

**LAPORAN LATIHAN PRAKTIKUM KE-11**  
**PEMROGRAMAN BERBASIS WEB**  
**KELAS A**

Disusun Untuk Memenuhi Tugas Mata Kuliah Prak. Pemrograman Berbasis Web



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## Link Repository Github:

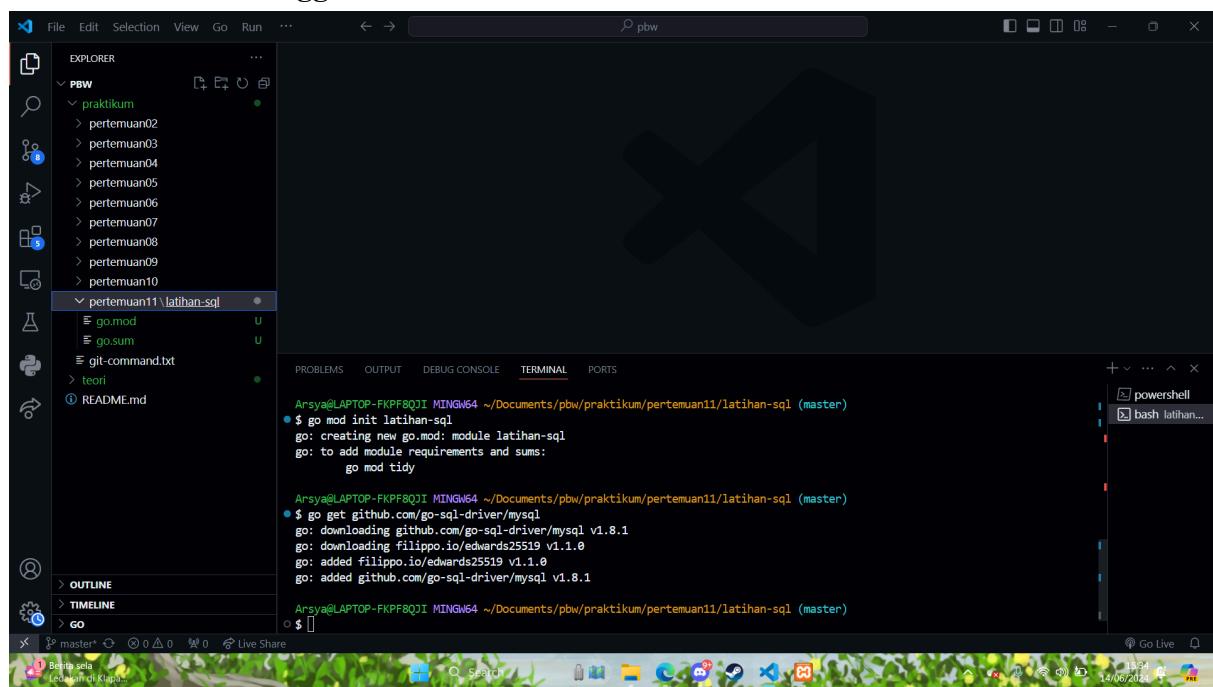
<https://github.com/Arsyayd11/pbw/tree/master/praktikum/pertemuan11>

## Latihan SQL:

Dalam praktikum Go ini, akan mempelajari cara berinteraksi dengan database SQL, khususnya MySQL, menggunakan Go. Langkah-langkah yang akan dilakukan meliputi instalasi driver MySQL untuk Go, setup koneksi ke database, membaca data dari MySQL server, membaca satu record data menggunakan method QueryRow(), eksekusi query menggunakan Prepare(), serta operasi dasar seperti insert, update, dan delete data menggunakan Exec(). Praktikum ini bertujuan untuk memberikan pemahaman mendalam tentang bagaimana Go dapat digunakan untuk mengelola dan memanipulasi data dalam database SQL secara efisien dan aman.

