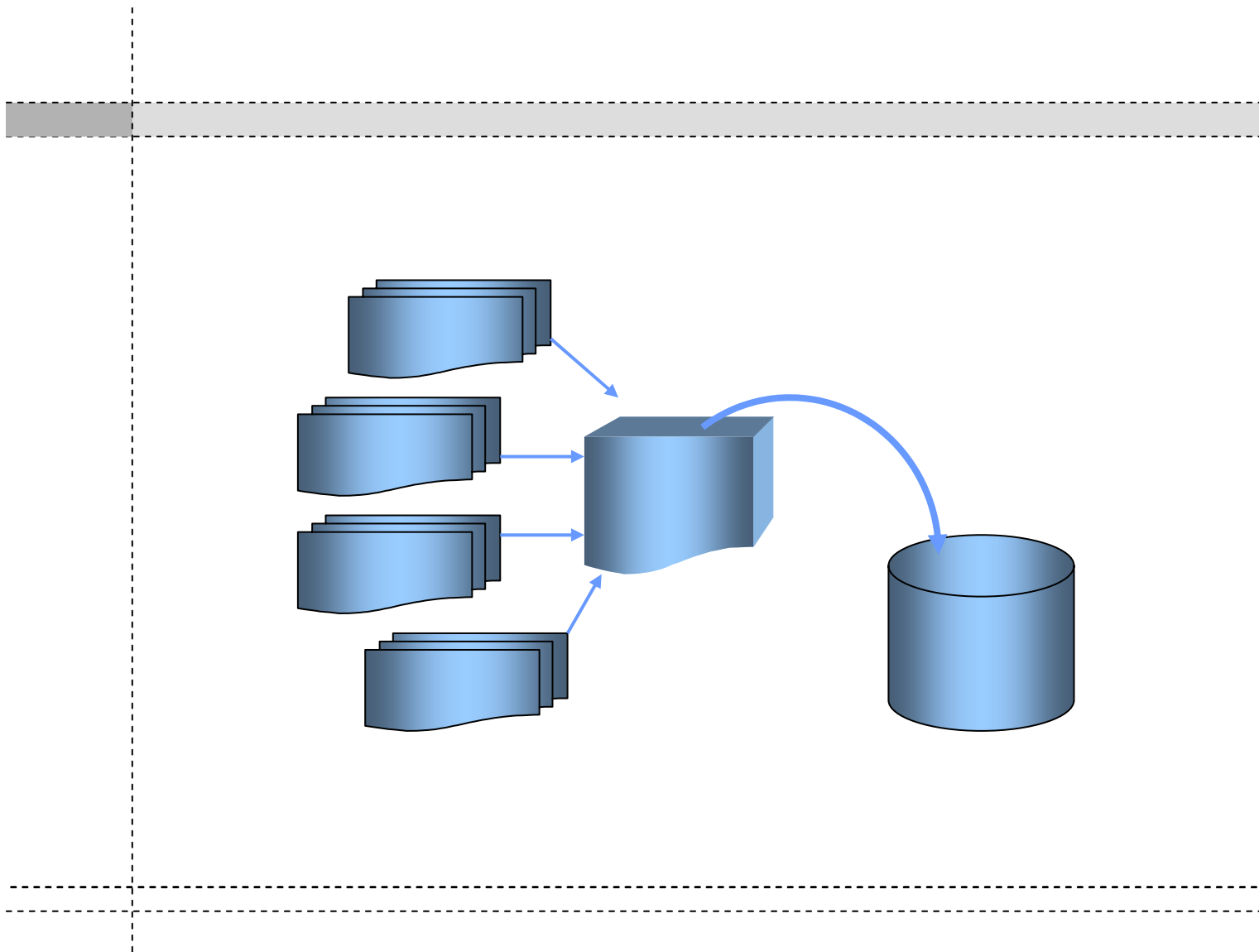
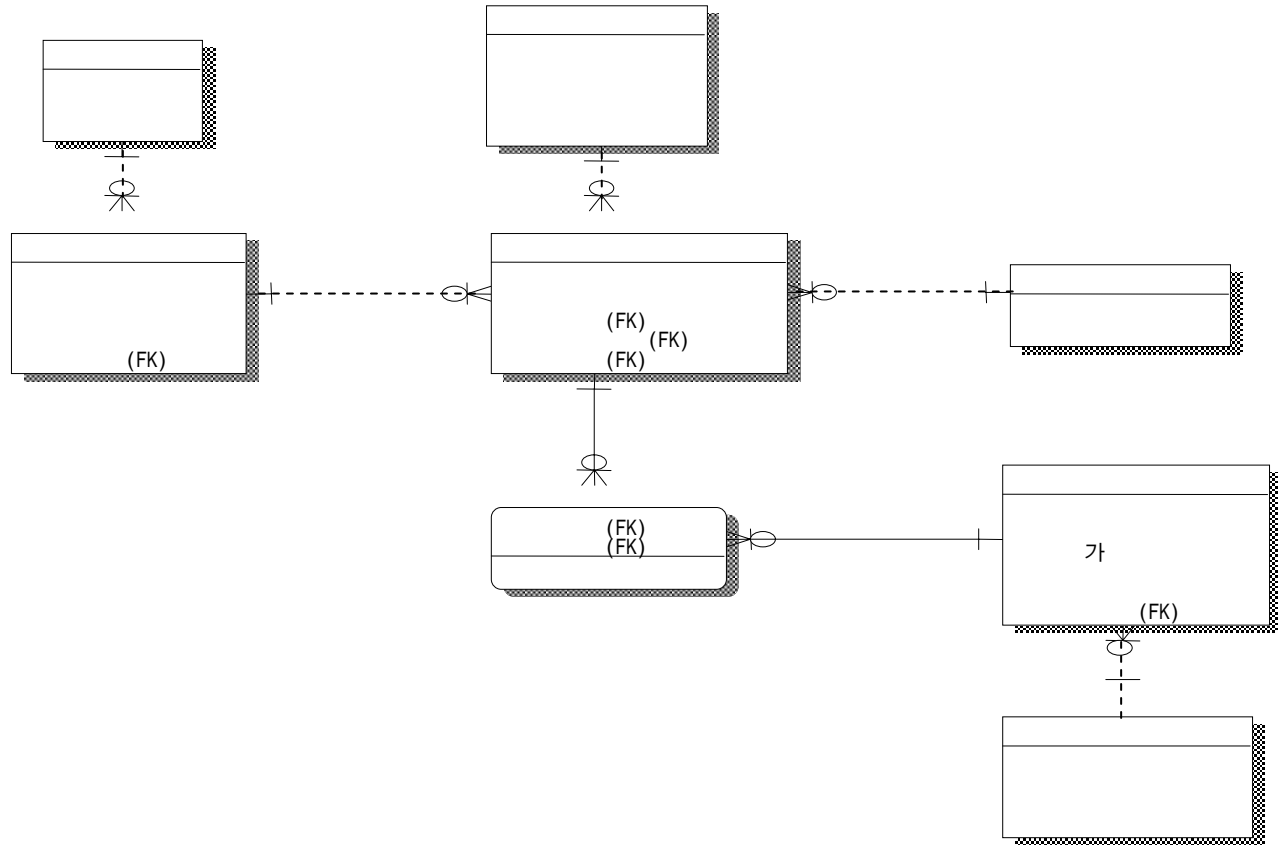


