

SAL4 - DML3 Part 1

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Section 6

Section 6 Lesson 9 Exercise 1

Part 1: Creating Natural Joins.

1. `SELECT* FROM sales-representatives NATURAL JOIN sales-rep-addresses;`

ID	EMAIL	FIRST_NAME	LAST_NAME	PHONE_NUMBER	COMMISSION_RATE	SUPERVISOR_ID	ADDRESS_LINE_1	ADDRESS_LINE_2	CITY	ZIP_CODE
sr01	chray@obl.com	Charles	Raymond	0134598761	10	sr01	12 Cherry Lane	Denton	Detroit	DT48211
sr02	vwright@obl.com	Victoria	Wright	0134598762	5	sr01	87 Blossom Hill	Uptown	Detroit	DT52314
sr03	bspeed@obl.com	Barry	Speed	0134598763	5	sr01	12 Junction Row	Skinflats	Detroit	DT52564

2. `SELECT id, first-name, last-name, address-line-1, address-line-2, city  
FROM sales-representatives NATURAL JOIN sales-rep-addresses;`

ID	FIRST_NAME	LAST_NAME	ADDRESS_LINE_1	ADDRESS_LINE_2	CITY
sr01	Charles	Raymond	12 Cherry Lane	Denton	Detroit
sr02	Victoria	Wright	87 Blossom Hill	Uptown	Detroit
sr03	Barry	Speed	12 Junction Row	Skinflats	Detroit

Part 2: Creating Joins with the USING clause

1. `SELECT id, first-name, last-name, address-line-1, address-line-2, city  
FROM sales-representatives JOIN sales-rep-addresses USING (id);`

ID	FIRST_NAME	LAST_NAME	ADDRESS_LINE_1	ADDRESS_LINE_2	CITY
sr01	Charles	Raymond	12 Cherry Lane	Denton	Detroit
sr02	Victoria	Wright	87 Blossom Hill	Uptown	Detroit
sr03	Barry	Speed	12 Junction Row	Skinflats	Detroit

2. `SELECT * FROM Items JOIN price_history USING (item-number);`

ITEM_NUMBER	NAME	DESCRIPTION	CATEGORY	COLOR	Size	ILT_ID	START_DATE	START_TIME	PRICE	END_DATE	END_TIME
im01101044	gloves	catcher mitt	clothing	brown	m	il010230124	06/17/2017	06/17/2016	4.99	-	-
im01101045	under shirt	top worn under the game top	clothing	white	s	il010230125	11/25/2016	11/25/2016	14.99	01/25/2017	01/25/2017
im01101045	under shirt	top worn under the game top	clothing	white	s	il010230125	01/25/2017	01/25/2017	8.99	01/25/2017	01/25/2017
im01101045	under shirt	top worn under the game top	clothing	white	s	il010230125	01/26/2017	01/26/2017	15.99	-	-
im01101046	socks	team socks with emblem	clothing	range	l	il010230126	02/12/2017	02/12/2017	7.99	-	-
im01101047	game top	team shirt with emblem	clothing	range	m	il010230127	04/25/2017	04/25/2017	24.99	-	-
im01101048	premium bat	high quality baseball bat	equipment	-	-	il010230128	05/31/2017	05/31/2017	149	11/09/2023	11/09/2023
im01101048	premium bat	high quality baseball bat	equipment	-	-	il010230128	11/09/2023	11/09/2023	99.99	-	-

Part 3: Creating Joins with the ON Clause

1. `SELECT c.ctr-number "Customer Number", c.first-name "Customer First Name",  
c.lastname "Customer Last Name", c.phone-number "Customer Phone Number",  
c.email "Customer Email", s.id "Sales Representative ID",  
s.first-name "Sales Representative First Name", s.lastname "Sales Representative Last  
Name", s.email "Sales Representative Email FROM customers c JOIN  
sales-representatives s ON (c.sre-id = s.id);`

Customer Number	Customer First Name	Customer Last Name	Customer Phone Number	Customer Email	Sales Representative ID	Sales Representative First Name	Sales Representative Last Name	Sales Representative Email
c00001	Robert	Thornberry	01234567898	bob.thornberry@heatmail.com	sr01	Charles	Raymond	chray@obl.com
c00101	John	Doe	03216547808	unknown@here.com	sr01	Charles	Raymond	chray@obl.com
c01986	Maria	Galant	01442736589	margal87@delphiview.com	sr03	Barry	Speed	bspeed@obl.com

## Part 4: Creating Three-way Joints with the ON clause

```
1. SELECT c.cus-number "Customer Number", c.first-name "Customer First Name",  
c.last-name "Customer Last Name", c.phone-number "Customer Phone Number",  
c.email "Customer Email", s.id "Sales Representative ID", s.first-name  
"Sales Representative First Name", s.last-name "Sales Representative Last  
Name", s.email "Sales Representative Email", t.name "Team Name" FROM  
customers c JOIN sales-representatives s ON(c.sr-id = s.id) JOIN  
teams t ON(c.team-id = t.id);
```

Customer Number	Customer First Name	Customer Last Name	Customer Phone Number	Customer Email	Sales Representative ID	Sales Representative First Name	Sales Representative Last Name	Sales Representative Email	Team Name
c00001	Robert	Thornberry	01234567898	bob.thornberry@heatmail.com	sr01	Charles	Raymond	chray@obl.com	Rockets
c00101	John	Doe	03216547808	unknown@here.com	sr01	Charles	Raymond	chray@obl.com	Celtics
c01986	Maria	Galant	01442736589	marga187@delphiview.com	sr03	Barry	Speed	bspeed@obl.com	Rovers

