

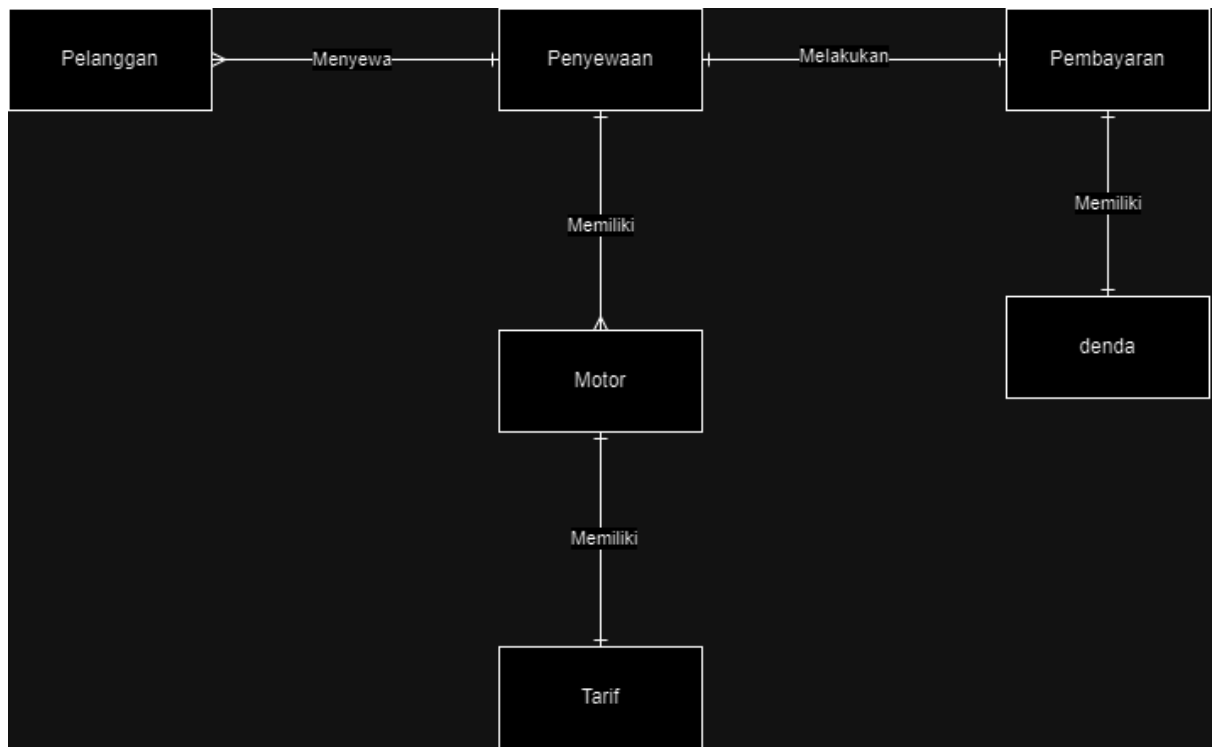
**LAPORAN PRAKTIKUM
PEMROGRAMAN BASIS DATA
PERTEMUAN x**



