

# California Zoos Database

## 26481 – Serhan Yorulmaz

This database holds the information of some zoos located in California that is ruled by one headquarters. This database is used for organizing and maintaining those zoos. This database includes information about zoos, zookeepers, cages, and animals and their attributes. More specifically, it is used to keep the record of which zookeeper works for which zoo, which animals live in which cages, and which zookeeper is responsible for which cage.

Technical details of that database are as follows:

There are 4 entities:

- Zoos
- Zookeepers
- Cages
- Animals

There are 3 relationships in total:

- Animals and Cages: **lives\_in** (One animal can live in only one cage while in one cage more than one animal can live.)
- Cages and Zookeepers: **busy\_with** (One zookeeper can be busy with multiple cages and one cage can be assigned to multiple zookeepers.)
- Zookeepers and Zoos: **works\_for** (One zookeeper can work for only one zoo while one zoo can have more than one zookeeper.)

Attributes of entities are as follows:

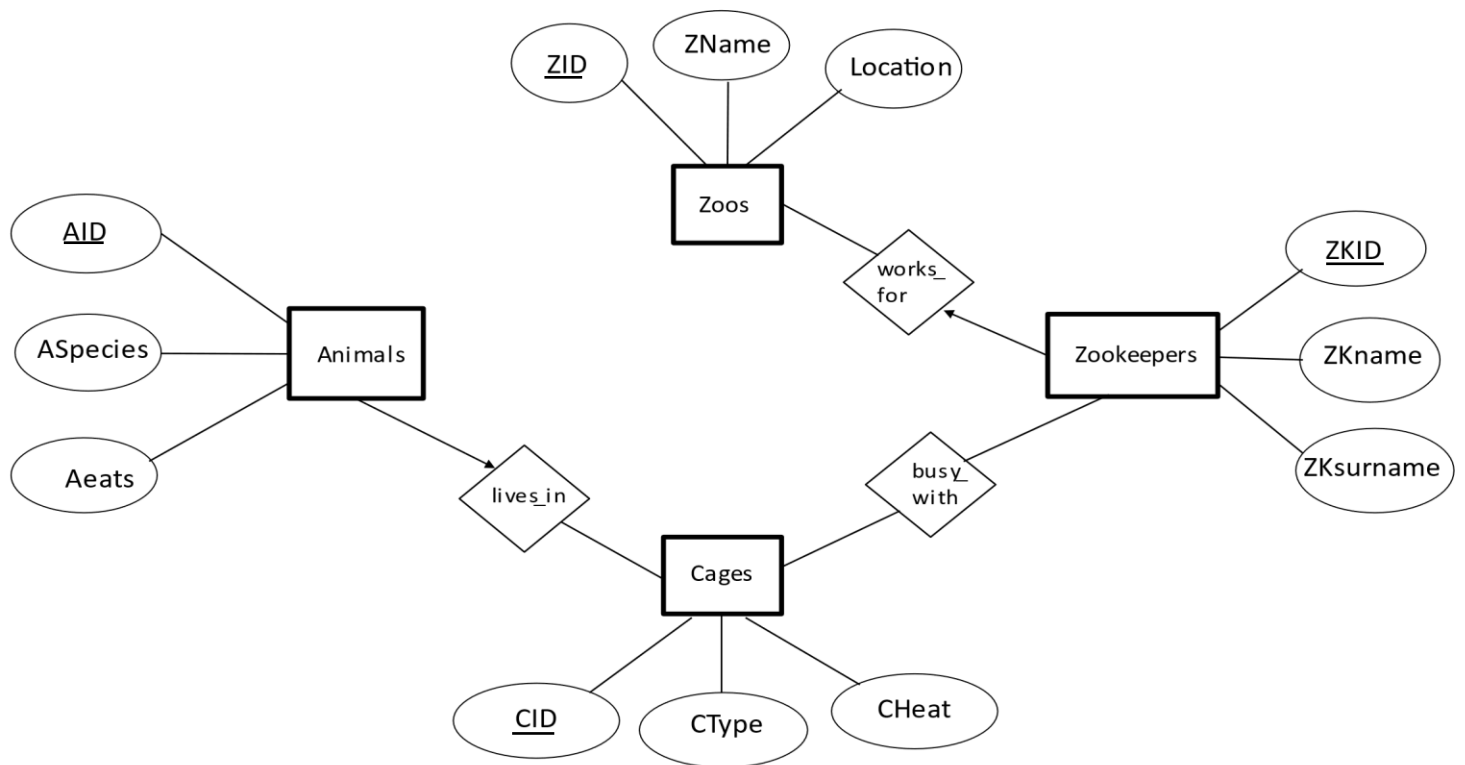
**Zoos:** ZID, ZName, Location

**Zookeepers:** ZKID, ZKname, ZKsurname

**Cages:** CID, CType, CHeat

**Animals:** AID, ASpecies, Aeats

ER Diagram is on the next page >



```

CREATE TABLE Zoos(
  ZID INTEGER,
  ZName CHAR(20),
  Location CHAR(20),
  PRIMARY KEY(ZID))
  
```

```

CREATE TABLE Zookeepers(
  ZKID INTEGER,
  ZKname CHAR(10),
  ZKsurname CHAR(10),
  PRIMARY KEY(ZKID))
  
```

```

CREATE TABLE Cages(
  CID INTEGER,
  CType CHAR(10),
  CHeat INTEGER,
  PRIMARY KEY(CID))
  
```

```
CREATE TABLE Animals(  
  AID INTEGER,  
  Aspecies CHAR(30),  
  Aeats CHAR(10),  
  PRIMARY KEY(AID))
```

```
CREATE TABLE lives_in(  
  AID INTEGER,  
  CID INTEGER,  
  PRIMARY KEY(AID),  
  FOREIGN KEY(AID)  
    REFERENCES Animals,  
  FOREIGN KEY(CID)  
    REFERENCES Cages)
```

```
CREATE TABLE busy_with(  
  ZKID INTEGER,  
  CID INTEGER,  
  PRIMARY KEY(ZKID, CID),  
  FOREIGN KEY(ZKID)  
    REFERENCES Zookeepers,  
  FOREIGN KEY(CID)  
    REFERENCES Cages)
```

