



Final Project Presentation

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If an animal joins or leaves the sanctuary, how can you make it easy to update all necessary tables?

Goal: to design a database that handles status updates, arrival and transfer dates.

Table: **animals**

Stores information of each animal at the sanctuary

Table: **status**

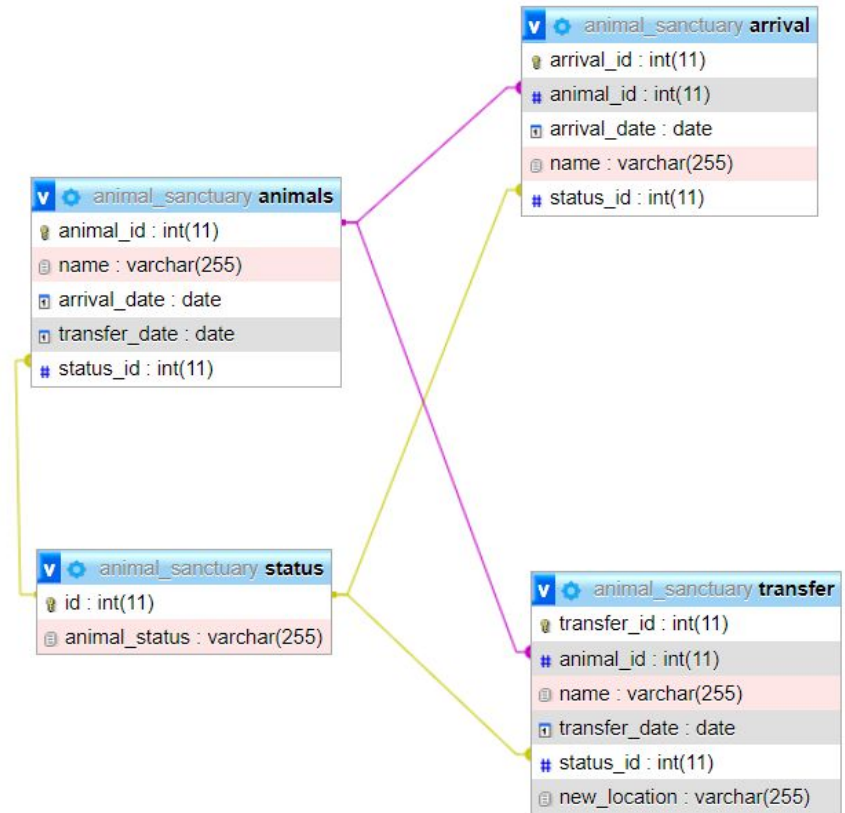
Stores information of animal status 'Active', or 'Transferred'

Table: **arrival**

Stores information of when the animal arrives at the sanctuary

Table: **transfer**

Stores information of when the animal being transferred and its new location




animal_id	name	arrival_date	transfer_date	status_id
101	Dumbo	2022-10-23	2023-12-11	3
102	Fuzzy	2021-11-09	2023-12-11	3
103	Berry	2023-02-01	NULL	1
104	Bernard	2019-12-01	2020-12-31	3
105	Cray-cray	2023-05-05	NULL	1
106	Gigi	2018-12-03	2020-12-31	3
107	Marlow	2019-10-27	2020-12-31	3
108	Tikki	2022-10-23	2023-12-11	3
109	Lucky	2021-11-09	2023-12-11	3
110	Nicholas	2023-12-11	NULL	1
111	Fluffy	2019-12-01	2023-12-11	3
112	Buddy	2023-05-05	NULL	1
113	Scrappy	2018-12-03	2023-12-11	3
114	Snoopy	2019-10-27	2023-12-11	3

id	animal_status
1	Active
2	Died
3	Transferred

arrival_id	animal_id	arrival_date	name	status_id
1	101	2022-10-23	Dumbo	1
2	102	2021-11-09	Fuzzy	1
3	103	2021-11-09	Berry	1
4	105	2021-11-09	Cray-cray	1
5	110	2023-02-01	Nicholas	1