Section 10





– ERD()



— ERD()

DEPT

DEPTNO: NUMBER(2) NOT NULL
DEPTNM: VARCHAR2(14) NOT NULL
LOC: VARCHAR2(14) NULL
CHARGE: VARCHAR2(20) NULL

CUST

CUSTNO: NUMBER(4) NOT NULL
CUSTNM: VARCHAR2(14) NOT NULL
CADDR: VARCHAR2(60) NOT NULL
CPOST: VARCHAR2(30) NULL
CTEL: VARCHAR2(20) NULL
CEMAIL: VARCHAR2(40) NULL

EMP

EMPNO: NUMBER(4) NOT NULL
EMPNM: VARCHAR2(10) NOT NULL
JOB: VARCHAR2(9) NULL
HIREDATE: DATE NULL
SAL: NUMBER(10,2) NULL
DEPTNO: NUMBER(2) NOT NULL (FK)

ORDER

ORDERNO: NUMBER(6) NOT NULL
ORDERTYPE: VARCHAR2(6) NOT NULL
ORDERDATE: DATE NOT NULL
CUSTNO: NUMBER(4) NOT NULL (FK)
EMPNO: NUMBER(4) NOT NULL (FK)
DELIVNO: NUMBER(4) NOT NULL (FK)

DELIVERY

DELIEVNO: NUMBER(4) NOT NULL
DDATE: DATE NOT NULL
COMPNO: NUMBER(4) NOT NULL

ORDERITEM

ORDERNO: NUMBER(6) NOT NULL (FK)
ITEMCD: VARCHAR2(10) NOT NULL (FK)
ORDERQTY: NUMBER(10) NOT NULL

ITEM

ITEMCD: VARCHAR2(10) NOT NULL
ITEMNM: VARCHAR2(20) NOT NULL
ITEMQTY: NUMBER(10) NOT NULL
IPRICE: NUMBER(10) NULL
COLOR: VARCHAR2(10) NULL
MAEDATE: DATE NULL
SUPNO: NUMBER(4) NOT NULL (FK)

SUPPLIER

SUPNO: NUMBER(4) NOT NULL
SUPNM: VARCHAR2(14) NOT NULL
SUPADDR: VARCHAR2(60) NOT NULL
SUPPOST: VARCHAR2(30) NULL
SUPTTEL: VARCHAR2(20) NULL

(1)

						2002	7	1
	DEPT							
						NULL		KEY
1	DEPTNO		(N,2)	NUMBER	2	NOT NULL		PK
2	DEPTNM		(V,14)	VARCHAR2	14	NOT NULL		
3	LOC		(V,14)	VARCHAR2	14	NULL		
4	CHARGE		(V,20)	VARCHAR2	20	NULL		

						2002	7	1
	EMP							
						NULL		KEY
1	EMPNO		(N,4)	NUMBER	4	NOT NULL		PK
2	EMPNM		(V,14)	VARCHAR	14	NOT NULL		
3	JOB	()	(V,9)	2	9	NULL		
4	HIREDATE		(DATE)	VARCHAR	2	NULL		
5	SAL		(F,10)	2	10,2	NULL		
6	DEPTNO		(N,2)	VARCHAR	2	NOT NULL		FK
				NUMBER				
				NUMBER				

(2)