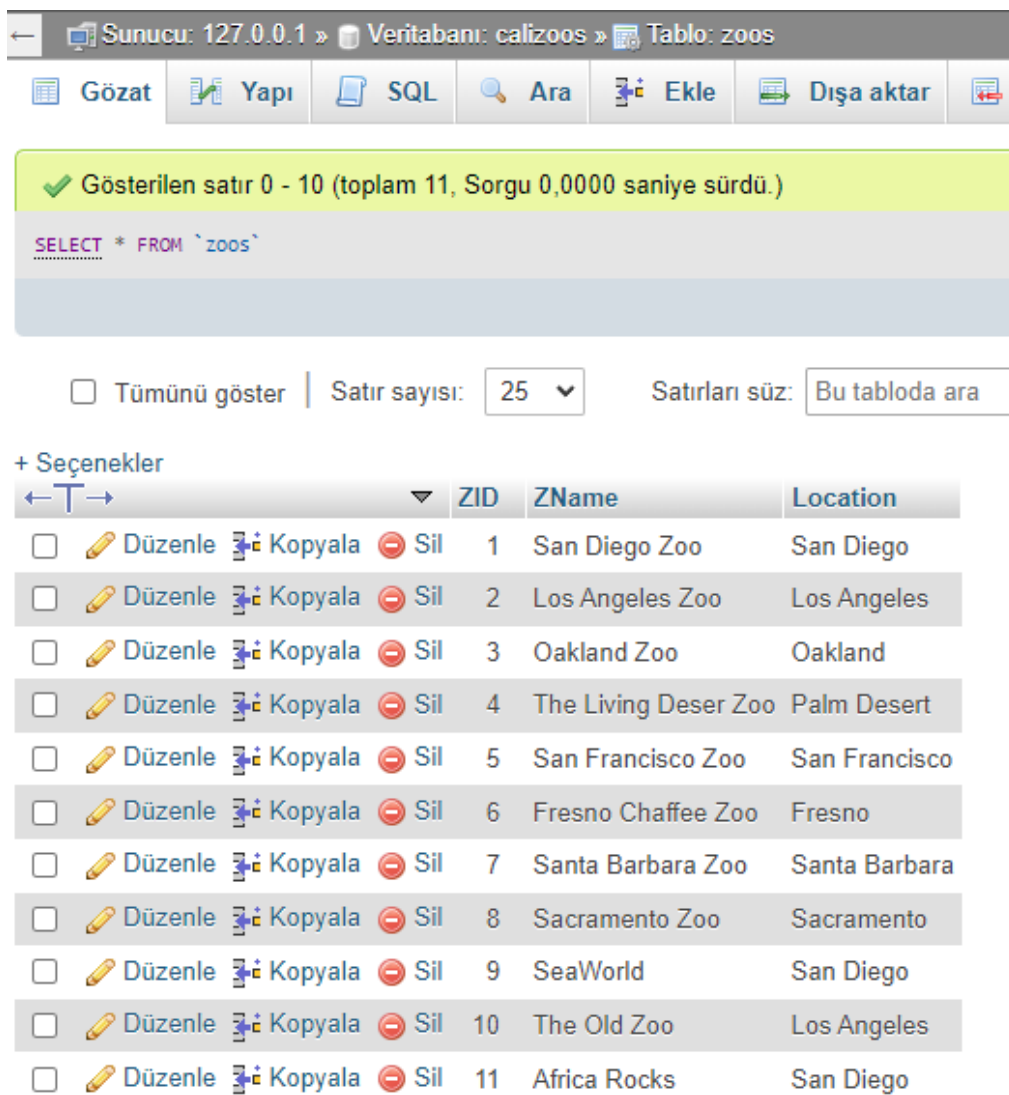
```
CREATE TABLE works_for(  
  ZID INTEGER,  
  ZKID INTEGER,  
  PRIMARY KEY(ZKID),  
  FOREIGN KEY(ZID)  
    REFERENCES Zoos,  
  FOREIGN KEY(ZKID)  
    REFERENCES Zookeepers)
```

# California Zoos Database

## Project Step 2

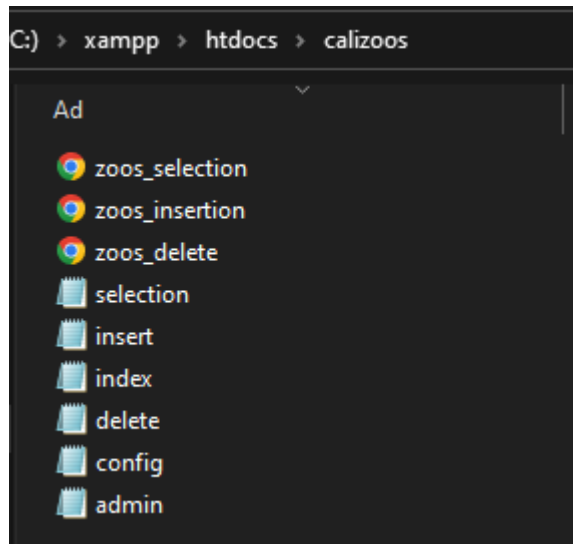
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I have implemented table of the entity called Zoos to my localhost with the help of phpMyAdmin and MySQL.