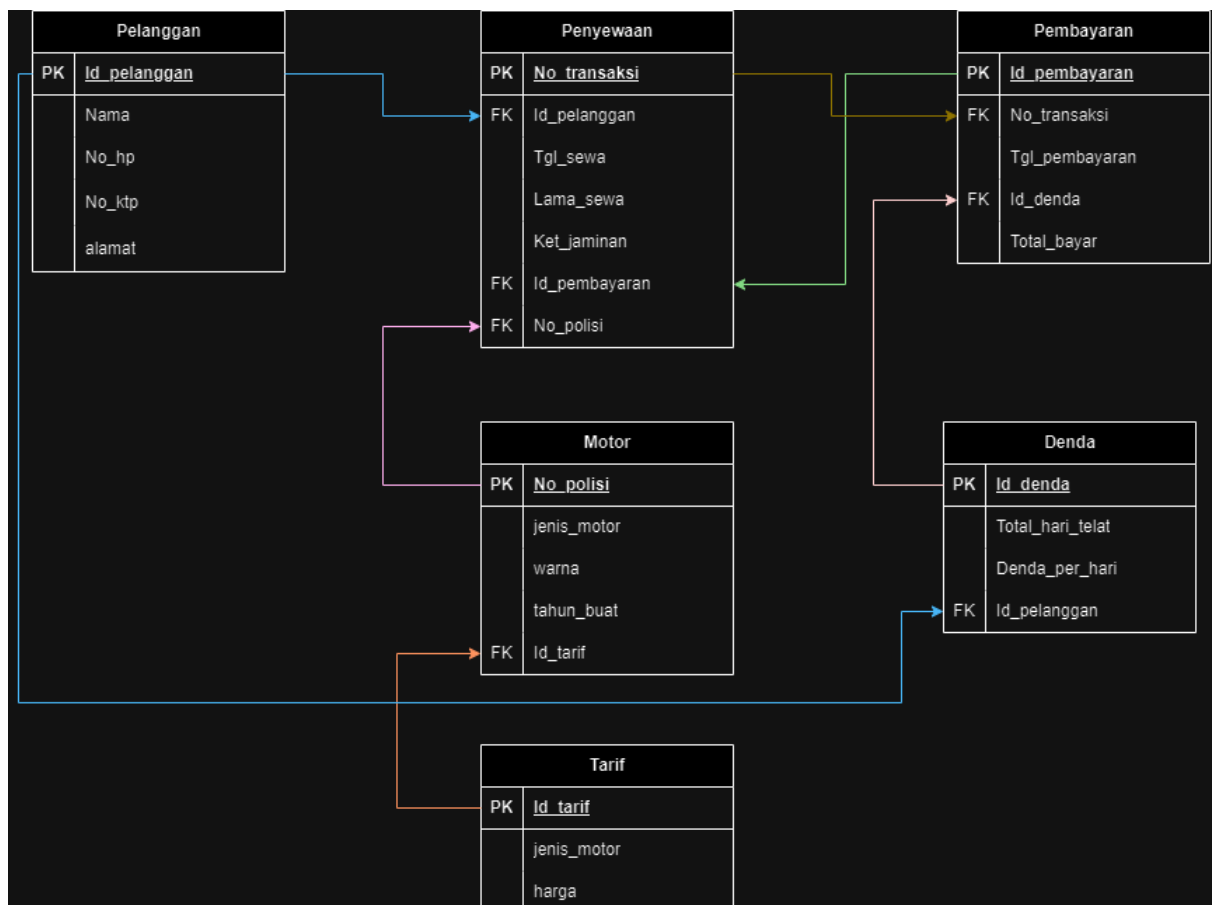
NAMA : Putra Khairul Hafizd
NRP : 15-2023-086
KELAS : DD
TANGGAL PENUGASAN : 11 Oktober 2024

**LABORATORIUM BASIS DATA
PROGRAM STUDI INFORMATIKA
FAKULTAS TEKNOLOGI INDUSTRI
INSTITUT TEKNOLOGI NASIONAL
BANDUNG
2024**

