

# LAPORAN UJIAN AKHIR SEMESTER

## PEMROGRAMAN BASIS DATA

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# Desain Basis Data Sistem Kost-AI

## 1.1 Entity Relationship Diagram (ERD)

Penjelasan ERD:

- Pengguna: Tabel ini menyimpan data pengguna (penyewa dan pemilik).
- Detail\_Pengguna: Tabel ini menyimpan informasi tambahan mengenai pengguna dan memiliki relasi one-to-one dengan tabel Pengguna.
- Kost: Tabel ini menyimpan data kost yang dimiliki oleh pemilik.
- Kamar: Tabel ini menyimpan data kamar yang ada di kost dan memiliki relasi one-to-many dengan tabel Kost.
- Penyewaan: Tabel ini menyimpan data penyewaan kamar dan memiliki relasi many-to-many dengan tabel Pengguna dan Kamar.
- Fasilitas: Tabel ini menyimpan data fasilitas yang ada di kamar kost.
- Kamar\_Fasilitas: Tabel ini menyimpan relasi many-to-many antara tabel Kamar dan Fasilitas.
- Transaksi: Tabel ini menyimpan data transaksi pembayaran penyewaan kamar.

## 1.2 Struktur Tabel dan Relasi

Pengguna

```
CREATE TABLE Pengguna (  
    id_pengguna INT AUTO_INCREMENT PRIMARY KEY,  
    nama VARCHAR(100),  
    email VARCHAR(100),  
    password VARCHAR(100),  
    no_telepon VARCHAR(15)  
);
```

		id_pengguna	nama	email	password	no_telepon
<input type="checkbox"/>	Edit Copy Delete	1	Muhammad Ali	muhammadali@gmail.com	password123	081234567890
<input type="checkbox"/>	Edit Copy Delete	2	Naufal Haidar	naufal@gmail.com	password123	082345678901
<input type="checkbox"/>	Edit Copy Delete	3	Bayu Setya Adjie	bayu@gmail.com	password123	083456789012

☐ Check all    With selected:    Edit    Copy    Delete    Export

## Detail\_Pengguna

```
CREATE TABLE Detail_Pengguna (
    id_detail_pengguna INT AUTO_INCREMENT PRIMARY KEY,
    alamat VARCHAR(255),
    tanggal_lahir DATE,
    jenis_kelamin CHAR(1),
    id_pengguna INT,
    FOREIGN KEY (id_pengguna) REFERENCES Pengguna(id_pengguna)
);
```

		id_detail	alamat	tanggal_lahir	jenis_kelamin	id_pengguna
<input type="checkbox"/>	Edit Copy Delete	1	Jl. Merdeka No. 1	1990-01-01	L	1
<input type="checkbox"/>	Edit Copy Delete	2	Jl. Kebon Jeruk No. 2	1992-02-02	L	2
<input type="checkbox"/>	Edit Copy Delete	3	Jl. Sudirman No. 3	1994-03-03	L	3

☐ Check all    With selected:    Edit    Copy    Delete    Export

## Kost

```
CREATE TABLE Kost (
    id_kost INT AUTO_INCREMENT PRIMARY KEY,
    nama_kost VARCHAR(100),
    alamat VARCHAR(255),
    pemilik_id INT,
    FOREIGN KEY (pemilik_id) REFERENCES Pengguna(id_pengguna)
);
```

		<b>id_kost</b>	<b>nama_kost</b>	<b>alamat</b>	<b>pemilik_id</b>
<input type="checkbox"/>	Edit  Copy  Delete	1	Kost Indah	Jl. Mawar No. 10	1
<input type="checkbox"/>	Edit  Copy  Delete	2	Kost Mewah	Jl. Melati No. 20	2
	<input type="checkbox"/> Check all	With selected:		Edit  Copy  Delete  Export	