### A.56.1. Instalasi Driver

Run code menggunakan terminal:



The screenshot shows the Visual Studio Code interface with the terminal tab selected. The terminal window displays the following command-line session:

```
Arsya@LAPTOP-FKPF8QJ1 MINGW64 ~/Documents/pbw/praktikum/pertemuan11/latihan-sql (master)
$ go mod init latihan-sql
go: creating new go.mod: module latihan-sql
go: to add module requirements and sums:
    go mod tidy

Arsya@LAPTOP-FKPF8QJ1 MINGW64 ~/Documents/pbw/praktikum/pertemuan11/latihan-sql (master)
$ go get github.com/go-sql-driver/mysql
go: downloading github.com/go-sql-driver/mysql v1.8.1
go: downloading filippo.io/edwards25519 v1.1.0
go: added filippo.io/edwards25519 v1.1.0
go: added github.com/go-sql-driver/mysql v1.8.1

Arsya@LAPTOP-FKPF8QJ1 MINGW64 ~/Documents/pbw/praktikum/pertemuan11/latihan-sql (master)
$
```

## A.56.2. Setup Database

### MySQL:

The screenshot shows the phpMyAdmin interface on a Windows desktop. The browser tab is 'localhost/phpmyadmin/index.php?route=/server/sql'. The left sidebar lists databases: Baru, bookwise, db\_belajar\_golang, information\_schema, inventaris, kartu\_golongan, mysql, performance\_schema, phpmyadmin, prak3, and test. The main panel has tabs for Basis data, SQL, Status, Akun pengguna, Ekspor, Import, Pengaturan, Replikasi, Variabel, Set Karakter, Mesin, and Plugin. A message box says 'MySQL memberikan hasil kosong (atau nol baris). (Pencarian dilakukan dalam 0,0008 detik.)' Below it, a SQL query is shown: `CREATE DATABASE `db_belajar_golang`;`. A warning message 'Error: #1046 No database selected' is displayed. The status bar at the bottom shows 'Selamat cerah'.

This screenshot shows the phpMyAdmin interface after creating the 'db\_belajar\_golang' database. The browser tab is 'localhost/phpmyadmin/index.php?route=/database/sql&db=db\_belajar\_golang'. The left sidebar now includes 'tb\_student' under 'db\_belajar\_golang'. The main panel has tabs for Struktur, SQL, Cari, Kueri, Ekspor, Import, Operasi, Hak Akses, Routine, Event, Trigger, and Desainer. A message box says 'MySQL memberikan hasil kosong (atau nol baris). (Pencarian dilakukan dalam 0,0070 detik.)'. Below it, a SQL query is shown: `CREATE TABLE IF NOT EXISTS `tb_student` ( `id` varchar(5) NOT NULL, `name` varchar(255) NOT NULL, `age` int(11) NOT NULL, `grade` int(11) NOT NULL ) ENGINE=InnoDB DEFAULT CHARSET=latin1;`. The status bar at the bottom shows 'Selamat cerah'.

The screenshot shows the phpMyAdmin interface for the database 'db\_belajar\_golang'. The left sidebar lists databases like Baru, bookwise, db\_belajar\_golang, and tb\_student. The main SQL tab displays a successful insert operation:

```
INSERT INTO `tb_student` (`id`, `name`, `age`, `grade`) VALUES ('B001', 'Jason Bourne', 29, 1), ('B002', 'James Bond', 27, 1), ('E001', 'Ethan Hunt', 27, 2), ('W001', 'John Wick', 28, 2);
```

A message at the top indicates 4 rows were inserted.

The screenshot shows the phpMyAdmin interface for the database 'db\_belajar\_golang'. The left sidebar lists databases like Baru, bookwise, db\_belajar\_golang, and tb\_student. The main SQL tab displays a successful ALTER TABLE command:

```
ALTER TABLE `tb_student` ADD PRIMARY KEY (`id`);
```

A message at the top indicates MySQL returned empty results.

Screenshot of the phpMyAdmin interface showing the results of a SQL query:

```
Menampilkan baris 0 - 3 (total 4, Pencarian dilakukan dalam 0,0002 detik.)  
SELECT * FROM `tb_student`
```

The results table shows the following data:

	Id	name	age	grade			
<input type="checkbox"/>	Ubah	Salin	Hapus	B001	Jason Bourne	29	1
<input type="checkbox"/>	Ubah	Salin	Hapus	B002	James Bond	27	1
<input type="checkbox"/>	Ubah	Salin	Hapus	E001	Ethan Hunt	27	2
<input type="checkbox"/>	Ubah	Salin	Hapus	W001	John Wick	28	2

Buttons at the bottom include: Pilih Semua, Dengan pilihan:, Ubah, Salin, Hapus, and Eksport.