|  | ZID | ZName                | Location      |
|--|-----|----------------------|---------------|
| <input type="checkbox"/> Düzenle Kopyala Sil | 1   | San Diego Zoo        | San Diego     |
| <input type="checkbox"/> Düzenle Kopyala Sil | 2   | Los Angeles Zoo      | Los Angeles   |
| <input type="checkbox"/> Düzenle Kopyala Sil | 3   | Oakland Zoo          | Oakland       |
| <input type="checkbox"/> Düzenle Kopyala Sil | 4   | The Living Deser Zoo | Palm Desert   |
| <input type="checkbox"/> Düzenle Kopyala Sil | 5   | San Francisco Zoo    | San Francisco |
| <input type="checkbox"/> Düzenle Kopyala Sil | 6   | Fresno Chaffee Zoo   | Fresno        |
| <input type="checkbox"/> Düzenle Kopyala Sil | 7   | Santa Barbara Zoo    | Santa Barbara |
| <input type="checkbox"/> Düzenle Kopyala Sil | 8   | Sacramento Zoo       | Sacramento    |
| <input type="checkbox"/> Düzenle Kopyala Sil | 9   | SeaWorld             | San Diego     |
| <input type="checkbox"/> Düzenle Kopyala Sil | 10  | The Old Zoo          | Los Angeles   |
| <input type="checkbox"/> Düzenle Kopyala Sil | 11  | Africa Rocks         | San Diego     |

This table “zoos” is in the database called calizooos. There are three attributes of the table which are ZID, ZName and Location. ZID is for zoo ID, ZName is for zoo name and Location is for the location of the zoo. Notice that ZID is the primary key.



Top three are HTML web designs while rest of them are php files. As their names suggest, zoos\_selection is for selecting data, zoos\_insertion is for inserting data into table and zoos\_delete is for deleting data from the table.

## 1\_Insertion:

```
<?php
include "config.php";

if (!empty($_POST['ZID'])){
    $ZID = $_POST['ZID'];
    $ZName = $_POST['ZName'];
    $Location = $_POST['Location'];
    $sql_statement = "INSERT INTO zoos(ZID, ZName, Location) VALUES ('$ZID','$ZName','$Location')";

    $result = mysqli_query($db, $sql_statement);
    echo "Zoo is added to the database. " . $result;
}
else
{
    echo "You did not enter your ZID.";
}

?>
```

(insert.php file)

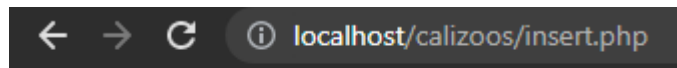
```
<form action="insert.php" method="POST">
    Zoo ID:
    <input type="text" id="ZID" name="ZID">
    Zoo Name:
    <input type="text" id="ZName" name="ZName">
    Location:
    <input type="text" id="Location" name="Location">
    <input type="submit" value="Submit">
</form>
```

(zoos\_insertion.html file)



### (web design of insertion part)

It is a very basic design. The first input text is for ZID, the second input text is for ZName and the third input text is Location. Whenever submit button is triggered, the provided data is added to the table accordingly.



(example output when clicked to the Submit button)

## 2\_Delete:

```
<?php
include "config.php";

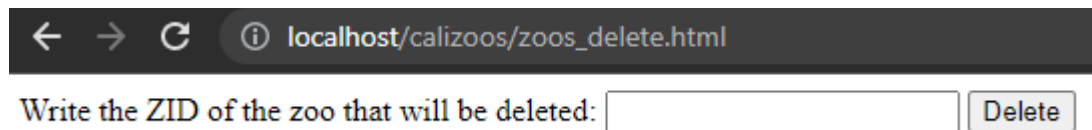
if(!empty($_POST['ZID']))
{
    $ZID = $_POST['ZID'];
    $sql_statement = "DELETE FROM zoos WHERE ZID = $ZID";
    $result = mysqli_query($db, $sql_statement);
    echo "Your result is " . $result;
}

?>
```