## Kamar

```
CREATE TABLE Kamar (
    id_kamar INT AUTO_INCREMENT PRIMARY KEY,
    nomor_kamar VARCHAR(10),
    ukuran VARCHAR(10),
    harga DECIMAL(10, 2),
    status VARCHAR(20),
    id_kost INT,
    FOREIGN KEY (id_kost) REFERENCES Kost(id_kost)
);
```

		id_kamar	nomor_kamar	ukuran	harga	status	id_kost
<input type="checkbox"/>	Edit  Copy  Delete	1	101	3x4	1500000.00	tidak tersedia	1
<input type="checkbox"/>	Edit  Copy  Delete	2	102	3x4	1500000.00	tidak tersedia	1
<input type="checkbox"/>	Edit  Copy  Delete	3	201	3x4	2000000.00	tidak tersedia	2
<input type="checkbox"/>	Edit  Copy  Delete	4	202	3x4	2000000.00	tidak tersedia	2
	<input type="checkbox"/> Check all	With selected:		Edit  Copy  Delete  Export			

## Penyewaan

```
CREATE TABLE Penyewaan (
    id_penyewaan INT AUTO_INCREMENT PRIMARY KEY,
    tanggal_mulai DATE,
```

```

tanggal_berakhir DATE,
id_pengguna INT,
id_kamar INT,
FOREIGN KEY (id_pengguna) REFERENCES Pengguna(id_pengguna),
FOREIGN KEY (id_kamar) REFERENCES Kamar(id_kamar)
);

```

←T→		id_penyewaan	tanggal_mulai	tanggal_berakhir	id_pengguna	id_kamar
<input type="checkbox"/>	Edit  Copy  Delete	1	2023-01-01	2023-06-30	1	1
<input type="checkbox"/>	Edit  Copy  Delete	2	2023-02-01	2023-07-31	2	3
<input type="checkbox"/>	Edit  Copy  Delete	3	2024-07-14	NULL	1	2
↑	<input type="checkbox"/> Check all    With selected:  Edit  Copy  Delete  Export					

## Fasilitas

```

CREATE TABLE Fasilitas (
    id_fasilitas INT AUTO_INCREMENT PRIMARY KEY,
    nama_fasilitas VARCHAR(100)
);

```

←T→		id_fasilitas	nama_fasilitas
<input type="checkbox"/>	Edit  Copy  Delete	1	WiFi
<input type="checkbox"/>	Edit  Copy  Delete	2	AC
<input type="checkbox"/>	Edit  Copy  Delete	3	Kamar Mandi Dalam
↑	<input type="checkbox"/> Check all    With selected:  Edit  Copy  Delete  Export		

## Kamar\_Fasilitas

```



















CREATE TABLE Kamar_Fasilitas (
    id_kamar INT,

```

```

        id_fasilitas INT,
        PRIMARY KEY (id_kamar, id_fasilitas),
        FOREIGN KEY (id_kamar) REFERENCES Kamar(id_kamar),
        FOREIGN          KEY          (id_fasilitas)          REFERENCES
Fasilitas(id_fasilitas)
);

```

<div><div>← T →</div><div>▼</div></div>					id_kamar	id_fasilitas		
<input type="checkbox"/>		Edit		Copy		Delete	1	1
<input type="checkbox"/>		Edit		Copy		Delete	1	2
<input type="checkbox"/>		Edit		Copy		Delete	2	1
<input type="checkbox"/>		Edit		Copy		Delete	3	1
<input type="checkbox"/>		Edit		Copy		Delete	3	3
<div><div></div><div><input type="checkbox"/> Check all</div><div>With selected:</div><div> Edit</div><div> Copy</div></div>								

## Transaksi

```

CREATE TABLE Transaksi (
    id_transaksi INT AUTO_INCREMENT PRIMARY KEY,
    tanggal_transaksi DATE,
    jumlah DECIMAL(10, 2),
    metode_pembayaran VARCHAR(50),
    id_penyewaan INT,
    FOREIGN          KEY          (id_penyewaan)          REFERENCES
Penyewaan(id_penyewaan)
);

```

		id_transaksi	tanggal_transaksi	jumlah	metode_pembayaran	id_penyewaan
<input type="checkbox"/>	 Edit  Copy  Delete	1	2023-01-01	1500000.00	Transfer	1
<input type="checkbox"/>	 Edit  Copy  Delete	2	2023-02-01	2000000.00	Cash	2

