

MEEC  
SISTEMAS DE INFORMAÇÃO E BASES DE DADOS

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## Using the Database

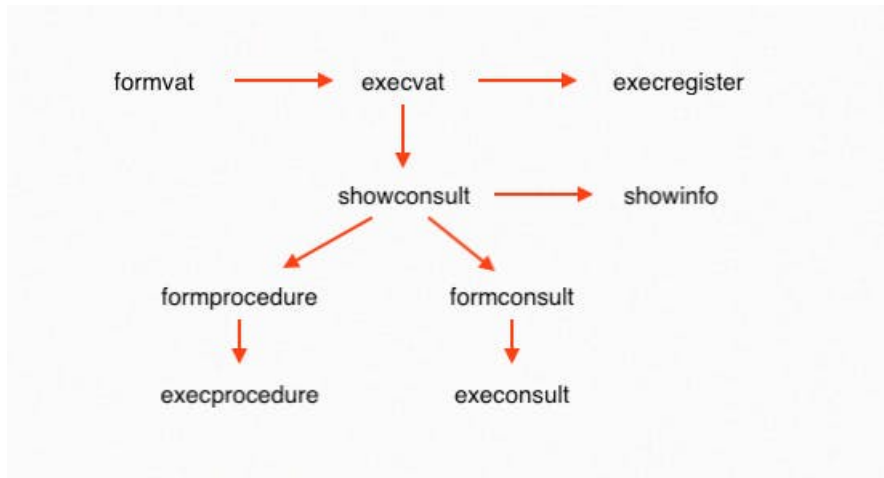
*Project - Part 3*

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# 1 Web Application Using the Database



<http://web.ist.utl.pt/ist176934/formvat.php>

Client VAT number:

Owner name:

Animal name:

<http://web.ist.utl.pt/ist176934/execvat.php>

1. Everything ok

Client VAT number:

Owner name:

Animal name:

Animal name	Owner vat	
Lucky	583057692	<a href="#">Show consults</a>
Lucky	673938590	<a href="#">Show consults</a>

[Return](#)

## 2. The vat is not registered

Client VAT number:

Owner name:

Animal name:

[Search](#)

VAT not found

[Return](#)

## 3. The animal is not registered

Client VAT number:

Owner name:

Animal name:

[Search](#)

Animal not found

Register animal

Animal name:

Specie:

Colour:

Gender: ☐ Female ☐ Male

Birthday:

<http://web.ist.utl.pt/ist176934/execregister.php>

**Database changed**

MySQL [ist176934]> select \* from animal;

name	VAT	species_name	colour	gender	birth_year	age
Brian	439502753	labrador retriever	White	M	2010-04-27	8
Buckbeack	294750283	hippogriff	Grey	M	2001-09-22	1
Croockshanks	239570075	half kneazle	Orange	M	2001-01-29	17
Daisy	673938590	beagle	Mixed	F	2014-12-19	3
Donkey	474926579	donkey	Grey	M	2010-07-31	8
Fang	294750283	neapolitan mastiff	Black	M	2001-10-21	17
Garfield	292839283	exotic short hair persian	Orange	M	2004-03-28	14
Hedwig	347834694	snowy owl	White	M	2001-11-20	17
Iago	475028667	parrot	Red	M	1992-08-24	26
Lucky	583057692	labrador retriever	Chocolate	F	2017-05-26	1
Lucky	673938590	labrador retriever	Chocolate	F	2016-05-26	2
Odie	292839283	beagle	Mixed	M	2004-02-27	14
Scooby	103957320	great dane	Brown	M	2010-05-26	8
Vitoria	120958001	bald eagle	Mixed	F	2014-07-29	4

14 rows in set (0.00 sec)

Animal not found

Register animal

Animal name:

Specie:

Colour:

Gender: ☒ Female ☐ Male

Birthday:

```
[MySQL [ist176934]> select * from animal;
```

name	VAT	species_name	colour	gender	birth_year	age
Brian	439502753	labrador retriever	White	M	2010-04-27	8
Buckbeack	294750283	hippogriff	Grey	M	2001-09-22	1
Croockshanks	239570075	half kneazle	Orange	M	2001-01-29	17
Daisy	673938590	beagle	Mixed	F	2014-12-19	3
Donkey	474926579	donkey	Grey	M	2010-07-31	8
Fang	294750283	neapolitan mastiff	Black	M	2001-10-21	17
Garfield	292839283	exotic short hair persian	Orange	M	2004-03-28	14
Hedwig	347834694	snowy owl	White	M	2001-11-20	17
Iago	475028667	parrot	Red	M	1992-08-24	26
Lucky	583057692	labrador retriever	Chocolate	F	2017-05-26	1
Lucky	673938590	labrador retriever	Chocolate	F	2016-05-26	2
Odie	292839283	beagle	Mixed	M	2004-02-27	14
Panda	583057692	beagle	black	F	2018-11-28	0
Scooby	103957320	great dane	Brown	M	2010-05-26	8
Vitoria	120958001	bald eagle	Mixed	F	2014-07-29	4