(delete.php file)

```
<form action="delete.php" method="POST">
    Write the ZID of the zoo that will be deleted:
    <input type="text" id="ZID" name="ZID">
    <input type="submit" value="Delete">
</form>
```

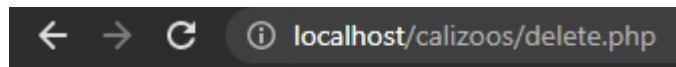
(zoos\_delete.html file)



Write the ZID of the zoo that will be deleted:

(web design of the deletion part)

Again, very simple design. Whenever ZID of a zoo which is already in the table is written to input text and Delete button triggered, specified Zoo with ZID is deleted from the table.



Your result is 1

(example output when clicked to the Delete button if successful)

### 3\_Selection:

```
<?php
include "config.php";

$attr = $_POST['attr'];
$value = $_POST['value'];

$sql_statement = "SELECT * FROM zoos WHERE $attr = '$value'";
$result = mysqli_query($db, $sql_statement);

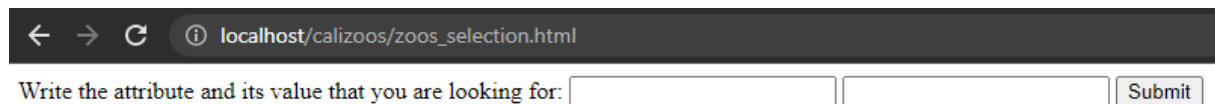
while($row = mysqli_fetch_assoc($result)) {
    $ZID = $row['ZID'];
    $ZName = $row['ZName'];
    $Location = $row['Location'];
    echo $ZID . " | " . $ZName . " | " . $Location . "<br>";
}

?>
```

(selection.php file)

```
<form action="selection.php" method="POST">
    Write the attribute and its value that you are looking for:|
    <input type="text" id="attr" name="attr">
    <input type="text" id="value" name="value">
    <input type="submit" value="Submit">
</form>
```

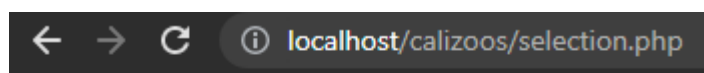
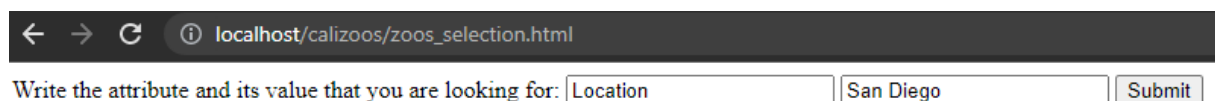
(zoos\_selection.html file)



### (web design of selection part)

Whenever an attribute (ZID, ZName or Location) is written to the first input text, desired value is written to the second input text and Submit button is triggered, it lists all the zoos that have the specified values for that attribute.

## EXAMPLE



1 | San Diego Zoo | San Diego  
9 | SeaWorld | San Diego  
11 | Africa Rocks | San Diego

(output)

## OTHER FILES:

```
<?php

include "config.php"; // Makes mysql connection

$sql_statement = "SELECT * FROM zoos";

$result = mysqli_query($db, $sql_statement); // Executing query

while($row = mysqli_fetch_assoc($result)) { // Iterating the result
    $Zoo_id = $row['ZID'];
    $Zoo_name = $row['ZName'];
    $Zoo_location = $row['Location'];
    echo $Zoo_id . " " . $Zoo_name . " " . $Zoo_location . "<br>";
}

?>
```

(index.php file)



```

<?php

include "config.php";

?>

<form action="delete.php" method="POST">
<select name="ids">

<?php

$sql_command = "SELECT ZID, ZName, Location FROM zoos";

$myresult = mysqli_query($db, $sql_command);

    while($id_rows = mysqli_fetch_assoc($myresult))
    {
        $ZID = $id_rows['ZID'];
        $ZName = $id_rows['ZName'];
        $Location = $id_rows['Location'];
        echo "<option value=$ZID>". $ZName . " - " . $Location . "</option>";
    }

?>

</select>
<button>DELETE</button>
</form>