						2002	7	1
	CUST							
						NULL		KEY
1	CUSTNO		(N,4)	NUMBER	4	NOT NULL		PK
2	CUSTNM		(V,14)	VARCHAR2	14	NOT NULL		
3	CADDR		(V,60)	VARCHAR2	60	NULL		
4	CPOST		(V,30)	VARCHAR2	30	NULL		
	CTEL		(V,30)	VARCHAR2	30	NULL		
	CEMAIL		(V,40)	VARCHAR2	40	NULL		

						2002	7	1
	ORDER							
						NULL		KEY
1	ORDERNO		(N,6)	NUMBER	6	NOT NULL		PK
2	ORDERTYPE		(V,6)	VARCHAR2	6	NOT NULL		
3	ORDERDATE		(DATE)	DATE		NULL		
4	CUSTNO		(N,4)	NUMBER	4	NOT NULL		FK
5	EMPNO		(N,4)	NUMBER	4	NOT NULL		FK
6	DELIVNO		(N,4)	NUMBER	4	NOT NULL		FK

	DEPT	PK_DEPT	DEPTNO	NUMBER(2)	ISINDEX01	UNIQUE	ASC	PK
	EMP	PK_EMP	EMPNO	NUMBER(6)	ISINDEX01	UNIQUE	ASC	PK
		I_EMP01	DEPTNO	NUMBER(2)	ISINDEX01	NON-UNIQUE	ASC	FK
	CUST	PK_CUST	CUSTNO	NUMBER(4)	ISINDEX01	UNIQUE	ASC	PK
	ORDER	PK_ORDER	ORDERNO	NUMBER(6)	ISINDEX01	UNIQUE	ASC	PK
		I_ORDER01	ORDERDATE	DATE	ISINDEX01	NON-UNIQUE	ASC	INDEX
		I_ORDER02	CUSTNO	NUMBER(4)	ISINDEX01	NON-UNIQUE	ASC	FK
		I_ORDER03	EMPNO	NUMBER(6)	ISINDEX01	NON-UNIQUE	ASC	FK
		I_ORDER04	DELEIVENO	NUMBER(4)	ISINDEX01	NON-UNIQUE	ASC	FK
	ORDERITEM	PK_ORDERITEM	ORDERNO	NUMER(6)	ISINDEX01	UNIQUE	ASC	PK
			ITEMCD	VARCHAR2(10)				
		I_ORDERITEM	ITEMCD	VARCHAR2(10)	ISINDEX01	NON-UNIQUE	ASC	FK

V_ORDERITEM		ORDER	ORDERNO ORDERTYPE ORDERDATE CUSTNO EMPNO DELIVNO	NUMBER VARCHAR2 DATE NUMBER NUMBER NUMBER
		ORDERITEM	ORDERNO ITEMCD ORDERQTY	NUMBER(6) VARCHAR2(10) NUMBER(10)
V_EMP		EMP	EMPNO EMPNM DEPTNO	NUMBER(4) VARCHAR2(14) NUMBER(2)

—

		DEPT	5M	TS001	53M	DF001.DBF01
		EMP	20M			
		ITEM	10M			
		SUPPLIER	3M			
		CUST	5M	TS002	42M	DF002.DBF01
		ORDER	10M			
		ORDERITEM	10M			
		DELIVERY	5M			

—

		DEPT	3M	IS001	28M	DF001.DBF02
		EMP	10M			
		ITEM	5M			
		SUPPLIER	2M			
		CUST	2M	IS002	24M	DF002.DBF02
		ORDER	10M			
		ORDER ITEM	3M			
		DELIVERY	2M			

D:	D:\TEST/DB1	10G	5G	50%	DF001.DBF01	55M
					DF001.DBF02	30M
E:	E:\TEST/DB2	10G	6G	60%	DF002.DBF01	45M
					DF002.DBF02	25M