transfer_id	animal_id	name	transfer_date	status_id	new_location
1	104	Bernard	2020-12-31	3	Chicago Zoo
2	106	Blue	2020-12-31	3	Chicago Zoo
3	107	Marlow	2020-12-31	3	Chicago Zoo
4	101	Dumbo	2023-12-11	3	Toronto Zoo
5	108	Tikki	2020-12-31	3	North Carolina Zoo
6	109	Lucky	2020-12-31	3	North Carolina Zoo
7	111	Fluffy	2020-12-31	3	Toronto Zoo
8	113	Scrappy	2020-12-31	3	San Diego Zoo Safari
9	114	Snoopy	2020-12-31	3	San Diego Zoo Safari
10	102	Fuzzy	2023-11-30	3	Toronto Zoo



View:

animal_status_view

This view represents the status of all the animals at the sanctuary without having to open multiple tables. This view combines information from the four tables: **animals**, **arrival**, **transfer** and **status**

v animal_sanctuary animal_status_view	
#	animal_id : int(11)
@	name : varchar(255)
📅	arrival_date : date
#	status_id : int(11)
@	current_status : varchar(255)
#	transfer_id : int(11)
📅	transfer_date : date
@	new_location : varchar(255)
@	transfer_status : varchar(255)

✓ Showing rows 0 - 13 (14 total, Query took 0.0165 seconds.)

```
SELECT * FROM `animal_status_view` WHERE 1;
```

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☐ Show all | Number of rows: Filter rows:

+ Options

				▼ animal_id	name	arrival_date	current_status	transfer_date	new_location	transfer_status
<input type="checkbox"/>	 Edit	 Copy	 Delete	101	Dumbo	2022-10-23	Transferred	2023-12-11	Toronto Zoo	Transferred
<input type="checkbox"/>	 Edit	 Copy	 Delete	104	Bernard	2019-12-01	Transferred	2020-12-31	Chicago Zoo	Transferred
<input type="checkbox"/>	 Edit	 Copy	 Delete	106	Gigi	2018-12-03	Transferred	2020-12-31	Chicago Zoo	Transferred
<input type="checkbox"/>	 Edit	 Copy	 Delete	107	Marlow	2019-10-27	Transferred	2020-12-31	Chicago Zoo	Transferred
<input type="checkbox"/>	 Edit	 Copy	 Delete	108	Tikki	2022-10-23	Transferred	2020-12-31	North Carolina Zoo	Transferred
<input type="checkbox"/>	 Edit	 Copy	 Delete	109	Lucky	2021-11-09	Transferred	2020-12-31	North Carolina Zoo	Transferred
<input type="checkbox"/>	 Edit	 Copy	 Delete	111	Fluffy	2019-12-01	Transferred	2020-12-31	Toronto Zoo	Transferred
<input type="checkbox"/>	 Edit	 Copy	 Delete	113	Scrappy	2018-12-03	Transferred	2020-12-31	San Diego Zoo Safari	Transferred
<input type="checkbox"/>	 Edit	 Copy	 Delete	114	Snoopy	2019-10-27	Transferred	2020-12-31	San Diego Zoo Safari	Transferred
<input type="checkbox"/>	 Edit	 Copy	 Delete	102	Fuzzy	2021-11-09	Active	NULL	NULL	NULL
<input type="checkbox"/>	 Edit	 Copy	 Delete	103	Berry	2023-02-01	Active	NULL	NULL	NULL
<input type="checkbox"/>	 Edit	 Copy	 Delete	105	Cray-cray	2023-05-05	Active	NULL	NULL	NULL
<input type="checkbox"/>	 Edit	 Copy	 Delete	110	Nicholas	2023-12-11	Active	NULL	NULL	NULL
<input type="checkbox"/>	 Edit	 Copy	 Delete	112	Buddy	2023-05-05	Active	NULL	NULL	NULL

Triggers:

update_animal_transfer

update_animal_arrival

This trigger activates before a new record is inserted into the `transfer` or `arrival` table and automatically updates the status_id in the `animals` table

`SELECT * FROM `animals``

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☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key

+ Options

		animal_id	name	arrival_date	transfer_date	status_id		
<input type="checkbox"/>	Edit	Copy	Delete	101	Dumbo	2022-10-23	2023-12-11	3
<input type="checkbox"/>	Edit	Copy	Delete	102	Fuzzy	2021-11-09	NULL	1
<input type="checkbox"/>	Edit	Copy	Delete	103	Berry	2023-02-01	NULL	1

✓ 1 row inserted. (Query took 0.0144 seconds.)