```

(admin.php file)

```

<?php

$db = mysqli_connect('localhost','root','','calizoos');

if($db->connect_errno > 0){
    die('Unable to connect to database [' . $db->connect_error . ']');
}

?>

```

(config.php file)

# California Zoos Database

## Project Step 3

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### STEP 1:

I have implemented rest of the tables to my database with the help of phpMyAdmin and MySQL. Here are the 7 tables with their items.

#### animals

|   |                        |         |     |
|---|------------------------|---------|-----|
| ← Sunucu: 127.0.0.1 » Veritabanı: calizoos » Tablo: animals                           |                        |         |     |
| Gözet   | Yapı                   | SQL     | Ara |
| Ekle  | Dışa aktar             |         |     |
| ✓ Gösterilen satır 0 - 10 (toplam 11, Sorgu 0,0000 saniye sürdü.)                     |                        |         |     |
| SELECT * FROM `animals`   |                        |         |     |
|   |                        |         |     |
| <input type="checkbox"/> Tümünü göster   Satır sayısı: 25 ▼ Satırları süz: Bu tabloda |                        |         |     |
| + Seçenekler  |                        |         |     |
| ← T →   |                        |         |     |
| <input type="checkbox"/>  | Düzenle                | Kopyala | Sil |
| 1   | Panthera Leo           | Meat    |     |
| <input type="checkbox"/>  | Düzenle                | Kopyala | Sil |
| 2   | Canis Lupus            | Meat    |     |
| <input type="checkbox"/>  | Düzenle                | Kopyala | Sil |
| 3   | Ailuropoda Melanoleuca | Bamboo  |     |
| <input type="checkbox"/>  | Düzenle                | Kopyala | Sil |
| 4   | Psittaciformes         | Grains  |     |
| <input type="checkbox"/>  | Düzenle                | Kopyala | Sil |
| 5   | Lacertilia             | Bugs    |     |
| <input type="checkbox"/>  | Düzenle                | Kopyala | Sil |
| 6   | Brachypelma Boehmei    | Bugs    |     |
| <input type="checkbox"/>  | Düzenle                | Kopyala | Sil |
| 7   | Testudinidae           | Fruits  |     |
| <input type="checkbox"/>  | Düzenle                | Kopyala | Sil |
| 8   | Erinaceinae            | Fruits  |     |
| <input type="checkbox"/>  | Düzenle                | Kopyala | Sil |
| 9   | Otariinae              | Fish    |     |
| <input type="checkbox"/>  | Düzenle                | Kopyala | Sil |
| 10  | Delphinus              | Fish    |     |
| <input type="checkbox"/>  | Düzenle                | Kopyala | Sil |
| 11  | Phoenicopterus         | Fish    |     |

## busy\_with

Sunucu: 127.0.0.1 » Veritabanı: calizoos » Tablo: busy\_with

Gözet Yapı SQL Ara Ekle Dışa

✓ Gösterilen satır 0 - 9 (toplam 10, Sorgu 0,0000 saniye sürdü.)

SELECT \* FROM `busy\_with`

☐ Tümünü göster | Satır sayısı: 25 ▼ Satırları süz: Bu t

+ Seçenekler

|                          |         |         | ZKID | CID  |
|--------------------------|---------|---------|------|------|
| <input type="checkbox"/> | Düzenle | Kopyala | Sil  | 1 3  |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil  | 2 4  |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil  | 3 1  |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil  | 4 2  |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil  | 5 3  |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil  | 6 2  |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil  | 7 4  |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil  | 8 1  |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil  | 9 5  |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil  | 10 5 |

## cages

Sunucu: 127.0.0.1 » Veritabanı: calizoos » Tablo: cages

Gözet Yapı SQL Ara Ekle Dışa

✓ Gösterilen satır 0 - 4 (toplam 5, Sorgu 0,0000 saniye sürdü.)