## 1.3 Insert Data

### Pengguna

```
INSERT INTO Pengguna (nama, email, password, no_telepon) VALUES
('Muhammad Ali', 'muhammadali@gmail.com', 'password123',
'081234567890'),
('Naufal Haidar', 'naufal@example.com', 'password123',
'082345678901'),
('Bayu Setya Adjie', 'bayu@example.com', 'password123',
'083456789012');
```

### Detail Pengguna

```
INSERT INTO Detail_Pengguna (alamat, tanggal_lahir,
jenis_kelamin, id_pengguna) VALUES
('Jl. Merdeka No. 1', '1990-01-01', 'L', 1),
('Jl. Kebon Jeruk No. 2', '1992-02-02', 'L', 2),
('Jl. Sudirman No. 3', '1994-03-03', 'L', 3);
```

### Kost

```
INSERT INTO Kost (nama_kost, alamat, pemilik_id) VALUES
('Kost Indah', 'Jl. Mawar No. 10', 1),
('Kost Mewah', 'Jl. Melati No. 20', 2);
```

### Kamar

```
INSERT INTO Kamar (nomor_kamar, ukuran, harga, status, id_kost)
VALUES
```

```
('101', '3x4', 1500000, 'tersedia', 1),
('102', '3x4', 1500000, 'tersedia', 1),
('201', '3x4', 2000000, 'tidak tersedia', 2),
('202', '3x4', 2000000, 'tersedia', 2);
```

## Penyewaan

```
INSERT INTO Penyewaan (tanggal_mulai, tanggal_berakhir,
id_pengguna, id_kamar) VALUES
('2023-01-01', '2023-06-30', 1, 1),
('2023-02-01', '2023-07-31', 2, 3);
```

## Fasilitas

```
INSERT INTO Fasilitas (nama_fasilitas) VALUES
('WiFi'),
('AC'),
('Kamar Mandi Dalam');
```

## Kamar\_Fasilitas

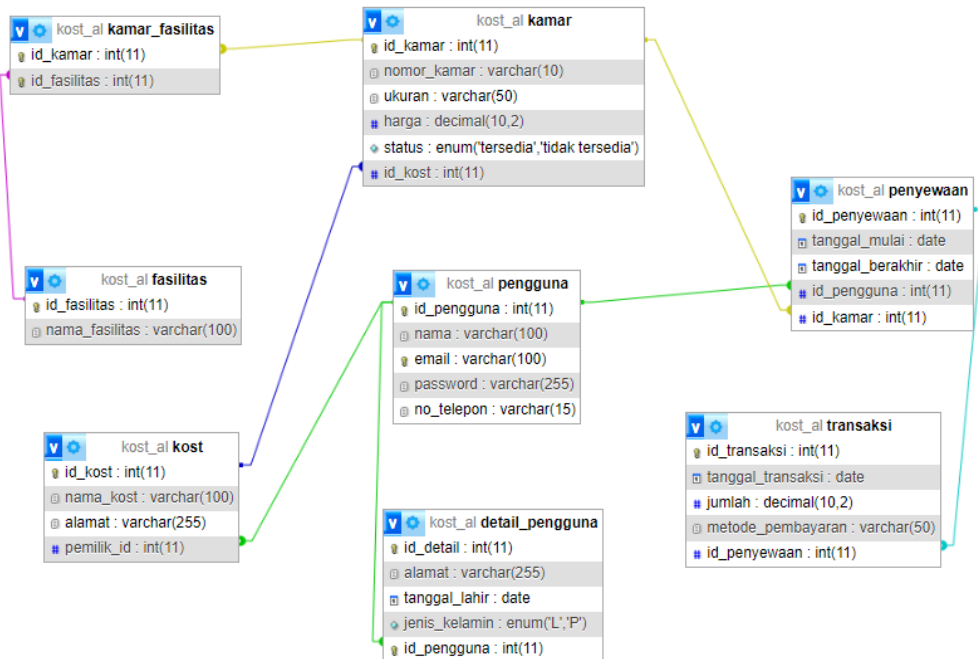
```
INSERT INTO Kamar_Fasilitas (id_kamar, id_fasilitas) VALUES
(1, 1),
(1, 2),
(2, 1),
(3, 1),
(3, 3);
```