—

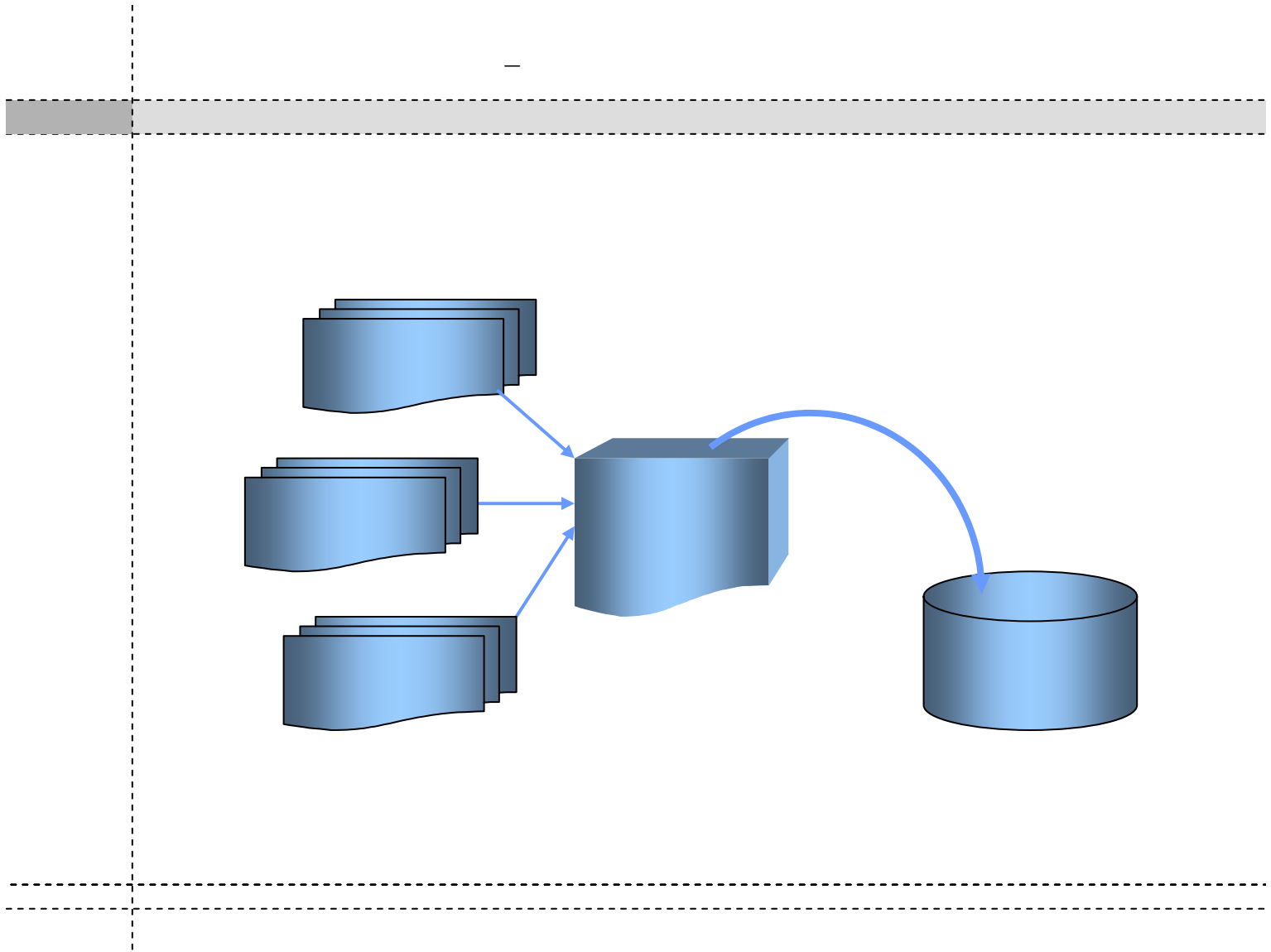
	DEPT			3 3 3	
	EMP			3 3 3	
	CUST			3 3 3	
	ORDER			3 3 3	
	ORDER ITEM			3 3 3	
	ITEM			3 3 3	
	SUPPLIER			3 3 3	
	DELIVERY			3 3 3	

		(BONSA)	(JISA)
	IP Address	127.0.0.1	127.0.0.1
	M/M	256M	256M
	CPU	1G	1G
	DISK SPACE	40G	40G
	WINDOWS 200	ADMINISTRATOR	ADMINISTRATOR
	HOME DIRECTORY	C:\Oracle\Ora81	C:\Oracle\Ora81
	DB_NAME	BONSA	JISA
	SID	BONSA	JISA
		BONSA01/BONSA01	JISA01/JISA01
	SGA	20M	20M
	MAXDATAFILES	50	50
	CHARACTER SET/NATIONAL CHARACTER SET	KO16KSC5601/KO16KSC5601	KO16KSC5601/KO16KSC5601
	DB_BLOCK_SIZE	4K	4K
	ROLLBACK_SEGMENTS	r01, r02, r03	r01, r02, r03
	DB_FILES	20	20
	DB_FILE_MULTIBLOCK_READ_COUNT	8	8
	DB_BLOCK_BUFFERS	250	250
	SHARED_POOL_SIZE	200000	200000
	LOG_BUFFER	34222	34222
	LOG_CHECKPOINT_INTERVAL	10000	10000
	DB	crdb1BONSA.sql crdb2BONSA.sql	crdb1JISA.sql crdb2JISA.sql
	Init.ora	initBONSA.ora	initJISA.ora

BONSA	D:	D:\TEST\ORADATA\DB1	SYSTEMBONSA.DBF	100M
			TOOLSBONSA.DBF	30M
			CONTROL1BONSA.CTL	2M
			RED011BONSA.LOG	2M
			RED021BONSA.LOG	2M
		D:\TEST\ORADATA\DB2	RBSBONSA.DBF	200M
			CONTROL2BONSA.CTL	2M
			RED012BONSA.LOG	2M
			RED022BONSA.LOG	2M
JISA	E:	E:\TEST\ORADATA\DB1	SYSTEMJISA.DBF	100M
			TOOLSJISA.DBF	30M
			CONTROL1JISA.CTL	2M
			RED011JISA.LOG	2M
			RED021JISA.LOG	2M
		E:\TEST\ORADATA\DB2	RBSJISA.DBF	200M
			CONTROL2JISA.CTL	2M
			RED012JISA.LOG	2M
			RED022JISA.LOG	2M



!!!