Screenshot of the phpMyAdmin interface showing the structure of the tb\_student table:

Struktur tabel

#	Nama	Jenis	Penyortiran	Atribut	Tak Ternilai	Bawaan	Komentar	Ekstra	Tindakan
1	id	varchar(5)	latin1_swedish_ci		Tidak	Tidak ada			<input type="button"/> Ubah <input type="button"/> Hapus <input type="button"/> Lainnya
2	name	varchar(255)	latin1_swedish_ci		Tidak	Tidak ada			<input type="button"/> Ubah <input type="button"/> Hapus <input type="button"/> Lainnya
3	age	int(11)			Tidak	Tidak ada			<input type="button"/> Ubah <input type="button"/> Hapus <input type="button"/> Lainnya
4	grade	int(11)			Tidak	Tidak ada			<input type="button"/> Ubah <input type="button"/> Hapus <input type="button"/> Lainnya

Buttons at the bottom include: Cetak, Usulkan struktur tabel, Move columns, Normalisasi, Tambahan, and Kirim.

Indeks

Tindakan	Nama kunci	Jenis	Unik	Dipadatkan	Kolom	Kardinalitas	Penyortiran	Tak Ternilai	Komentar
<input type="button"/> Ubah <input type="button"/> Rename <input type="button"/> Hapus	PRIMARY	BTREE	Ya	Tidak	id	4	A	Tidak	