15 rows in set (0.00 sec)

<http://web.ist.utl.pt/ist176934/showconsults.php?vat=583057692name=Lucky>

<b>Consult date</b>		
2017-11-27 18:30:30.75	<a href="#">Show info</a>	<a href="#">Enter blood test result</a>

Add consult

<http://web.ist.utl.pt/ist176934/showinfo.php?date=2017-11-27%2018:30:30.75vat=583057692name=Lucky>

#### Animal characteristics

Specie	Colour	Gender	Age	Weight
labrador retriever	Chocolate	F	1	25

#### SOAP notes

Subjective	Objective	Assessment	Plan
Bleeding from nose	Fell head first	Broken nose	X-rays, medication

#### Diagnosis

Diagnosis code	Diagnosis name
r	something broken

#### Prescription

Name	Laboratory	Dosage	Regime
Dragonstone	Potion Lab Lda.	100ml	interval 8h -3xday- 7days

Return

<http://web.ist.utl.pt/ist176934/formconsult.php>

Veterinary VAT:

Weight:

SOAP notes:

Subjective:

Objective:

Assessment:

Plan:

```
MySQL [ist176934]> select * from consult where name='lucky' and vat_owner=583057692;
```

name	VAT_owner	date_timestamp	sub	obj	asmnt	pln	VAT_client	VAT_vet	weight
Lucky	583057692	2017-11-27 18:30:30.75	Bleeding from nose	Fell head first	Broken nose	X-rays, medication	583057692	294750283	25

1 row in set (0.00 sec)

Veterinary VAT:

Weight:

SOAP notes:

Subjective:

Objective:

Assessment:

Plan:

```
MySQL [ist176934]> select * from consult where name='lucky' and vat_owner=583057692;
```

name	VAT_owner	date_timestamp	sub	obj	asmnt	pln	VAT_client
Lucky	583057692	2017-11-27 18:30:30.75	Bleeding from nose	Fell head first	Broken nose	X-rays, medication	583057692
Lucky	583057692	2018-12-07 16:51:37	Routine check	Apparently no signs for concern	Apparently no signs for concern	Weighting and other standard tests	583057692

2 rows in set (0.00 sec)

<http://web.ist.utl.pt/ist176934/formprocedure.php?date=2017-11-27%2018:30:30.75vat=583057692name=Lucky>

Procedure description:

### Blood test results

Assistant VAT:

White blood cells (cells/L):

Neutrophils (cells/L):

Lymphocytes (cells/L):

Monocytes (cells/L):

```
MySQL [ist176934]> select * from procedures;
```

name	VAT_owner	date_timestamp	num	description
Brian	439502753	2017-7-27 09:45:30.75	4	Ran over by car.
Buckbeack	294750283	2018-7-27 09:00:30.75	1	Fell while flying broke beack
Croockshanks	239570075	2016-7-27 10:00:30.75	6	Fight with cat, blood samples
Croockshanks	239570075	2016-7-27 10:00:30.75	9	Blood work to test kidney failure
Garfield	292839283	2017-7-27 09:40:30.75	5	Food poisoning, too much lasagna. Stomach clense
Lucky	583057692	2017-11-27 18:30:30.75	8	Fell head first
Scooby	103957320	2017-5-27 10:00:30.75	3	Radiography to confirm arthritis
Vitoria	120958001	2016-7-28 09:00:30.75	2	Cirurgical intreviewtion
Vitoria	120958001	2016-7-28 09:00:30.75	7	Blood work to test kidney failure

```
9 rows in set (0.00 sec)
```



Procedure description:

### Blood test results

Assistant VAT:

White blood cells (cells/L):

Neutrophils (cells/L):

Lymphocytes (cells/L):

Monocytes (cells/L):

```
[MySQL [ist176934]> select * from procedures;
```

name	VAT_owner	date_timestamp	num	description
Brian	439502753	2017-7-27 09:45:30.75	4	Ran over by car.
Buckbeack	294750283	2018-7-27 09:00:30.75	1	Fell while flying broke beack
Croockshanks	239570075	2016-7-27 10:00:30.75	6	Fight with cat, blood samples
Croockshanks	239570075	2016-7-27 10:00:30.75	9	Blood work to test kidney failure
Garfield	292839283	2017-7-27 09:40:30.75	5	Food poisoning, too much lasagna. Stomach clense
Lucky	583057692	2017-11-27 18:30:30.75	8	Fell head first
Lucky	583057692	2017-11-27 18:30:30.75	10	Blood test
Scooby	103957320	2017-5-27 10:00:30.75	3	Radiography to confirm arthritis
Vitoria	120958001	2016-7-28 09:00:30.75	2	Cirurgical intrevention
Vitoria	120958001	2016-7-28 09:00:30.75	7	Blood work to test kidney failure