DDL

```
-----  
-- 1.      : ts_cre_bonsa.sql  
-- 2.      :                               (TS001, IS001)  
-- 3.      : 2002  7  1  
-- 4.      :
```

```
-----  
SPOOL ts_cre_bonsa.log  --                (TS001)
```

```
CREATE TABLESPACE TS001
```

```
  DATAFILE 'D:\TEST\DB1\DF001.DBF01' SIZE 55M  
  DEFAULT STORAGE ( INITIAL 1024K
```

```
    NEXT 512K
```

```
    MAXEXTENTS 128
```

```
    PCTINCREASE 0);
```

```
CREATE TABLESPACE IS001 --                (IS001)
```

```
  DATAFILE 'D:\TEST\DB1\DF001.DBF01' SIZE 30M
```

```
  DEFAULT STORAGE ( INITIAL 512K
```

```
    NEXT 256K
```

```
    MAXEXTENTS 128
```

```
    PCTINCREASE 0);
```

```
SPOOL OFF
```

—

SQL> connect bonsa01/bonsa01@BONSA

SQL> @ts_cre_bonsa.sql

SQL>

.

```

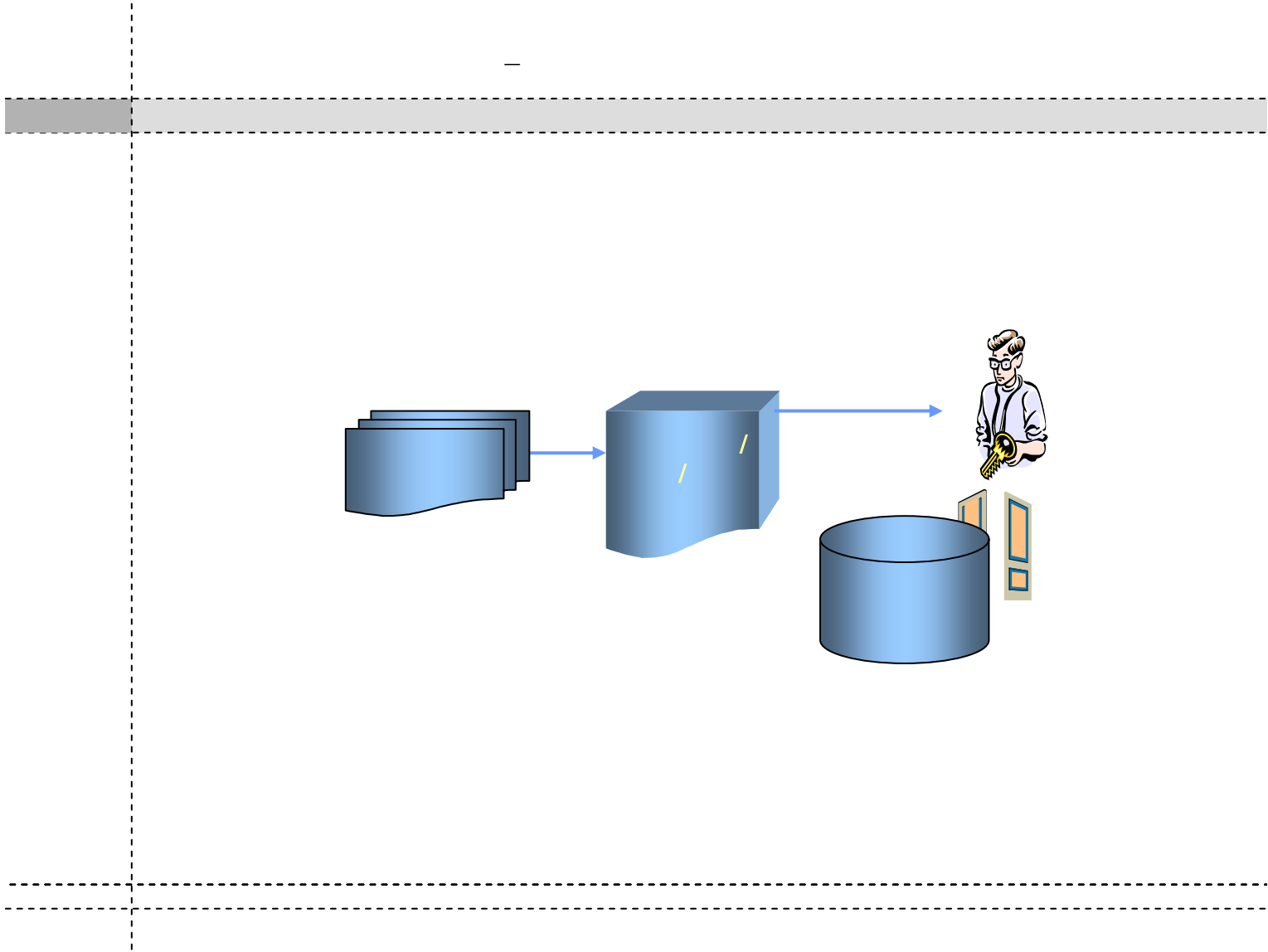
ROMPT =====
PROMPT
PROMPT =====
COL TABLESPACE_NAME FORMAT A10
COL DATAFILE FORMAT A50
COL SZ_KB FORMAT 9,999,999

SELECT TABLESPACE_NAME ,
        FILE_NAME AS DATAFILE , (BYTES/1024) AS SZ_KB
FROM DBA_DATA_FILES ;

```

TABLESPACE_NAME	DATAFILE	SZ_KB
...		
TS001	D:\TEST\DB1\DF101.DBF01	56,320
IS001	D:\TEST\DB1\DF001.DBF01	30,720

8



DDL

```
-----  
-- 1.      : user_cre_bonsa.sql  
-- 2.      :                               (BONSA01)  
-- 3.      : 2002  7  1  
-- 4.      :
```

```
-----  
SPOOL user_cre_bonsa.log
```

```
CREATE USER BONSA01 IDENTIFIED BY BONSA01  
  DEFAULT TABLESPACE USERS  
  TEMPORARY TABLESPACE TEMP;
```

```
SPOOL OFF
```

SQL> connect system/manager@BONSA

SQL> @user_cre_bonsa.sql

SQL>

가

.