1. ERD



2. TRD



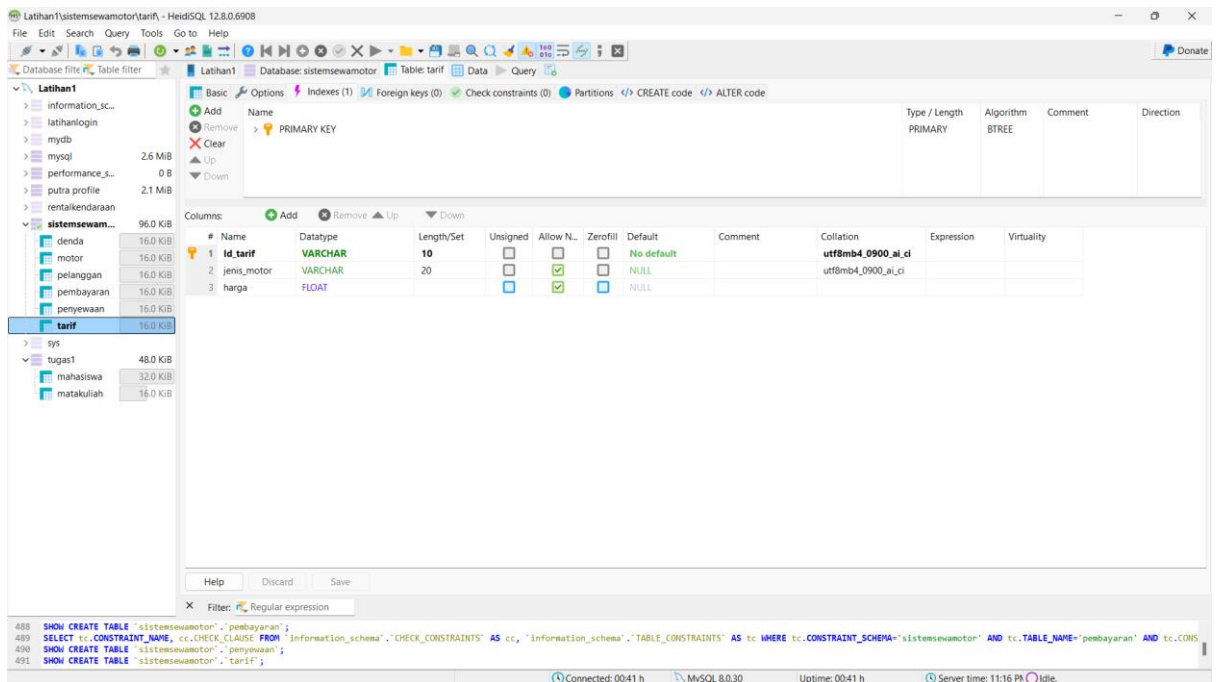
3. DDS

Data Elemen	Type	Length	PK/FK	N/NN	Format	Aliases	Description
Id_pelanggan	Varchar	10	PK/FK	NN	XXYYZZZZ ZZ XX=tgl lahir YY=bulan lahir ZZ=6 NO HP BELAKAN G	-	Identitas unik setiap pelanggan
Nama	Varchar	50	-	NN	-	-	Nama lengkap pelanggan
No_ktp	Varchar	16	-	NN	-	-	Nomor Kartu Tanda Penduduk pelanggan
No_hp	Varchar	15	-	NN	-	-	Nomor telepon pelanggan
alamat	Varchar	50	-	NN	-	-	Alamat lengkap pelanggan
No_transaksi	Int	12	PK/FK	NN	XXXXYYZZ ZZZZ Urutan huruf dan angka secara acak	-	Nomor unik setiap transaksi penyewaan
Tgl_sewa	Date	-	-	NN	-	-	tanggal melakukan penyewaan
Lama_sewa	Varchar	10	-	NN	-	-	Lama waktu penyewaan dalam hari
ket_jaminan	Varchar	20	-	NN	-	-	Keterangan mengenai jaminan yang diberikan
Id_pembayaran	Varchar	10	PK/FK	NN	XXYYZZZZ ZZ XX=tgl lahir YY=bulan lahir CUSZZZ=U RUTAN NO PELANGG AN	-	Identitas unik setiap pembayaran
No_polisi	Varchar	8	PK/FK	NN	XX YYYY ZZ	-	Nomor polisi motor yang disewa
Tgl_pembayaran	Date	-	-	NN	-	-	Tanggal melakukan pembayaran
id_denda	Varchar	10	PK/FK	NN	XXYYZZZZ ZZ Urutan huruf dan angka secara acak	-	Mengacu pada id_denda di tabel Denda (jika ada)
total_bayar	Float	12	-	NN	-	-	Total biaya pembayaran
jenis_motor	Varchar	20	-	NN	-	-	Spesifikasi Jenis motor
warna	Varchar	20	-	NN	-	-	Warna Motor
tahun_buat	Int	4	-	NN	-	-	Tahun pembuatan motor
id_tarif	Varchar	10	PK/FK	NN	XXYYZZZZ ZZ Urutan huruf dan angka secara acak	-	Identitas unik setiap Tarif