10 rows in set (0.00 sec)

```
[MySQL [ist176934]> select * from produced_indicator where name='Lucky';
```

name	VAT_owner	date_timestamp	num	indicator_name	value
Lucky	583057692	2017-11-27 18:30:30.75	10	lymphocytes	100.00
Lucky	583057692	2017-11-27 18:30:30.75	10	monocytes	101.00
Lucky	583057692	2017-11-27 18:30:30.75	10	neutrophils	100.00
Lucky	583057692	2017-11-27 18:30:30.75	10	white blood cells	100.00

4 rows in set (0.00 sec)

```

MySQL [ist176934]> select * from performed where name='Lucky';
+-----+-----+-----+-----+-----+
| name | VAT_owner | date_timestamp | num | VAT_assistant |
+-----+-----+-----+-----+-----+
| Lucky | 583057692 | 2017-11-27 18:30:30.75 | 8 | 439502753 |
| Lucky | 583057692 | 2017-11-27 18:30:30.75 | 10 | 103957320 |
+-----+-----+-----+-----+-----+
2 rows in set (0.00 sec)

```

## 2 Function

```

drop function if exists total_consults;
delimiter $$
create function total_consults(a_name varchar(255), vat_owner integer, year
varchar(255))
returns integer
begin
    declare total integer;
    select count(*) into total
    from consult
    where name=a_name and consult.vat_owner=vat_owner and year(date_timestamp)=year;
    return total;
end$$
delimiter ;

```

```

MySQL [ist176934]> select name, vat_owner, date_timestamp from consult where name='Daisy';
+-----+-----+-----+
| name | vat_owner | date_timestamp |
+-----+-----+-----+
| Daisy | 673938590 | 2016-1-27 09:00:30.75 |
| Daisy | 673938590 | 2017-11-27 09:00:30.75 |
| Daisy | 673938590 | 2017-7-27 09:00:30.75 |
+-----+-----+-----+
3 rows in set (0.00 sec)

```

```

MySQL [ist176934]> select total_consults('Daisy', 673938590, 2017) as result;
+-----+
| result |
+-----+
| 2 |
+-----+
1 row in set (0.01 sec)

```

```

[MySQL [ist176934]> select total_consults('Daisy', 673938590, '2016') as result;
+-----+
| result |
+-----+
|      1 |
+-----+
1 row in set (0.00 sec)

```

## 3 Triggers

### 3.1

```

drop trigger if exists animal_age;
delimiter $$
create trigger animal_age
before insert on consult
for each row
begin
    declare a_age integer;
    declare birth varchar(255);
    select birth_year from animal where animal.name=new.name into birth;
    select datediff(curdate(), birth) div 365 into a_age;
    update animal
    set age=a_age
    where animal.name=new.name and animal.vat=new.vat_owner;
end$$
delimiter ;

```

```

[MySQL [ist176934]> select * from animal where name='Daisy';
+-----+-----+-----+-----+-----+-----+-----+
| name | VAT      | species_name | colour | gender | birth_year | age |
+-----+-----+-----+-----+-----+-----+-----+
| Daisy | 673938590 | beagle       | Mixed  | F      | 2014-12-19 | 2   |
+-----+-----+-----+-----+-----+-----+-----+
1 row in set (0.00 sec)

```

```

[MySQL [ist176934]> insert into consult values('Daisy', 673938590, '2018-12-06 09:00:00.00', 'Dog was
mins', 673938590, 583057692, 6);
Query OK, 1 row affected (0.01 sec)

```

```
[MySQL [ist176934]> select * from animal where name='Daisy';
```

name	VAT	species_name	colour	gender	birth_year	age
Daisy	673938590	beagle	Mixed	F	2014-12-19	3

```
1 row in set (0.00 sec)
```

## 3.2

```
/*insert on veterinary, verifies assistants*/
drop trigger if exists only_vet;
delimiter $$
create trigger only_vet
before insert on veterinary
for each row
begin
    if(exists(select vat from assistant where assistant.vat = new.vat)) then
        signal sqlstate '45000';
    end if;
end$$
delimiter ;

/*insert on assistants, verifies veterinaries*/
drop trigger if exists only_ast;
delimiter $$
create trigger only_ast
before insert on assistant
for each row
begin
    if(exists(select vat from veterinary where veterinary.vat = new.vat)) then
        signal sqlstate '45000';
    end if;
end$$
delimiter ;
```

```
[MySQL [ist176934]> select * from veterinary;
```