PROMPT =====

PROMPT

PROMPT =====

COL USERNAME FORMAT A15

COL DEF_TBS FORMAT A15

COL TMP_TBS FORMAT A15

**SELECT USERNAME,DEFAULT_TABLESPACE DEF_TBS,
TEMPORARY_TABLESPACE TMP_TBS, PROFILE
FROM DBA_USERS;**

SERNAME DEF_TBS TMP_TBS PROFILE

....

BONSA01 USERS TEMP DEFAULT

DDL

```
-----  
-- 1.      : role_cre_bonsa.sql  
-- 2.      :                               (BONSA01)  
-- 3.      : 2002  7  1  
-- 4.      :
```

```
-----  
  
CREATE ROLE BONSA_ROLE NOT IDENTIFIED;  
GRANT CREATE SESSION, CREATE TABLE ,CREATE VIEW, ALTER ROLLBACK SEGMENT  
TO BONSA_ROLE;
```

SQL> connect system/manager@BONSA

SQL> @role_cre_bonsa.sql

SQL>

.

.

PROMPT =====

PROMPT

PROMPT =====

COL ROLE FORMAT A35

SELECT ROLE FROM DBA_ROLES;

SELECT ROLE FROM DBA_ROLES;

ROLE

...

BONSA_ROLE

23

.

DDL

```
-- 1.      : role_grant_jisa.sql
-- 2.      :                               (JISA01)
-- 3.      : 2002  7  1
-- 4.      :
```

```
GRANT JISA_ROLE TO JISA01;
```

SQL> connect system/manager@JISA

SQL> @role_grant_jisa.sql

SQL>

.

PROMPT =====

PROMPT

PROMPT =====

COL GRANTEE FORMAT A10

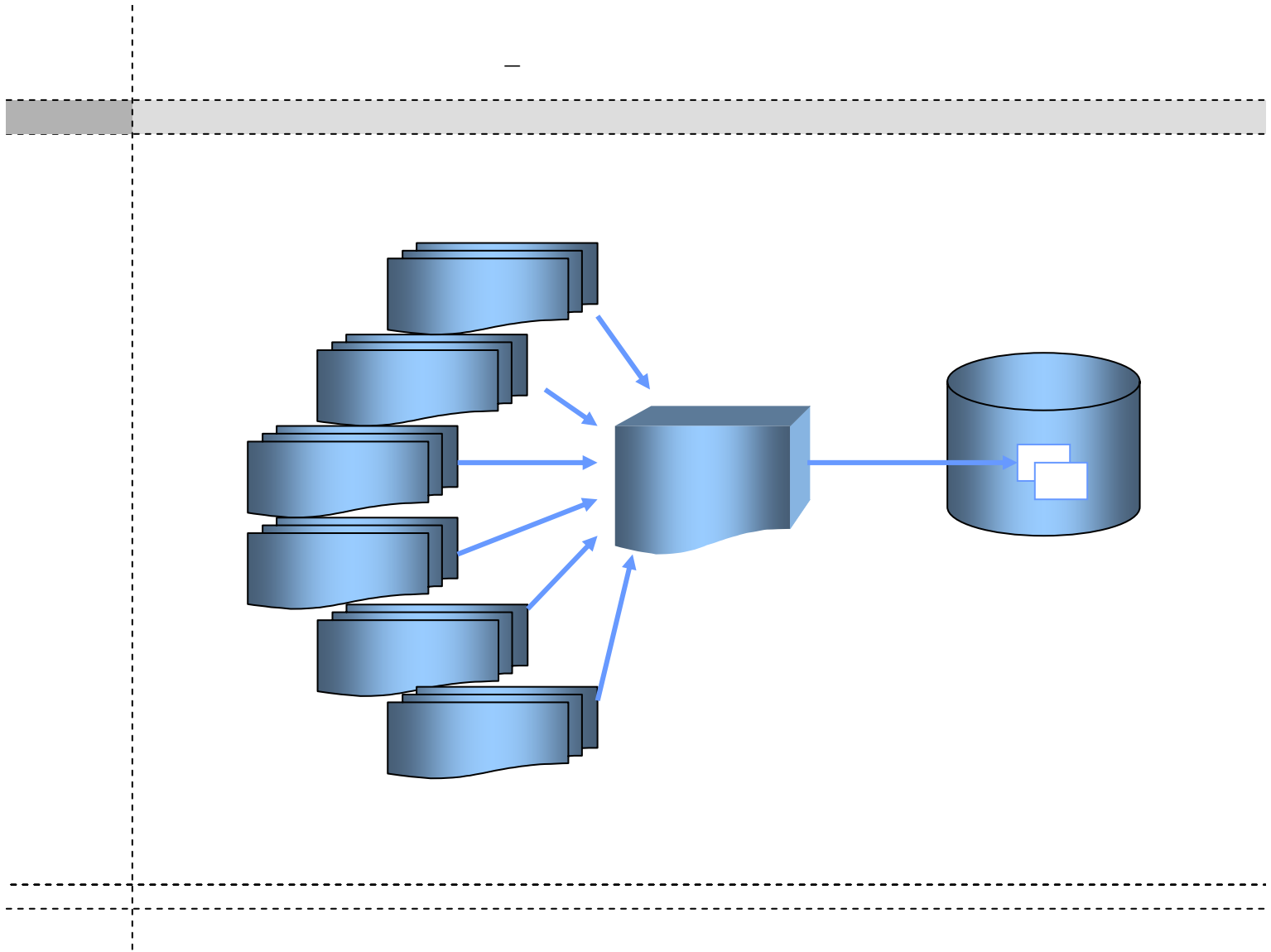
COL GRANTED_ROLE FORMAT A30

**SELECT GRANTEE, GRANTED_ROLE
FROM DBA_ROLE_PRIVS;**

GRANTEE GRANTED_ROLE

...