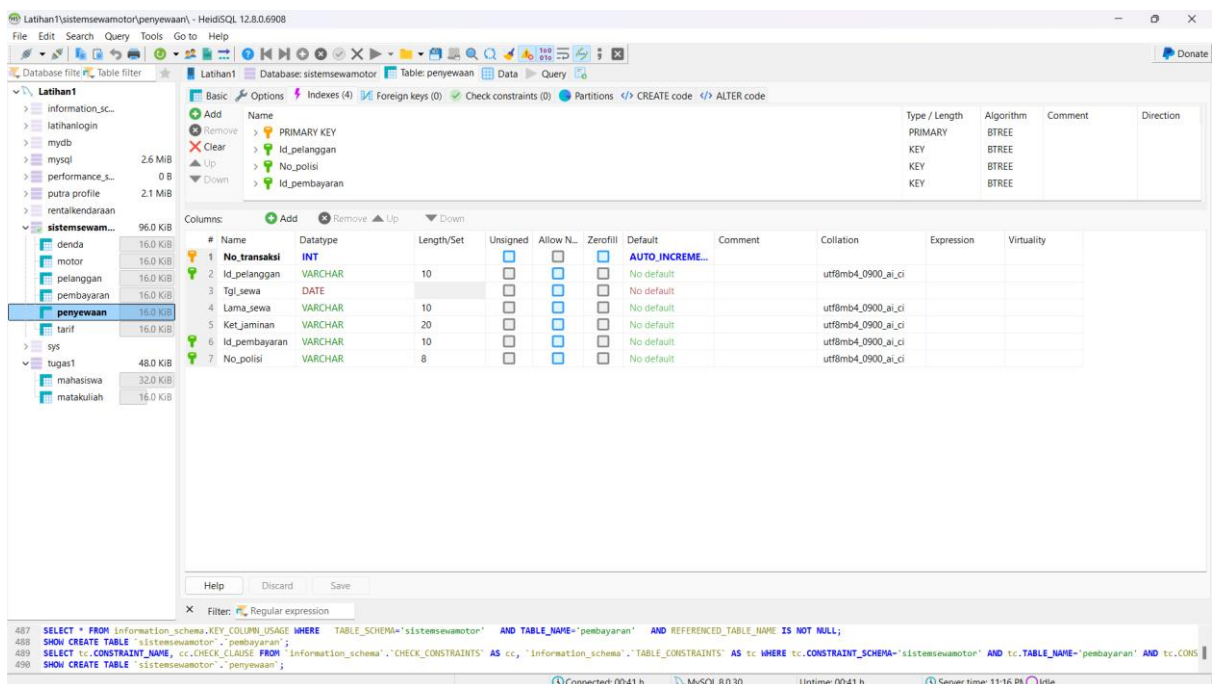
total_hari_telat	Varchar	13	-	NN	-	-	Total hari telat
denda_per_hari	Float	12	-	NN	-	-	Jumlah denda jika telat per hari
harga	Float	12	-	NN	-	-	Harga per jenis Motor

4. DBMS (HeidiSQL)

4.1. Table Tarif



4.2. Table penyewaan



4.3. Table pembayaran

The screenshot shows the HeidiSQL interface with the 'pembayaran' table selected in the 'sistemsewamotor' database. The table structure is displayed in the 'Columns' tab, showing five columns: 'Id_pembayaran' (VARCHAR, 10, PRIMARY KEY), 'No_transaksi' (INT, 10), 'Tgl_pembayar...' (DATE), 'Id_denda' (VARCHAR, 10), and 'Total_bayar' (FLOAT). The 'Id_pembayaran' column is highlighted as the primary key.