## Transaksi

```
INSERT INTO Transaksi (tanggal_transaksi, jumlah,
metode_pembayaran, id_penyewaan) VALUES
('2023-01-01', 1500000, 'Transfer', 1),
```



```
('2023-02-01', 2000000, 'Cash', 2);
```



Gambar Entity Relationship Diagram

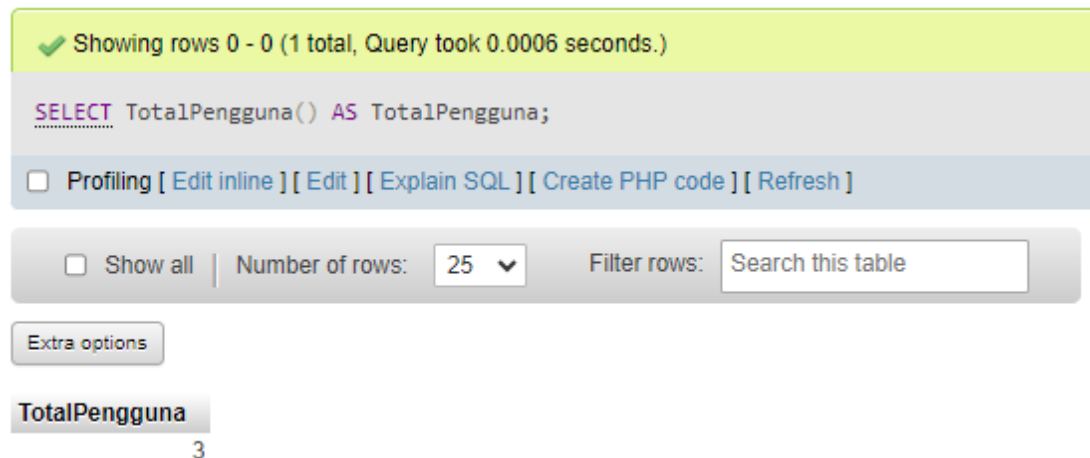
# Implementasi Perintah-Perintah SQL

## 2.1 Function

Function dengan parameter kosong

```
CREATE FUNCTION TotalPengguna()  
RETURNS INT  
BEGIN  
    DECLARE total INT;  
    SELECT COUNT(*) INTO total FROM Pengguna;  
    RETURN total;  
END;
```

Hasil Eksekusi



The screenshot shows a web-based SQL interface. At the top, a green status bar indicates 'Showing rows 0 - 0 (1 total, Query took 0.0006 seconds.)'. Below this, the executed query is displayed: `SELECT TotalPengguna() AS TotalPengguna;`. A toolbar contains a 'Profiling' checkbox and links for 'Edit inline', 'Edit', 'Explain SQL', 'Create PHP code', and 'Refresh'. Below the toolbar, a control bar shows 'Show all' (unchecked), 'Number of rows: 25' (dropdown), and a 'Filter rows' search box. An 'Extra options' button is located below the control bar. The results section shows a single column header 'TotalPengguna' and a single row with the value '3'.

TotalPengguna
3

Function dengan dua parameter

```
CREATE FUNCTION TotalPenyewaanPengguna(id INT, tahun INT)  
RETURNS INT  
BEGIN  
    DECLARE total INT;  
    SELECT COUNT(*) INTO total  
    FROM Penyewaan  
    WHERE id_pengguna = id AND YEAR(tanggal_mulai) = tahun;
```

```
RETURN total;  
END;
```

## Hasil Eksekusi

✓ Showing rows 0 - 0 (1 total, Query took 0.0007 seconds.)

```
SELECT TotalPenyewaanPengguna(1, 2023) AS TotalPenyewaan;
```

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

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

[Extra options](#)

TotalPenyewaan
1

## Daftar Function

```
SHOW FUNCTION STATUS WHERE Db = 'kost_al';
```

## 2.2 Procedure

### Procedure dengan parameter kosong

```
CREATE PROCEDURE GetAllPengguna()  
BEGIN  
    SELECT * FROM Pengguna;  
END;
```

## Hasil Eksekusi

✓ Showing rows 0 - 2 (3 total, Query took 0.0012 seconds.)