BONSA01 BONSA_ROLE



DDL

```
-----  
-- 1.      : tab_cre_bonsa.sql  
-- 2.      :                               (BONSA01)  
-- 3.      : 2002  7  1  
-- 4.      :  
-----  
  
SPOOL tab_cre_bonsa.log  
CREATE TABLE DEPT (  
    DEPTNO      NUMBER(2) NOT NULL,  
    DEPTNM      VARCHAR2(14) NOT NULL,  
    LOC         VARCHAR2(14) NULL,  
    CHARGE      VARCHAR2(20) NULL  
)  
TABLESPACE TS001  
STORAGE(INITIAL 1M  
    NEXT 1M  
    PCTINCREASE 0);  
  
ALTER TABLE DEPT ADD CONSTRAINT DEPT_PK PRIMARY KEY( DEPTNO) ;  
  
...  
ALTER TABLE ORDER ADD CONSTRAINT ORDER_DELIVERY_FK01  
    FOREIGN KEY(DELIEVNO) REFERENCES DELIVERY ;  
  
SPOOL OFF
```

SQL> connect bonsa01/bonsa01@BONSA

SQL> @tab_cre_bonsa.sql

...

.

...

.?

PROMPT =====

PROMPT

PROMPT =====

COL SEGMENT_NAME FORMAT A15

COL TABLESPACE_NAME FORMAT A10

```
SELECT SEGMENT_NAME, ROUND(INITIAL_EXTENT/1024,0) INI_KB,  
       ROUND(NEXT_EXTENT/1024,0) NXT_KB, ROUND(BYTES/1024,0) TOT_KB,  
       PCT_INCREASE PCT, EXTENTS, TABLESPACE_NAME  
FROM USER_SEGMENTS  
WHERE SEGMENT_TYPE = 'TABLE';
```

SEGMENT_NAME	INI_KB	NXT_KB	TOT_KB	PCT	EXTENTS	TABLESPACE
--------------	--------	--------	--------	-----	---------	------------

DEPT	1024	1024	1040	0	1	TS001
------	------	------	------	---	---	-------

– FK

PROMPT =====

PROMPT FOREIGN KEY

PROMPT =====

COL CONSTRAINT_NAME FOR A20

COL R_CONSTRAINT_NAME FOR A20

**SELECT CONSTRAINT_NAME,R_CONSTRAINT_NAME,STATUS
FROM USER_CONSTRAINTS;**

CONSTRAINT_NAME	R_CONSTRAINT_NAME	STATUS
------------------------	--------------------------	---------------

EMP_DEPT_FK01	DEPT_PK	ENABLED
----------------------	----------------	----------------

DEPT_SUPPLIER_FK01	SUPPLIER_PK	ENABLED
---------------------------	--------------------	----------------

DDL

```
-----  
-- 1.      : index_cre_bonsa.sql  
-- 2.      :                               (BONSA01)  
-- 3.      : 2002  7  1  
-- 4.      :
```

```
-----  
SPOOL index_cre_bonsa.log
```

```
CREATE INDEX I_EMP01 ON EMP (DEPTNO ASC)    TABLESPACE IS001;;
```

```
SPOOL OFF
```

SQL> connect bonsa01/bonsa01@BONSA

SQL> @index_cre_bonsa.sql

...

가 .

PROMPT =====

PROMPT

PROMPT =====

COL SEGMENT_NAME FORMAT A15

COL TABLESPACE_NAME FORMAT A10

```
SELECT SEGMENT_NAME,ROUND(INITIAL_EXTENT/1024,0) INI_KB,
       ROUND(NEXT_EXTENT/1024,0) NXT_KB, ROUND(BYTES/1024,0) TOT_KB,
       PCT_INCREASE PCT, EXTENTS, TABLESPACE_NAME
FROM USER_SEGMENTS
WHERE SEGMENT_TYPE = 'INDEX';
```

SEGMENT_NAME	INI_KB	NXT_KB	TOT_KB	PCT	EXTENTS	TABLESPACE
--------------	--------	--------	--------	-----	---------	------------

...

I_EMP	1024	512	1040	0	1	TS001
-------	------	-----	------	---	---	-------

— DDL

```
-----  
-- 1.      : view_cre_bonsa.sql  
-- 2.      :                      (BONSA01)  
-- 3.      : 2002  7  1  
-- 4.      :
```

```
-----  
SPOOL view_cre_bonsa.log
```

```
CREATE VIEW V_EMP AS  
  SELECT EMPNO, EMPNM, DEPTNO  
  FROM EMP;
```

```
SPOOL OFF
```


SQL> connect bonsa01/bonsa01@BONSA

SQL> @view_cre_bonsa.sql

...

가

.