`INSERT INTO transfer VALUES(10, 102, 'Fuzzy', '2023-11-30', 3, 'Toronto Zoo');`

`SELECT * FROM `animals``

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☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key

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		animal_id	name	arrival_date	transfer_date	status_id		
<input type="checkbox"/>	Edit	Copy	Delete	101	Dumbo	2022-10-23	2023-12-11	3
<input type="checkbox"/>	Edit	Copy	Delete	102	Fuzzy	2021-11-09	2023-12-11	3
<input type="checkbox"/>	Edit	Copy	Delete	103	Berry	2023-02-01	NULL	1


```
SELECT * FROM `transfer`
```

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☐ Show all | Number of rows: 25 ▾ | Filter rows: | Sort by key:

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		transfer_id	animal_id	name	transfer_date	status_id	new_location
<input type="checkbox"/>	Edit Copy Delete	1	104	Bernard	2020-12-31	3	Chicago Zoo
<input type="checkbox"/>	Edit Copy Delete	2	106	Blue	2020-12-31	3	Chicago Zoo
<input type="checkbox"/>	Edit Copy Delete	3	107	Marlow	2020-12-31	3	Chicago Zoo
<input type="checkbox"/>	Edit Copy Delete	4	101	Dumbo	2023-12-11	3	Toronto Zoo
<input type="checkbox"/>	Edit Copy Delete	5	108	Tikki	2020-12-31	3	North Carolina Zoo
<input type="checkbox"/>	Edit Copy Delete	6	109	Lucky	2020-12-31	3	North Carolina Zoo
<input type="checkbox"/>	Edit Copy Delete	7	111	Fluffy	2020-12-31	3	Toronto Zoo
<input type="checkbox"/>	Edit Copy Delete	8	113	Scrappy	2020-12-31	3	San Diego Zoo Safari
<input type="checkbox"/>	Edit Copy Delete	9	114	Snoopy	2020-12-31	3	San Diego Zoo Safari
<input type="checkbox"/>	Edit Copy Delete	10	102	Fuzzy	2023-11-30	3	Toronto Zoo

What did not go well?

- The transfer_date should not be set to NOW()



Stored Function: calculate_stay_duration

This function calculates how long an animal stays at the sanctuary before leaving by taking in two dates and returning an integer

This stored function takes in `transfer_date` and `arrival_date` as two parameters, calculates the difference, and returns a number of days.

I used DATEDIFF() to calculate the difference between `transfer_date` and `arrival_date`

If the `transfer_date` is NULL, it means the animal is still staying at the sanctuary, it will take in the current date.

```
IF transfer_date IS NULL THEN  
    SET transfer_date = CURDATE();  
END IF;
```











































✓ Showing rows 0 - 13 (14 total, Query took 0.0088 seconds.)

```
SELECT animal_id, arrival_date, transfer_date, calculate_stay_duration(arrival_date, transfer_date) AS duration FROM animals;
```

☐ Profiling [[Edit inline](#)] [[Edit](#)] [[Explain SQL](#)] [[Create PHP code](#)] [[Refresh](#)]

☐ Show all | Number of rows: Filter rows: Sort by key:

+ Options

<div><div><div></div><div></div><div></div></div></div>				animal_id	arrival_date	transfer_date	duration
<input type="checkbox"/>	 Edit	 Copy	 Delete	101	2022-10-23	2023-12-11	414
<input type="checkbox"/>	 Edit	 Copy	 Delete	102	2021-11-09	2023-12-11	762
<input type="checkbox"/>	 Edit	 Copy	 Delete	103	2023-02-01	NULL	313
<input type="checkbox"/>	 Edit	 Copy	 Delete	104	2019-12-01	2020-12-31	396
<input type="checkbox"/>	 Edit	 Copy	 Delete	105	2023-05-05	NULL	220
<input type="checkbox"/>	 Edit	 Copy	 Delete	106	2018-12-03	2020-12-31	759
<input type="checkbox"/>	 Edit	 Copy	 Delete	107	2019-10-27	2020-12-31	431
<input type="checkbox"/>	 Edit	 Copy	 Delete	108	2022-10-23	2023-12-11	414
<input type="checkbox"/>	 Edit	 Copy	 Delete	109	2021-11-09	2023-12-11	762
<input type="checkbox"/>	 Edit	 Copy	 Delete	110	2023-12-11	NULL	0
<input type="checkbox"/>	 Edit	 Copy	 Delete	111	2019-12-01	2023-12-11	1471
<input type="checkbox"/>	 Edit	 Copy	 Delete	112	2023-05-05	NULL	220
<input type="checkbox"/>	 Edit	 Copy	 Delete	113	2018-12-03	2023-12-11	1834
<input type="checkbox"/>	 Edit	 Copy	 Delete	114	2019-10-27	2023-12-11	1506



The animal sanctuary is open to the public within certain hours, excluding certain holidays. How can we generate a calendar that shows when the sanctuary open?

Goal: to generate a schedule for a particular date and display whether it's a holiday or not.

Table: **operating_hours**

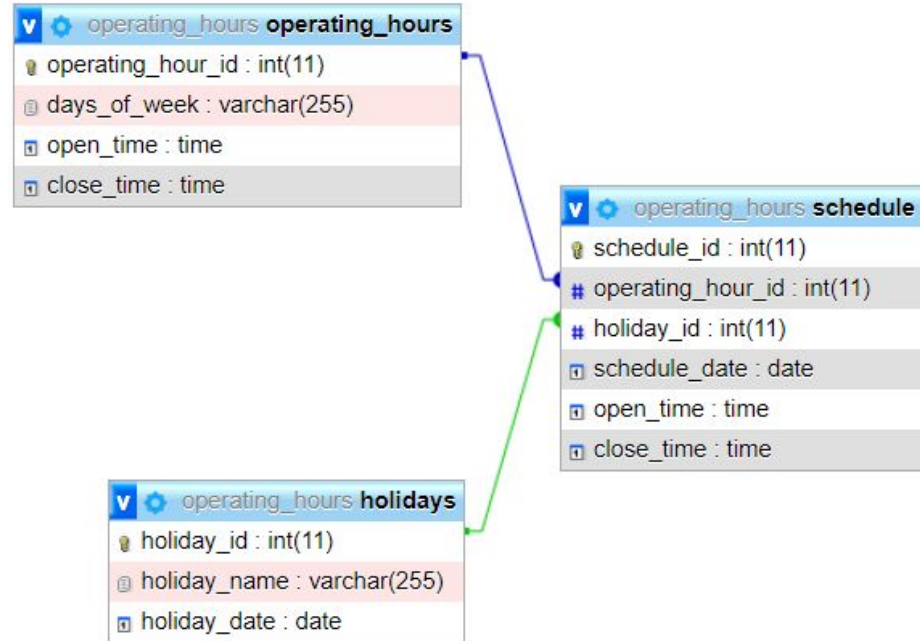
Stores information of days of the week and open/close time