## Part 5: Applying Additional Conditions to a Join

```
1. SELECT c.ctn-number "Customer Number", c.first-name "Customer First Name",
c.last-name "Customer Last Name", c.phone-number "Customer Phone Number",
c.email "Customer Email", s.id "Sales Representative ID", s.first-name "Sales
Representative First Name", s.last-name "Sales Representative Last Name",
s.email "Sales Representative Email", t.name "Team Name"
FROM customers c JOIN sales-representatives s ON (c.sre_id = s.id) JOIN
teams t ON (c.tem_id = t.id) AND c.ctn-number = 'c00001';
```

Customer Number	Customer First Name	Customer Last Name	Customer Phone Number	Customer Email	Sales Representative ID	Sales Representative First Name	Sales Representative Last Name	Sales Representative Email	Team Name
c00001	Robert	Thornberry	01234567898	bob.thornberry@heatmail.com	sr01	Charles	Raymond	chray@obl.com	Rockets

## Part 6: Retrieving Records with Nonequijoin

```
1. SELECT 'The cost of the ' || i.name || ' on this day was ' || p.price
AS "Output" FROM items i JOIN price-history p ON (i.item-number = p.item-number)
AND i.item-number = 'im01101045' AND TO_DATE('12-Dec-2016', 'DD-MM-YYYY')
BETWEEN p.start-date AND p.end-date;
```

### Output

The cost of the under shirt on this day was 14.99



# SQL & DML3 Part 2

## Section 6 Lesson 9 Exercise 2.

Part 1: Use a Self-Join to Join a Table to Itself

1. 

```
SELECT s.first_name || ' ' || s.last_name AS "Rep",  
       su.first_name || ' ' || su.last_name AS "Supervisor" FROM  
       sales_representatives s JOIN sales_representatives su  
       ON (su.id = s.supervisor_id);
```

Rep	Supervisor
Charles Raymond	Charles Raymond
Victoria Wright	Charles Raymond
Barry Speed	Charles Raymond

Part 2: Use OUTER joins

1. 

```
SELECT * FROM teams t LEFT OUTER JOIN customers c  
       ON (c.tem_id = t.id);
```

ID	NAME	NUMBER_OF_PLAYERS	DISCOUNT	CTR_NUMBER	EMAIL	FIRST_NAME	LAST_NAME	PHONE_NUMBER	CURRENT_BALANCE	SRE_ID	TEM_ID	LOYALTY_CARD_NUMBER
1001	Rockets	25	10	c00001	bob.thornberry@heatmail.com	Robert	Thornberry	01234567898	150	sr01	1001	-
1002	Celtics	42	20	c00101	unknown@here.com	John	Doe	03216547808	9875	sr01	1002	-
1003	Rovers	8	-	c07986	margalt7@delphiview.com	Maria	Galant	01442735589	125.65	sr03	1003	-

# Part 3 : Creating a Customer Product

1. SELECT \* FROM customers, sales-representatives;

CTR_NUMBER	EMAIL	FIRST_NAME	LAST_NAME	PHONE_NUMBER	CURRENT_BALANCE	SRE_ID	TEM_ID	LOYALTY_CARD_NUMBER	ID	EMAIL	FIRST_NAME	LAST_NAME	PHONE_NUMBER	COMMISSION_RATE	SUPERVISOR_ID
c00001	bob.thornberry@heatmail.com	Robert	Thornberry	01234567898	150	sr01	1001	-	sr01	chray@obl.com	Charles	Raymond	0134598761	10	sr01
c00012	jones@freemail.com	Jennifer	Jones	01505214598	0	-	-	lc1015	sr01	chray@obl.com	Charles	Raymond	0134598761	10	sr01
c00101	unknown@here.com	John	Doe	03216547808	987.5	sr01	1002	-	sr01	chray@obl.com	Charles	Raymond	0134598761	10	sr01
c00103	MurciaA@globaltech.com	Andrew	Murcia	0775246890	85	-	-	lc2341	sr01	chray@obl.com	Charles	Raymond	0134598761	10	sr01
c01986	margal87@delphiview.com	Maria	Galant	01442736589	125.65	sr03	1003	-	sr01	chray@obl.com	Charles	Raymond	0134598761	10	sr01
c02001	brianrog@hootech.com	Brian	Rogers	01654564898	50	-	-	lc4587	sr01	chray@obl.com	Charles	Raymond	0134598761	10	sr01
c00001	bob.thornberry@heatmail.com	Robert	Thornberry	01234567898	150	sr01	1001	-	sr02	vwright@obl.com	Victoria	Wright	0134598762	5	sr01
c00012	jones@freemail.com	Jennifer	Jones	01505214598	0	-	-	lc1015	sr02	vwright@obl.com	Victoria	Wright	0134598762	5	sr01
c00101	unknown@here.com	John	Doe	03216547808	987.5	sr01	1002	-	sr02	vwright@obl.com	Victoria	Wright	0134598762	5	sr01
c00103	MurciaA@globaltech.com	Andrew	Murcia	0775246890	85	-	-	lc2341	sr02	vwright@obl.com	Victoria	Wright	0134598762	5	sr01