`CALL GetAllPengguna();`

[ Edit inline ] [ Edit ] [ Create PHP code ]

☐ Show all | Number of rows: 25 ▼ | Filter rows: Search this table

Extra options

id_pengguna	nama	email	password	no_telepon
1	Muhammad Ali	muhammadali@gmail.com	password123	081234567890
2	Naufal Haidar	naufal@gmail.com	password123	082345678901
3	Bayu Setya Adjie	bayu@gmail.com	password123	083456789012

☐ Show all | Number of rows: 25 ▼ | Filter rows: Search this table

## Function dengan dua parameter

```
CREATE PROCEDURE AddPenyewaan(id_pengguna INT, id_kamar INT)
BEGIN
    DECLARE kamar_status VARCHAR(20);
    SELECT status INTO kamar_status FROM Kamar WHERE id_kamar =
id_kamar;

    IF kamar_status = 'tersedia' THEN
        INSERT INTO Penyewaan (tanggal_mulai, id_pengguna,
id_kamar)
        VALUES (CURDATE(), id_pengguna, id_kamar);
        UPDATE Kamar SET status = 'tidak tersedia' WHERE
id_kamar = id_kamar;
    ELSE
        SELECT 'Kamar tidak tersedia' AS pesan;
    END IF;
END;
```

## Hasil Eksekusi

```
✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0243 seconds.)  
  
CALL AddPenyewaan(1, 2);  
  
[ Edit inline ] [ Edit ] [ Create PHP code ]
```

## Daftar Procedure

```
SHOW PROCEDURE STATUS WHERE Db = 'kost_al';
```

## 2.3 Trigger

### Membuat Tabel Log

```
CREATE TABLE LogKamar (  
    id_log INT AUTO_INCREMENT PRIMARY KEY,  
    id_kamar INT,  
    action_type VARCHAR(50),  
    old_status VARCHAR(20),  
    new_status VARCHAR(20),  
    timestamp TIMESTAMP DEFAULT CURRENT_TIMESTAMP  
);
```

### Trigger BEFORE INSERT

```
CREATE TRIGGER BeforeInsertKamar  
BEFORE INSERT ON Kamar  
FOR EACH ROW  
BEGIN  
    INSERT INTO LogKamar (id_kamar, action_type, new_status)  
    VALUES (NEW.id_kamar, 'INSERT', NEW.status);  
END;
```

✔ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0088 seconds.)

```
CREATE TRIGGER BeforeInsertKamar BEFORE INSERT ON Kamar FOR EACH ROW BEGIN INSERT INTO LogKamar (id_kamar, action_type, new_status) VALUES (NEW.id_kamar, 'INSERT', NEW.status); END;
```

[\[ Edit inline \]](#) [\[ Edit \]](#) [\[ Create PHP code \]](#)

## Trigger BEFORE UPDATE

```
CREATE TRIGGER BeforeUpdateKamar  
BEFORE UPDATE ON Kamar  
FOR EACH ROW  
BEGIN  
    INSERT INTO LogKamar (id_kamar, action_type, old_status,  
new_status)  
    VALUES (OLD.id_kamar, 'UPDATE', OLD.status, NEW.status);  
END;
```

✔ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0062 seconds.)

```
CREATE TRIGGER BeforeUpdateKamar BEFORE UPDATE ON Kamar FOR EACH ROW BEGIN INSERT INTO LogKamar (id_kamar, action_type, old_status, new_status) VALUES (OLD.id_kamar, 'UPDATE', OLD.status, NEW.status); END;
```

[\[ Edit inline \]](#) [\[ Edit \]](#) [\[ Create PHP code \]](#)

