

## Data Modelling Documentation

Link to schema: <https://app.quickdatabasediagrams.com/#/d/fWEwXP>

DB schema diagram for Moby Bikes - MySQL

### Rental

Field	Description	Type	Default	Other
_id		int		PK, FK
Date		datetime		FK
BikeID	Unique bike ID used for rent bike	int		
BatteryStart	Battery status when rental started	int		
BatteryEnd	Battery status when rental finished	int		
Duration	RentalDuration = LastGPSTime - LastRentalStart	float		

### Geometry

#### Rentals coordinates

Field	Description	Type	Default	Other
id_rental		int		FK
Latitude	Bike coordinates if bike is locked out of station	float		
Longitude	Bike coordinates if bike is locked out of station	float		

### Weather

Field	Description	Type	Default	Other
Date		datetime		FK
Hour		int		
TimeOfDay	Morning (from 7am to noon) Afternoon (from midday to 6pm) Evening (from 6pm to 10pm) Night (from 10pm to 5am)	category		
Temperature	in Celsius	float		
WindSpeed	in Knots (kt)	float		
Humidity	Relative humidity (%)	int		
Rain	in millimetres (mm)	float		
RainLevel	no rain = 0 drizzle - 0.1~0.3 light rain - 0.3~0.5 moderate rain - 0.5~4 heavy rain - >4	category		

## Day\_Info

Date and time features

Field	Description	Type	Default	Other
Date		datetime		FK
DayOfWeek	Monday = 0 ~ Sunday = 6	int		
Holiday	Irish National Bank Holidays	bool		
WorkingDay	Monday to Friday AND not Bank Holiday	bool		
Season	Spring   Summer   Autumn   Winter	category		

## tmpRentals

Table with all rentals before preprocess

Field	Description	Type	Default	Other
BikeID	Use for rent bike	int		
Battery	Bike max distance in km	float		
LastGPSTime	Last time bike connected with GPS	datetime		
LastRentalStart	Last time bike was rented	datetime		
Latitude	Bike coordinates if bike is locked out of station	float		
Longitude	Bike coordinates if bike is locked out of station	float		