Table: **holidays**

Stores information of holiday names and dates

Table: **schedule**


Stores the dates that are imported into the system



schedule_id	operating_hour_id	holiday_id	schedule_date	open_time	close_time
100	2	NULL	2024-12-24	09:00:00	17:00:00
101	NULL	9	2024-12-25	NULL	NULL
102	NULL	10	2024-12-26	NULL	NULL
103	5	NULL	2024-12-27	09:00:00	17:00:00
104	1	NULL	2024-12-30	09:00:00	17:00:00
105	2	NULL	2024-12-31	09:00:00	17:00:00
106	2	NULL	2024-12-17	09:00:00	17:00:00

holiday_id	holiday_name	holiday_date
1	New Year	2024-01-01
2	Family Day	2024-02-20
3	Good Friday	2024-04-07
4	Easter Monday	2024-04-10
5	Victoria Day	2024-05-22
6	Canada Day	2024-07-01
7	Labour Day	2024-09-04
8	Thanksgiving	2024-10-09
9	Christmas	2024-12-25
10	Boxing Day	2024-12-26

operating_hour_id	days_of_week	open_time	close_time
1	Monday	09:00:00	17:00:00
2	Tuesday	09:00:00	17:00:00
3	Wednesday	09:00:00	17:00:00
4	Thursday	09:00:00	17:00:00
5	Friday	09:00:00	17:00:00



View: schedule_view

This view represents a schedule with operating hours and holidays. This view combines data from the three tables `operating_hours`, `holidays` and `schedule`.

v	operating_hours	schedule_view
#	schedule_id	: int(11)
t	schedule_date	: date
d	days_of_week	: varchar(255)
t	scheduled_open_time	: time
t	scheduled_close_time	: time
d	holiday_name	: varchar(255)
t	operating_hours_open_time	: time
t	operating_hours_close_time	: time

Showing rows 0 - 6 (7 total, Query took 0.0008 seconds.)

```
SELECT * FROM `schedule_view`
```

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Show all | Number of rows: 25 | Filter rows:

Options

				schedule_id	schedule_date	days_of_week	scheduled_open_time	scheduled_close_time	holiday_name	operating_hours_open_time	operating_hours_close_time
<div><div></div><div>Edit</div><div>Copy</div><div>Delete</div></div>	104	2024-12-30	Monday	09:00:00	17:00:00	NULL	09:00:00	17:00:00			
<div><div></div><div>Edit</div><div>Copy</div><div>Delete</div></div>	1	2024-12-24	Tuesday	09:00:00	17:00:00	NULL	09:00:00	17:00:00			
<div><div></div><div>Edit</div><div>Copy</div><div>Delete</div></div>	100	2024-12-24	Tuesday	09:00:00	17:00:00	NULL	09:00:00	17:00:00			
<div><div></div><div>Edit</div><div>Copy</div><div>Delete</div></div>	105	2024-12-31	Tuesday	09:00:00	17:00:00	NULL	09:00:00	17:00:00			
<div><div></div><div>Edit</div><div>Copy</div><div>Delete</div></div>	103	2024-12-27	Friday	09:00:00	17:00:00	NULL	09:00:00	17:00:00			
<div><div></div><div>Edit</div><div>Copy</div><div>Delete</div></div>	101	2024-12-25	NULL	NULL	NULL	Christmas	NULL	NULL			
<div><div></div><div>Edit</div><div>Copy</div><div>Delete</div></div>	102	2024-12-26	NULL	NULL	NULL	Boxing Day	NULL	NULL			

Stored Function: GetSanctuaryStatus

This function takes in a date parameter and checks whether the date is associated with a holiday or operating hours.

It retrieves information about the schedule from the **schedule** table and saves a result to the status variable.

✓ Showing rows 0 - 0 (1 total, Query took 0.0077 seconds.)

```
SELECT GetSanctuaryStatus('2024-12-24') AS sanctuary_status;
```

☐ Profiling [[Edit inline](#)] [[Edit](#)] [[Explain SQL](#)] [[Create](#)]

☐ Show all | Number of rows: 25 ▼ Filter rows:

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sanctuary_status

Operating Hours

```
SELECT GetSanctuaryStatus('2024-12-25') AS sanctuary_status;
```

☐ Profiling [[Edit inline](#)] [[Edit](#)] [[Explain SQL](#)] [[Create](#)]

☐ Show all | Number of rows: 25 ▼ Filter rows:

+ Options

sanctuary_status

Holiday