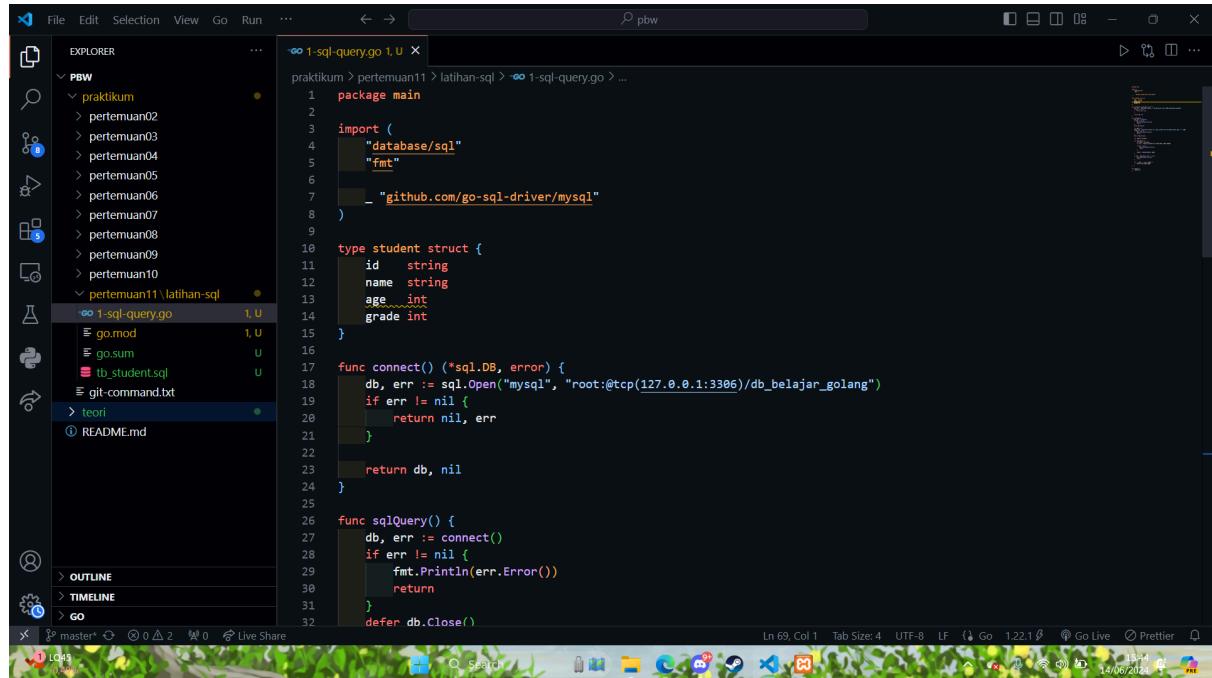
Create an index on 1 columns Kirim

Partitions

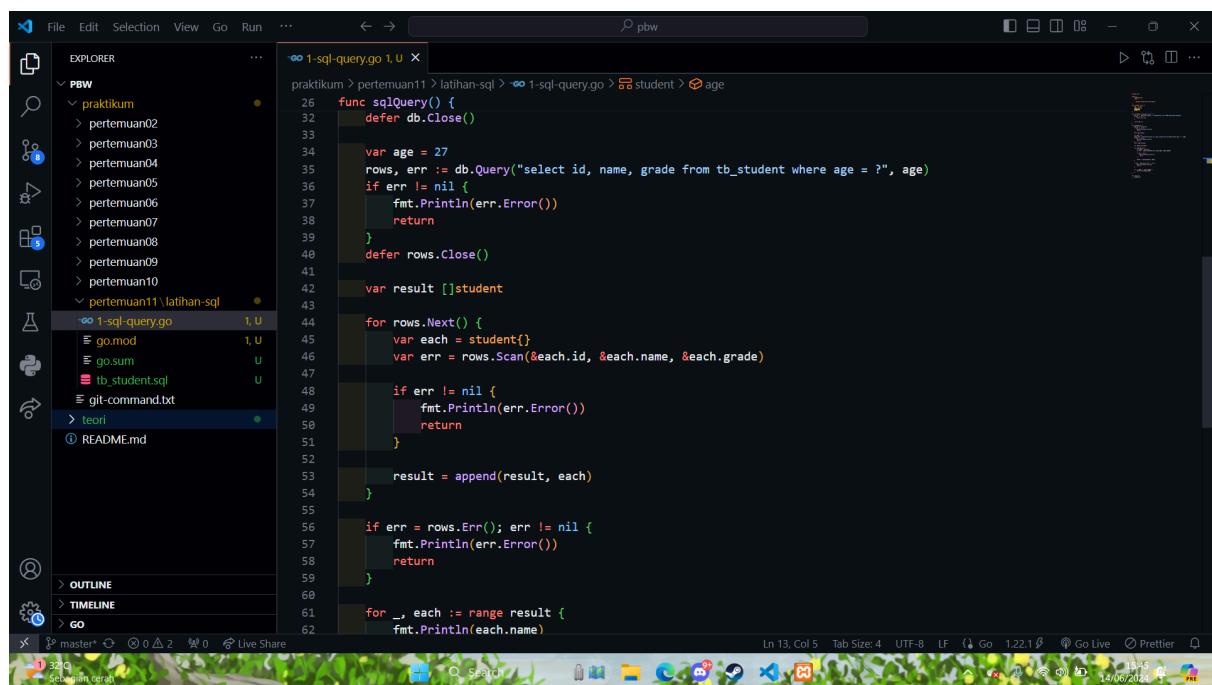
No partitioning defined!