## Trigger BEFORE DELETE

```
CREATE TRIGGER BeforeDeleteKamar  
BEFORE DELETE ON Kamar  
FOR EACH ROW  
BEGIN  
    INSERT INTO LogKamar (id_kamar, action_type, old_status)  
    VALUES (OLD.id_kamar, 'DELETE', OLD.status);  
END;
```

✔ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0091 seconds.)

```
CREATE TRIGGER BeforeDeleteKamar BEFORE DELETE ON Kamar FOR EACH ROW BEGIN INSERT INTO LogKamar (id_kamar, action_type, old_status) VALUES (OLD.id_kamar, 'DELETE', OLD.status); END;
```

[\[ Edit inline \]](#) [\[ Edit \]](#) [\[ Create PHP code \]](#)

## Trigger AFTER INSERT

```
CREATE TRIGGER AfterInsertKamar
AFTER INSERT ON Kamar
FOR EACH ROW
BEGIN
    INSERT INTO LogKamar (id_kamar, action_type, new_status)
    VALUES (NEW.id_kamar, 'INSERT', NEW.status);
END;
```

✔ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0058 seconds.)

```
CREATE TRIGGER AfterInsertKamar AFTER INSERT ON Kamar FOR EACH ROW BEGIN INSERT INTO LogKamar (id_kamar, action_type, new_status) VALUES (NEW.id_kamar, 'INSERT', NEW.status);
END;
```

[\[ Edit inline \]](#) [\[ Edit \]](#) [\[ Create PHP code \]](#)

## Trigger AFTER UPDATE

```
CREATE TRIGGER AfterUpdateKamar
AFTER UPDATE ON Kamar
FOR EACH ROW
BEGIN
    INSERT INTO LogKamar (id_kamar, action_type, old_status,
new_status)
    VALUES (OLD.id_kamar, 'UPDATE', OLD.status, NEW.status);
END;
```

✔ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0063 seconds.)

```
CREATE TRIGGER AfterUpdateKamar AFTER UPDATE ON Kamar FOR EACH ROW BEGIN -- Insert data into LogKamar INSERT INTO LogKamar (id_kamar, action_type, old_status, new_status)
VALUES (OLD.id_kamar, 'UPDATE', OLD.status, NEW.status); END;
```

[\[ Edit inline \]](#) [\[ Edit \]](#) [\[ Create PHP code \]](#)

## Trigger AFTER DELETE

```
CREATE TRIGGER AfterDeleteKamar
```

```

AFTER DELETE ON Kamar
FOR EACH ROW
BEGIN
    -- Insert data into LogKamar
    INSERT INTO LogKamar (id_kamar, action_type, old_status)
    VALUES (OLD.id_kamar, 'DELETE', OLD.status);
END;

```

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0059 seconds.)

```

CREATE TRIGGER AfterDeleteKamar AFTER DELETE ON Kamar FOR EACH ROW BEGIN -- Insert data into LogKamar INSERT INTO LogKamar (id_kamar, action_type, old_status) VALUES
(OLD.id_kamar, 'DELETE', OLD.status); END;

```

[\[ Edit inline \]](#) [\[ Edit \]](#) [\[ Create PHP code \]](#)

## Daftar TRIGGER

```
SHOW TRIGGERS WHERE `Table` = 'Kamar';
```

## 2.4 Idex

### Membuat index saat membuat tabel baru

```

CREATE TABLE LogPenyewaan (
    id_log INT AUTO_INCREMENT PRIMARY KEY,
    id_penyewaan INT,
    id_pengguna INT,
    timestamp TIMESTAMP DEFAULT CURRENT_TIMESTAMP,
    INDEX idx_penyewaan_pengguna (id_penyewaan, id_pengguna)
);

```

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0004 seconds.)

```

CREATE TABLE LogPenyewaan ( id_log INT AUTO_INCREMENT PRIMARY KEY, id_penyewaan INT, id_pengguna INT, timestamp TIMESTAMP DEFAULT CURRENT_TIMESTAMP, INDEX
idx_penyewaan_pengguna (id_penyewaan, id_pengguna) );

```

[\[ Edit inline \]](#) [\[ Edit \]](#) [\[ Create PHP code \]](#)