SELECT \* FROM `cages`

☐ Tümünü göster | Satır sayısı: 25 ▼ Satırları süz: [

+ Seçenekler

|                          |         |         |     | CID | CType     | CHeat |
|--------------------------|---------|---------|-----|-----|-----------|-------|
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 1   | Aviary    | 26    |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 2   | Aquarium  | 16    |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 3   | Terrarium | 35    |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 4   | Standart  | 24    |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 5   | Open Top  | 30    |

## lives\_in

Sunucu: 127.0.0.1 » Veritabanı: calizoos » Tablo: lives\_in

Gözet Yapı SQL Ara Ekle

✓ Gösterilen satır 0 - 10 (toplam 11, Sorgu 0,0000 saniye sürdü.)

SELECT \* FROM `lives\_in`

☐ Tümünü göster | Satır sayısı: 25 ▼ | Satırları süz: [ ]

+ Seçenekler

|                          |         |         | AID | CID  |
|--------------------------|---------|---------|-----|------|
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 4 1  |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 9 2  |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 10 2 |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 5 3  |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 6 3  |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 3 4  |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 7 4  |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 8 4  |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 11 4 |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 1 5  |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 2 5  |

## works\_for

Sunucu: 127.0.0.1 » Veritabanı: calizoos » Tablo: works\_for

Gözet Yapı SQL Ara Ekle Dış

✓ Gösterilen satır 0 - 14 (toplam 15, Sorgu 0,0000 saniye sürdü.)

SELECT \* FROM `works\_for`

☐ Tümünü göster | Satır sayısı: 25 ▼ | Satırları süz: [ Bu ]

+ Seçenekler

|                          |         |         | ZID | ZKID  |
|--------------------------|---------|---------|-----|-------|
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 1 5   |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 2 9   |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 3 1   |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 3 12  |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 4 15  |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 5 2   |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 6 10  |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 7 6   |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 7 13  |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 8 3   |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 8 14  |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 9 4   |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 10 7  |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 11 8  |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 12 11 |

## zookeepers

Sunucu: 127.0.0.1 » Veritabanı: calizoo » Tablo: zookeepers

Gözet Yapı SQL Ara Ekle Dışa aktar

✓ Gösterilen satır 0 - 14 (toplam 15, Sorgu 0,0000 saniye sürdü.)

SELECT \* FROM `zookeepers`

☐ Tümünü göster | Satır sayısı: 25 | Satırları süz: Bu tabl

+ Seçenekler

|                          |         |         | ZKID | ZKname | ZKsurname       |
|--------------------------|---------|---------|------|--------|-----------------|
| <input type="checkbox"/> | Düzenle | Kopyala | Sil  | 1      | Jake Smith      |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil  | 2      | Jason Williams  |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil  | 3      | Robert Johnson  |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil  | 4      | Mathias Brown   |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil  | 5      | Jose Garcia     |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil  | 6      | Lucy Miller     |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil  | 7      | Cindy Wilson    |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil  | 8      | Chelsea Thomas  |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil  | 9      | Barbara Taylor  |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil  | 10     | Mary Jane       |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil  | 11     | Oliver Lee      |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil  | 12     | Charlotte Perez |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil  | 13     | Noah Thompson   |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil  | 14     | Emma White      |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil  | 15     | Liam Moore      |

## ZOOS

Sunucu: 127.0.0.1 » Veritabanı: calizoo » Tablo: zoos

Gözet Yapı SQL Ara Ekle Dışa aktar

✓ Gösterilen satır 0 - 11 (toplam 12, Sorgu 0,0000 saniye sürdü.)