#	Name	Datatype	Length/Set	Unsigned	Allow N...	Zerofill	Default	Comment	Collation	Expression	Virtuality
1	Id_pembayaran	VARCHAR	10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No default		utf8mb4_0900_ai_ci		
2	No_transaksi	INT		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	AUTO_INCREMENT				
3	Tgl_pembayar...	DATE		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No default				
4	Id_denda	VARCHAR	10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No default		utf8mb4_0900_ai_ci		
5	Total_bayar	FLOAT		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No default				

At the bottom, the SQL query for creating the table is visible:

```
486 SELECT * FROM information_schema.REFERENTIAL_CONSTRAINTS WHERE CONSTRAINT_SCHEMA='sistemsewamotor' AND TABLE_NAME='pembayaran' AND REFERENCED_TABLE_NAME IS NOT NULL;
487 SELECT * FROM information_schema.KEY_COLUMN_USAGE WHERE TABLE_SCHEMA='sistemsewamotor' AND TABLE_NAME='pembayaran' AND REFERENCED_TABLE_NAME IS NOT NULL;
488 SHOW CREATE TABLE `sistemsewamotor`.`pembayaran`;
489 SELECT tc.CONSTRAINT_NAME, cc.CHECK_CLAUSE FROM `information_schema`.`CHECK_CONSTRAINTS` AS cc, `information_schema`.`TABLE_CONSTRAINTS` AS tc WHERE tc.CONSTRAINT_SCHEMA='sistemsewamotor' AND tc.TABLE_NAME='pembayaran' AND tc.CONSTRAINT_TYPE='PRIMARY';
```

4.4. Table Pelanggan

The screenshot shows the HeidiSQL interface with the 'pelanggan' table selected in the 'sistemsewamotor' database. The table structure is displayed in the 'Columns' tab, showing five columns: 'Id_pelanggan' (VARCHAR, 10, PRIMARY KEY), 'Nama' (VARCHAR, 50), 'No_hp' (VARCHAR, 15), 'No_ktp' (VARCHAR, 16), and 'alamat' (VARCHAR, 50). The 'Id_pelanggan' column is highlighted as the primary key.

#	Name	Datatype	Length/Set	Unsigned	Allow N...	Zerofill	Default	Comment	Collation	Expression	Virtuality
1	Id_pelanggan	VARCHAR	10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No default		utf8mb4_0900_ai_ci		
2	Nama	VARCHAR	50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No default		utf8mb4_0900_ai_ci		
3	No_hp	VARCHAR	15	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No default		utf8mb4_0900_ai_ci		
4	No_ktp	VARCHAR	16	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No default		utf8mb4_0900_ai_ci		
5	alamat	VARCHAR	50	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No default		utf8mb4_0900_ai_ci		

At the bottom, the SQL query for creating the table is visible:

```
480 SELECT * FROM information_schema.REFERENTIAL_CONSTRAINTS WHERE CONSTRAINT_SCHEMA='sistemsewamotor' AND TABLE_NAME='pelanggan' AND REFERENCED_TABLE_NAME IS NOT NULL;
481 SELECT * FROM information_schema.KEY_COLUMN_USAGE WHERE TABLE_SCHEMA='sistemsewamotor' AND TABLE_NAME='pelanggan' AND REFERENCED_TABLE_NAME IS NOT NULL;
482 SHOW CREATE TABLE `sistemsewamotor`.`pelanggan`;
483 SELECT tc.CONSTRAINT_NAME, cc.CHECK_CLAUSE FROM `information_schema`.`CHECK_CONSTRAINTS` AS cc, `information_schema`.`TABLE_CONSTRAINTS` AS tc WHERE tc.CONSTRAINT_SCHEMA='sistemsewamotor' AND tc.TABLE_NAME='pelanggan' AND tc.CONSTRAINT_TYPE='PRIMARY';
```