### Membuat index dengan CREATE INDEX

```
CREATE INDEX idx_kamar_status ON Kamar (id_kost, status);
```



✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0004 seconds.)

```
CREATE INDEX idx_kamar_status ON Kamar (id_kost, status);
```

[ Edit inline ] [ Edit ] [ Create PHP code ]

## Membuat index dengan ALTER TABLE

```
ALTER TABLE Penyewaan
ADD INDEX idx_penyewaan_pengguna_kamar (id_pengguna, id_kamar);
```

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0005 seconds.)

```
ALTER TABLE Penyewaan ADD INDEX idx_penyewaan_pengguna_kamar (id_pengguna, id_kamar);
```

[ Edit inline ] [ Edit ] [ Create PHP code ]

## Dafter Index

```
SHOW INDEX FROM LogPenyewaan;
SHOW INDEX FROM Kamar;
SHOW INDEX FROM Penyewaan;
```

Your SQL query has been executed successfully.

SHOW INDEX FROM LogPenyewaan;

Profiling [ Edit inline ] [ Edit ] [ Create PHP code ] [ Refresh ]

Extra options:

Table	Non-unique	Key_name	Seq_in_index	Column_name	Collation	Cardinality	Sub-part	Packed	Null	Index_type	Comment
logpenyewaan	0	PRIMARY	1	id_log	A	0				BTREE	
logpenyewaan	1	idx_penyewaan_pengguna	1	id_penyewaan	A	0	NULL, NULL		YES	BTREE	
logpenyewaan	1	idx_penyewaan_pengguna	2	id_pengguna	A	0	NULL, NULL		YES	BTREE	

## 2.5 View

### Horizontal View

```
CREATE VIEW ViewPengguna AS
SELECT id_pengguna, nama, email, no_telepon FROM Pengguna;
```

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0005 seconds.)

```
CREATE VIEW ViewPengguna AS SELECT id_pengguna, nama, email, no_telepon FROM Pengguna;
```

[ Edit inline ] [ Edit ] [ Create PHP code ]

## Vertikal View

```
CREATE VIEW ViewKamarDetail AS  
SELECT id_kamar, nomor_kamar, harga FROM Kamar;
```

✔ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0004 seconds.)

CREATE VIEW ViewKamarDetail AS SELECT id\_kamar, nomor\_kamar, harga FROM Kamar;

[ Edit inline ] [ Edit ] [ Create PHP code ]

## View inside View

```
CREATE VIEW ViewPenyewaan AS  
SELECT p.id_penyewaan, p.tanggal_mulai, p.tanggal_berakhir,  
pe.nama AS pengguna_nama, k.nomor_kamar  
FROM Penyewaan p  
JOIN Pengguna pe ON p.id_pengguna = pe.id_pengguna  
JOIN Kamar k ON p.id_kamar = k.id_kamar  
WITH CHECK OPTION;
```

✔ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0005 seconds.)

CREATE VIEW ViewPenyewaan AS SELECT p.id\_penyewaan, p.tanggal\_mulai, p.tanggal\_berakhir, pe.nama AS pengguna\_nama, k.nomor\_kamar FROM Penyewaan p JOIN Pengguna pe ON p.id\_pengguna = pe.id\_pengguna JOIN Kamar k ON p.id\_kamar = k.id\_kamar WITH CHECK OPTION;

[ Edit inline ] [ Edit ] [ Create PHP code ]

## Eksekusi Perintah untuk Melakukan Update dan Insert Menggunakan View

```
INSERT INTO ViewPenyewaan (id_pengguna, id_kamar,  
tanggal_mulai) VALUES (1, 2, '2023-07-01');  
UPDATE ViewPenyewaan SET tanggal_berakhir = '2023-12-31' WHERE  
id_penyewaan = 1;
```

## Daftar View

```
SHOW FULL TABLES IN kost_al WHERE TABLE_TYPE LIKE 'VIEW';
```

Your SQL query has been executed successfully.

```
SHOW FULL TABLES IN kost_al WHERE TABLE_TYPE LIKE 'VIEW';
```

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

Extra options

Tables_in_kost_al	Table_type
viewkamardetail	VIEW
viewpengguna	VIEW
viewpenyewaan	VIEW