PROMPT =====

PROMPT

PROMPT =====

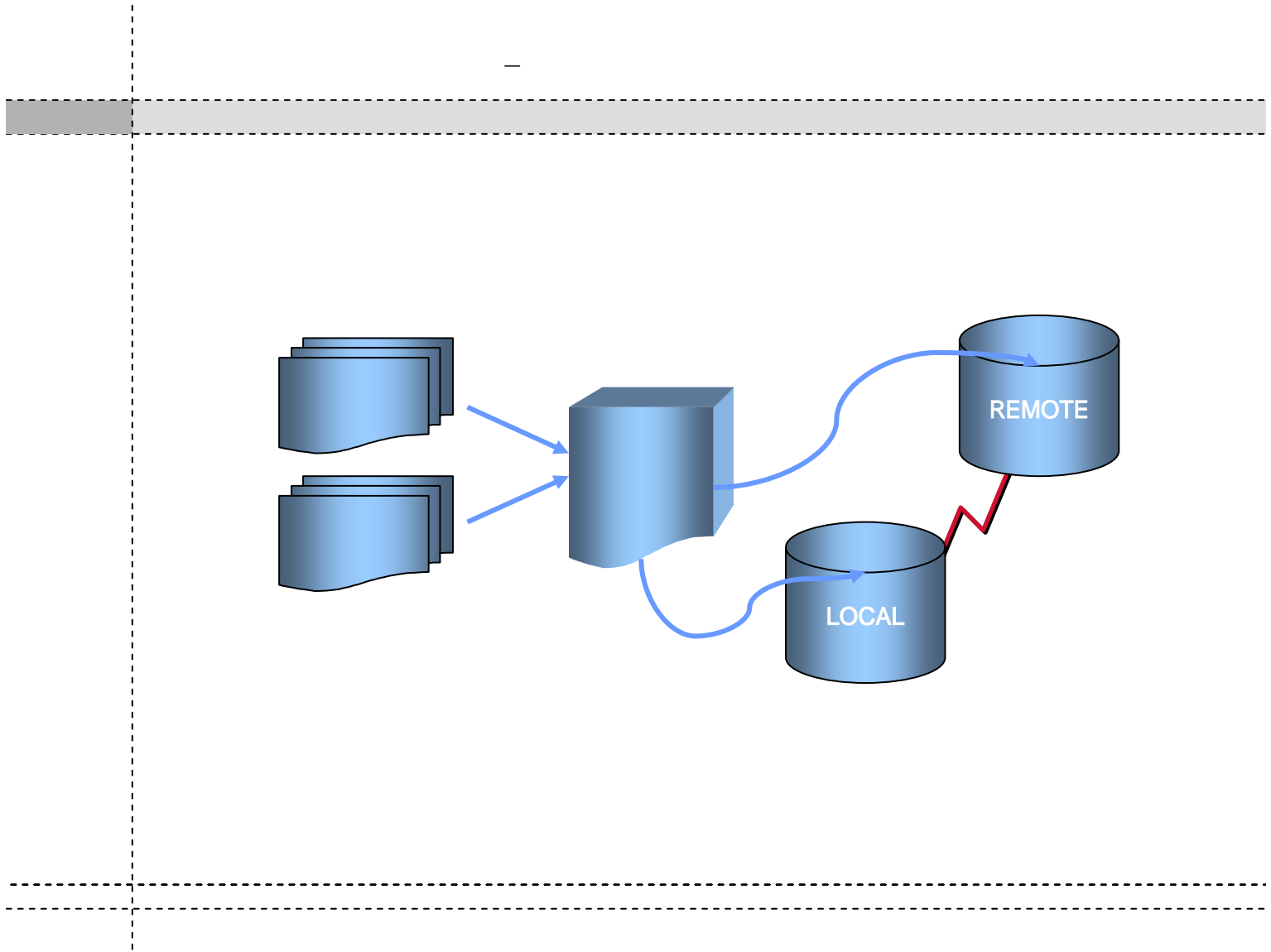
COL OBJECT_NAME FORMAT A30

SELECT OBJECT_NAME, OBJECT_TYPE, STATUS
FROM USER_OBJECTS
WHERE OBJECT_TYPE = 'VIEW';

OBJECT_NAME	OBJECT_TYPE	STATUS
--------------------	--------------------	---------------

-------	--	--

V_EMP	VIEW	VALID
--------------	-------------	--------------



가

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✓

(REMOTE)

가

.

✓

Net8

가

Tnsnames.ora

.

✓

.

가

-

1)

```
C:\>lsnrctl start
```

```
...
```

```
...
```

```
BONSA      has 1
```

가

-

2) Tnsnames.ora

Tnsnames.ora

```
BONSA =  
(DESCRIPTION =  
  (ADDRESS_LIST =  
    (ADDRESS = (PROTOCOL = TCP)(HOST = 127.0.0.1)(PORT = 1521)) )  
  (CONNECT_DATA =  
    (SERVICE_NAME = BONSA) ))
```

가

-

3)

```
SQL> CREATE PUBLIC DATABASE LINK H2U1  
      CONNECT TO BONSA01 IDENTIFIED BY BONSA01  
      USING 'BONSA'; <-- Tnsnames.ora
```

•

```
CREATE SNAPSHOT LOG ON EMP  
TABLESPACE TS001  
STORAGE(INITIAL 1M NEXT 1M PCTINCREASE 0);
```

```
CREATE SNAPSHOT EMP  
TABLESPACE TS002 STORAGE (MINEXTENTS 1 PCTINCREASE 0)  
USING INDEX TABLESPACE IS002 STORAGE (MINEXTENTS 1 PCTINCREASE 0)  
REFRESH FAST  
START WITH SYSDATE NEXT TRUNC(SYSDATE) + 1 + (20/24) <-- REFRESH  
AS SELECT * FROM EMP@BONSA; <--
```