VAT	specialization	bio
239570075	Surgery	I am hoping to do some good in the world!
294750283	Large Animal	I am vet, Harry!
583057692	Internal Medicine	Make vets great again.

```
3 rows in set (0.00 sec)
```

```
[MySQL [ist176934]> select * from assistant;
```

```
+-----+  
| VAT   |  
+-----+  
| 103957320 |  
| 439502753 |  
| 474926579 |  
+-----+
```

```
3 rows in set (0.00 sec)
```

```
[MySQL [ist176934]> insert into veterinary values (103957320, 'Surgery', 'Top');
```

```
ERROR 1644 (45000): Unhandled user-defined exception condition
```

```
[MySQL [ist176934]> insert into assistant values (239570075);
```

```
ERROR 1644 (45000): Unhandled user-defined exception condition
```

### 3.3

```
drop trigger if exists unique_number;  
delimiter $$  
create trigger unique_number  
before insert on phone_number  
for each row  
begin  
    if(exists(select phone from phone_number where phone_number.phone = new.phone))  
    then  
        signal sqlstate '45000';  
    end if;  
end$$  
delimiter ;
```

```
[MySQL [ist176934]> select * from phone_number;
```

```
+-----+-----+  
| VAT   | phone |  
+-----+-----+  
| 103957320 | 913787430 |  
| 120958001 | 917836433 |  
| 239570075 | 913958582 |  
| 292839283 | 918484848 |  
| 294750283 | 918485029 |  
| 347834694 | 914839302 |  
| 439502753 | 917383923 |  
| 474926579 | 915747913 |  
| 475028667 | 913875849 |  
| 583057692 | 913485832 |  
| 673938590 | 917838656 |  
| 848049583 | 917383923 |  
+-----+-----+
```

```
12 rows in set (0.01 sec)
```

```
[MySQL [ist176934]> insert into phone_number values (120958001, 913787430);
ERROR 1644 (45000): Unhandled user-defined exception condition
```

## 4 Procedure

```
drop procedure if exists change_ref;
delimiter $$
create procedure change_ref ()
begin
    update produced_indicator
    set produced_indicator.value=produced_indicator.value/10
    where indicator_name in (select name from indicator where units='mg');

    update indicator
    set reference_value=reference_value/10, units='cg'
    where units='mg';
end$$
delimiter ;
```

```
[MySQL [ist176934]> select * from indicator where units='mg';
```

name	reference_value	units	description
glucose	130.00	mg	Ideal value.
hemoglobine	200.00	mg	Ideal value.
protein	90.00	mg	Ideal value.

```
3 rows in set (0.00 sec)
```

```
[MySQL [ist176934]> select * from produced_indicator where indicator_name in (select name from indicator where units='mg');
```

name	VAT_owner	date_timestamp	num	indicator_name	value
Croockshanks	239570075	2016-7-27 10:00:30.75	6	hemoglobine	210.00
Garfield	292839283	2017-7-27 09:40:30.75	5	hemoglobine	250.00
Vitoria	120958001	2016-7-28 09:00:30.75	2	protein	30.00

```
3 rows in set (0.01 sec)
```

```
[MySQL [ist176934]> call change_ref;
Query OK, 3 rows affected (0.01 sec)
```

```
MySQL [ist176934]> select * from indicator;
```

name	reference_value	units	description
creatinine	1.00	mg/mol	Ideal value.
glucose	13.00	cg	Ideal value.
hemoglobine	20.00	cg	Ideal value.
lymphocytes	100.00	cells/L	Ideal value.
monocytes	100.00	cells/L	Ideal value.
neutrophils	400.00	cells/L	Ideal value.
protein	9.00	cg	Ideal value.
red blood cells	300.00	cells/L	Higher limit
temperature	38.00	celcius	Higher than reference value, fever.
white blood cells	200.00	cells/L	Ideal value.

10 rows in set (0.00 sec)

```
MySQL [ist176934]> select * from produced_indicator;
```

name	VAT_owner	date_timestamp	num	indicator_name	value
Croockshanks	239570075	2016-7-27 10:00:30.75	6	hemoglobine	21.00
Croockshanks	239570075	2016-7-27 10:00:30.75	9	creatinine	0.90
Garfield	292839283	2017-7-27 09:40:30.75	5	hemoglobine	25.00
Vitoria	120958001	2016-7-28 09:00:30.75	2	protein	3.00
Vitoria	120958001	2016-7-28 09:00:30.75	7	creatinine	1.50

5 rows in set (0.01 sec)