## 2.6 Database Security

### Membuat User Baru

```
CREATE USER 'user1'@'localhost' IDENTIFIED BY 'password1';
CREATE USER 'user2'@'localhost' IDENTIFIED BY 'password2';
CREATE USER 'user3'@'localhost' IDENTIFIED BY 'password3';
```

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0030 seconds.)

```
CREATE USER 'user1'@'localhost' IDENTIFIED BY 'password1';
```

[ [Edit inline](#) ] [ [Edit](#) ] [ [Create PHP code](#) ]

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0008 seconds.)

```
CREATE USER 'user2'@'localhost' IDENTIFIED BY 'password2';
```

[ [Edit inline](#) ] [ [Edit](#) ] [ [Create PHP code](#) ]

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0009 seconds.)

```
CREATE USER 'user3'@'localhost' IDENTIFIED BY 'password3';
```

[ [Edit inline](#) ] [ [Edit](#) ] [ [Create PHP code](#) ]

### Membuat Role Baru

```
CREATE ROLE finance;
CREATE ROLE human_dev;
CREATE ROLE warehouse;
```

```
✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0025 seconds.)

CREATE ROLE finance;

[ Edit inline ] [ Edit ] [ Create PHP code ]

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0020 seconds.)

CREATE ROLE human_dev;

[ Edit inline ] [ Edit ] [ Create PHP code ]

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0015 seconds.)

CREATE ROLE warehouse;

[ Edit inline ] [ Edit ] [ Create PHP code ]
```

## Memberikan Privilege kepada User dan Role

```
GRANT SELECT ON kost_al.Pengguna TO 'user1'@'localhost';
GRANT SELECT ON kost_al.ViewPengguna TO 'user2'@'localhost';
GRANT EXECUTE ON PROCEDURE kost_al.AddPenyewaan TO finance;
```

```
✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0024 seconds.)

GRANT SELECT ON kost_al.Pengguna TO 'user1'@'localhost';

[ Edit inline ] [ Edit ] [ Create PHP code ]

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0008 seconds.)

GRANT SELECT ON kost_al.ViewPengguna TO 'user2'@'localhost';

[ Edit inline ] [ Edit ] [ Create PHP code ]

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0012 seconds.)

GRANT EXECUTE ON PROCEDURE kost_al.AddPenyewaan TO finance;

[ Edit inline ] [ Edit ] [ Create PHP code ]
```

## Eksekusi untuk Membuktikan Privilege

```
-- Login as user1
SELECT * FROM kost_al.Pengguna;

-- Login as user2
SELECT * FROM kost_al.ViewPengguna;
```

```
-- Login as a user with the finance role
CALL kost_al.AddPenyewaan(1, 2);
```

Showing rows 0 - 2 (3 total, Query took 0.0003 seconds.)

-- Login as user1 SELECT \* FROM kost\_al.Pengguna;

[Edit inline] [Edit] [Create PHP code]

☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

Extra options

	id_pengguna	nama	email	password	no_telepon
<input type="checkbox"/> Edit Copy Delete	1	Muhammad Ali	muhammadali@gmail.com	password123	081234567890
<input type="checkbox"/> Edit Copy Delete	2	Naufal Haidar	naufal@gmail.com	password123	082345678901
<input type="checkbox"/> Edit Copy Delete	3	Bayu Setya Adjie	bayu@gmail.com	password123	083456789012

☐ Check all | With selected: Edit Copy Delete Export

☐ Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

## Daftar User dan Privilege

```
SELECT User, Host FROM mysql.user;
SHOW GRANTS FOR 'user1'@'localhost';
SHOW GRANTS FOR 'user2'@'localhost';
SHOW GRANTS FOR 'finance'@'localhost';
```

Showing rows 0 - 9 (10 total, Query took 0.0007 seconds.)

SELECT User, Host FROM mysql.user;

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

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

Extra options

User	Host
finance	
human_dev	
warehouse	
root	127.0.0.1
root	:::1
pma	localhost
root	localhost
user1	localhost
user2	localhost
user3	localhost