4.5. Table Motor

The screenshot shows the HeidiSQL interface with the 'motor' table selected in the 'sistemsewamotor' database. The table structure is as follows:

#	Name	Datatype	Length/Set	Unsigned	Allow N..	Zerofill	Default	Comment	Collation	Expression	Virtuality
1	No_polisi	VARCHAR	8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No default		utf8mb4_0900_ai_ci		
2	jenis_motor	VARCHAR	20	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No default		utf8mb4_0900_ai_ci		
3	warna	VARCHAR	20	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No default		utf8mb4_0900_ai_ci		
4	tahun_buat	INT		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No default				
5	Id_tarif	VARCHAR	10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No default		utf8mb4_0900_ai_ci		

The primary key is 'No_polisi'. The 'Id_tarif' column is a foreign key to the 'Id' column in the 'tarif' table.

```
474 SELECT * FROM information_schema.REFERENTIAL_CONSTRAINTS WHERE CONSTRAINT_SCHEMA='sistemsewamotor' AND TABLE_NAME='motor' AND REFERENCED_TABLE_NAME IS NOT NULL;
475 SELECT * FROM information_schema.KEY_COLUMN_USAGE WHERE TABLE_SCHEMA='sistemsewamotor' AND TABLE_NAME='motor' AND REFERENCED_TABLE_NAME IS NOT NULL;
476 SHOW CREATE TABLE `sistemsewamotor`.`motor`;
477 SELECT tc.CONSTRAINT_NAME, cc.CHECK_CLAUSE FROM `information_schema`.`CHECK_CONSTRAINTS` AS cc, `information_schema`.`TABLE_CONSTRAINTS` AS tc WHERE tc.CONSTRAINT_SCHEMA='sistemsewamotor' AND tc.TABLE_NAME='motor' AND tc.CONSTRAINT
```

4.6. Table Denda

The screenshot shows the HeidiSQL interface with the 'denda' table selected in the 'sistemsewamotor' database. The table structure is as follows:

#	Name	Datatype	Length/Set	Unsigned	Allow N..	Zerofill	Default	Comment	Collation	Expression	Virtuality
1	Id_denda	VARCHAR	10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No default		utf8mb4_0900_ai_ci		
2	Total_hari_telat	VARCHAR	13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No default		utf8mb4_0900_ai_ci		
3	Denda_per_hari	FLOAT		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No default				
4	Id_pelanggan	VARCHAR	10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No default		utf8mb4_0900_ai_ci		

The primary key is 'Id_denda'. The 'Id_pelanggan' column is a foreign key to the 'Id' column in the 'pelanggan' table.

```
468 SELECT * FROM information_schema.REFERENTIAL_CONSTRAINTS WHERE CONSTRAINT_SCHEMA='sistemsewamotor' AND TABLE_NAME='denda' AND REFERENCED_TABLE_NAME IS NOT NULL;
469 SELECT * FROM information_schema.KEY_COLUMN_USAGE WHERE TABLE_SCHEMA='sistemsewamotor' AND TABLE_NAME='denda' AND REFERENCED_TABLE_NAME IS NOT NULL;
470 SHOW CREATE TABLE `sistemsewamotor`.`denda`;
471 SELECT tc.CONSTRAINT_NAME, cc.CHECK_CLAUSE FROM `information_schema`.`CHECK_CONSTRAINTS` AS cc, `information_schema`.`TABLE_CONSTRAINTS` AS tc WHERE tc.CONSTRAINT_SCHEMA='sistemsewamotor' AND tc.TABLE_NAME='denda' AND tc.CONSTRAIN
```