SELECT \* FROM `zoos`

☐ Tümünü göster | Satır sayısı: 25 | Satırları süz: Bu tabloda ara

+ Seçenekler

|                          |         |         |     | ZID | ZName                | Location      |
|--------------------------|---------|---------|-----|-----|----------------------|---------------|
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 1   | San Diego Zoo        | San Diego     |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 2   | Los Angeles Zoo      | Los Angeles   |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 3   | Oakland Zoo          | Oakland       |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 4   | The Living Deser Zoo | Palm Desert   |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 5   | San Francisco Zoo    | San Francisco |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 6   | Fresno Chaffee Zoo   | Fresno        |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 7   | Santa Barbara Zoo    | Santa Barbara |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 8   | Sacramento Zoo       | Sacramento    |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 9   | SeaWorld             | San Diego     |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 10  | The Old Zoo          | Los Angeles   |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 11  | Africa Rocks         | San Diego     |
| <input type="checkbox"/> | Düzenle | Kopyala | Sil | 12  | CuriOdyssey          | San Mateo     |

## STEP 2:

### 1\_INSERTIONS:

Animal ID:  Animal Species:  What animal eats:

Zookeeper ID:  Zookeeper Name:  Zookeeper Surname:

Cage ID:  Cage Type:  Cage Heat:

Zoo ID:  Zoo Name:  Location:

These are possible outcomes when submit button is triggered.

Animal is added to the database. 1

Zookeeper is added to the database. 1

Cage is added to the database. 1

Zoo is added to the database. 1

### 2\_DELETES:

Write the AID of the zoo that will be deleted:

Write the ZKID of the zoo that will be deleted:

Write the CID of the zoo that will be deleted:

Write the ZID of the zoo that will be deleted:

### 3\_SELECTIONS:

Write the attribute and its value that you are looking for:

This is the example of data selection web interface from database. Same for all tables. Here are some example outcomes.

Write the attribute and its value that you are looking for: ZID  1

1 | San Diego Zoo | San Diego

Write the attribute and its value that you are looking for:

2 | Jason | Williams

Write the attribute and its value that you are looking for:

9 | Otariinae | Fish

10 | Delphinus | Fish

11 | Phoenicopteru | Fish

## STEP 3:

Welcome Zookeeper! Please write your Zookeeper ID in order to get the detailed information about your work.

```
<?php
include "config.php";

$sql_statement = "SELECT * FROM animals";
$sql_statement = "SELECT * FROM zoos";
$sql_statement = "SELECT * FROM cages";
$sql_statement = "SELECT * FROM zookeepers";
$sql_statement = "SELECT * FROM busy_with";
$sql_statement = "SELECT * FROM lives_in";
$sql_statement = "SELECT * FROM works_for";

$result = mysqli_query($db, $sql_statement);

$ZKname = $row['ZKname'];
$ZKsurname = $row['ZKsurname'];
$ZKID = $row['ZKID'];
$CID = $row['CID'];
$CType = $row['CType'];
$CHeat = $row['CHeat'];
$ZName = $row['ZName'];
$Location = $row['Location'];
$ZID = $row['ZID'];
$ASpecies = $row['ASpecies'];
$Aeats = $row['Aeats'];
$AID = $row['AID'];

echo "Welcome " . $ZKname . $ZKsurname . "! You should work for " . $ZName . " in " . $Location . ". You are responsible from Cage " . $CID .
" which is type " . $CType . " and cage's heat should be " . $CHeat . " . " . $ASpecies . " lives there and must be feeded with " . $Aeats . " . ";

?>
```

Main aim of that website was informing zookeepers about their tasks. With this code, I wanted to print all the information that a zookeeper needs about the work. Possible outcome should have be something like that:

“Welcome Jake Smith! You should work for Oakland Zoo in Oakland. You are responsible from Cage 3 which is type Terrarium and cage’s heat should be 35. Brachypelma Boehmei lives there and must be feeded with Bugs.”