### A.56.3. Membaca Data Dari MySQL Server

Source Code :



```
praktikum > pertemuan11 > latihan-sql > 1-sql-query.go > ...  
1 package main  
2  
3 import (  
4     "database/sql"  
5     "fmt"  
6     _ "github.com/go-sql-driver/mysql"  
7 )  
8  
9 type student struct {  
10    id string  
11    name string  
12    age int  
13    grade int  
14 }  
15  
16 func connect() (*sql.DB, error) {  
17    db, err := sql.Open("mysql", "root:@tcp(127.0.0.1:3306)/db_belajar_golang")  
18    if err != nil {  
19        return nil, err  
20    }  
21  
22    return db, nil  
23 }  
24  
25  
26 func sqlQuery() {  
27    db, err := connect()  
28    if err != nil {  
29        fmt.Println(err.Error())  
30        return  
31    }  
32    defer db.Close()  
33 }
```



```
praktikum > pertemuan11 > latihan-sql > 1-sql-query.go > student > age  
26 func sqlQuery() {  
27     defer db.Close()  
28  
29     var age = 27  
30     rows, err := db.Query("select id, name, grade from tb_student where age = ?", age)  
31     if err != nil {  
32         fmt.Println(err.Error())  
33         return  
34     }  
35     defer rows.Close()  
36  
37     var result []student  
38  
39     for rows.Next() {  
40         var each = student{}  
41         var err = rows.Scan(&each.id, &each.name, &each.grade)  
42  
43         if err != nil {  
44             fmt.Println(err.Error())  
45             return  
46         }  
47  
48         result = append(result, each)  
49     }  
50  
51     if err = rows.Err(); err != nil {  
52         fmt.Println(err.Error())  
53         return  
54     }  
55  
56     for _, each := range result {  
57         fmt.Println(each.name)  
58     }  
59 }
```

```
praktikum > pertemuan11 > latihan-sql > 1-sql-query.go > ...
26 func sqlQuery() {
40 defer rows.Close()
41
42 var result []student
43
44 for rows.Next() {
45     var each = student{}
46     var err = rows.Scan(&each.id, &each.name, &each.grade)
47
48     if err != nil {
49         fmt.Println(err.Error())
50         return
51     }
52
53     result = append(result, each)
54 }
55
56 if err = rows.Err(); err != nil {
57     fmt.Println(err.Error())
58     return
59 }
60
61 for _, each := range result {
62     fmt.Println(each.name)
63 }
64
65
66 func main() {
67     sqlQuery()
68 }
```

## Run code menggunakan terminal:

```
praktikum > pertemuan11 > latihan-sql > 1-sql-query.go > ...
26 func sqlQuery() {
40 defer rows.Close()
41
42 var result []student
43
44 for rows.Next() {
45     var each = student{}
46     var err = rows.Scan(&each.id, &each.name, &each.grade)
47
48     if err != nil {
49         fmt.Println(err.Error())
50         return
51     }
52
53     result = append(result, each)
54 }
55
56 if err = rows.Err(); err != nil {
57     fmt.Println(err.Error())
58 }
59
60 for _, each := range result {
61     fmt.Println(each.name)
62 }
63
64
65
66 func main() {
67     sqlQuery()
68 }
```

PROBLEMS ② OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
Arsyaa@LAPTOP-FKPF8QJI MINGW64 ~/Documents/pbw/praktikum/pertemuan11/latihan-sql (master)
$ go run 1-sql-query.go
James Bond
Ethan Hunt

Arsyaa@LAPTOP-FKPF8QJI MINGW64 ~/Documents/pbw/praktikum/pertemuan11/latihan-sql (master)
$
```

## A.56.4. Membaca 1 Record Data Menggunakan Method QueryRow()

Source Code :

```
praktikum > pertemuan11 > latihan-sql > 2-sql-query-row.go ...  
1 package main  
2  
3 import (  
4     "database/sql"  
5     "fmt"  
6     _ "github.com/go-sql-driver/mysql"  
7 )  
8  
9 type student struct {  
10    id string  
11    name string  
12    age int  
13    grade int  
14 }  
15  
16 func connect() (*sql.DB, error) {  
17    db, err := sql.Open("mysql", "root:@tcp(127.0.0.1:3306)/db_belajar_golang")  
18    if err != nil {  
19        return nil, err  
20    }  
21  
22    return db, nil  
23 }  
24  
25 func sqlQueryRow() {  
26    var db, err = connect()  
27    if err != nil {  
28        fmt.Println(err.Error())  
29    }  
30    defer db.Close()  
31  
32 }
```

```
praktikum > pertemuan11 > latihan-sql > 2-sql-query-row.go ...  
17 func connect() (*sql.DB, error) {  
18    db, err := sql.Open("mysql", "root:@tcp(127.0.0.1:3306)/db_belajar_golang")  
19    if err != nil {  
20        return nil, err  
21    }  
22  
23    return db, nil  
24 }  
25  
26 func sqlQueryRow() {  
27    var db, err = connect()  
28    if err != nil {  
29        fmt.Println(err.Error())  
30    }  
31    defer db.Close()  
32  
33    var result = student{}  
34    var id = "E001"  
35    err = db.  
36        QueryRow("select name, grade from tb_student where id = ?", id).  
37        Scan(&result.name, &result.grade)  
38    if err != nil {  
39        fmt.Println(err.Error())  
40    }  
41  
42    fmt.Printf("name: %s\ngrade: %d\n", result.name, result.grade)  
43  
44 }  
45  
46 func main() {  
47     sqlQueryRow()  
48 }
```

## Run code menggunakan terminal:

A screenshot of the Visual Studio Code interface. The left sidebar shows a project structure under 'EXPLORER' with files like '1-sql-query.go', '2-sql-query-row.go', 'go.mod', and 'tb\_student.sql'. The main editor area displays a Go program. The terminal at the bottom shows the output of running the code:

```
Arsyah@LAPTOP-FKPF8QJI MINGW64 ~/Documents/pbw/praktikum/pertemuan11/latihan-sql (master)
$ go run 2-sql-query-row.go
name: Ethan Hunt
grade: 2

Arsyah@LAPTOP-FKPF8QJI MINGW64 ~/Documents/pbw/praktikum/pertemuan11/latihan-sql (master)
$
```

## A.56.5. Eksekusi Query Menggunakan Prepare()

### Source Code :

A screenshot of the Visual Studio Code interface. The left sidebar shows a project structure under 'EXPLORER' with files like '1-sql-query.go', '2-sql-query-row.go', '3-sql-prepare.go', 'go.mod', and 'tb\_student.sql'. The main editor area displays a Go program. The terminal at the bottom shows the output of running the code:

```
Arsyah@LAPTOP-FKPF8QJI MINGW64 ~/Documents/pbw/praktikum/pertemuan11/latihan-sql (master)
$ go run 3-sql-prepare.go
name: Ethan Hunt
grade: 2

Arsyah@LAPTOP-FKPF8QJI MINGW64 ~/Documents/pbw/praktikum/pertemuan11/latihan-sql (master)
$
```

```
func sqlPrepare() {
    db, err := connect()
    if err != nil {
        fmt.Println(err.Error())
        return
    }
    defer db.Close()

    stmt, err := db.Prepare("select name, grade from tb_student where id = ?")
    if err != nil {
        fmt.Println(err.Error())
        return
    }

    var result1 = student{}
    stmt.QueryRow("E001").Scan(&result1.name, &result1.grade)
    fmt.Printf("name: %s\ngrade: %d\n", result1.name, result1.grade)

    var result2 = student{}
    stmt.QueryRow("W001").Scan(&result2.name, &result2.grade)
    fmt.Printf("name: %s\ngrade: %d\n", result2.name, result2.grade)

    var result3 = student{}
    stmt.QueryRow("B001").Scan(&result3.name, &result3.grade)
    fmt.Printf("name: %s\ngrade: %d\n", result3.name, result3.grade)
}

func main() {
    sqlPrepare()
}
```

Run code menggunakan terminal:

```
func sqlPrepare() {
    db, err := connect()
    if err != nil {
        fmt.Println(err.Error())
        return
    }
    defer db.Close()

    stmt, err := db.Prepare("select name, grade from tb_student where id = ?")
    if err != nil {
        fmt.Println(err.Error())
        return
    }

    var result1 = student{}
    stmt.QueryRow("E001").Scan(&result1.name, &result1.grade)
    fmt.Printf("name: %s\ngrade: %d\n", result1.name, result1.grade)

    var result2 = student{}
    stmt.QueryRow("W001").Scan(&result2.name, &result2.grade)
    fmt.Printf("name: %s\ngrade: %d\n", result2.name, result2.grade)

    var result3 = student{}
    stmt.QueryRow("B001").Scan(&result3.name, &result3.grade)
    fmt.Printf("name: %s\ngrade: %d\n", result3.name, result3.grade)
}

func main() {
    sqlPrepare()
}
```

TERMINAL

```
Arsya@LAPTOP-FKPF8QJI MINGW64 ~/Documents/pbw/praktikum/pertemuan11/latihan-sql (master)
$ go run 3-sql-prepare.go
name: Ethan Hunt
grade: 2
name: John Wick
grade: 2
name: Jason Bourne
grade: 1

Arsya@LAPTOP-FKPF8QJI MINGW64 ~/Documents/pbw/praktikum/pertemuan11/latihan-sql (master)
$
```

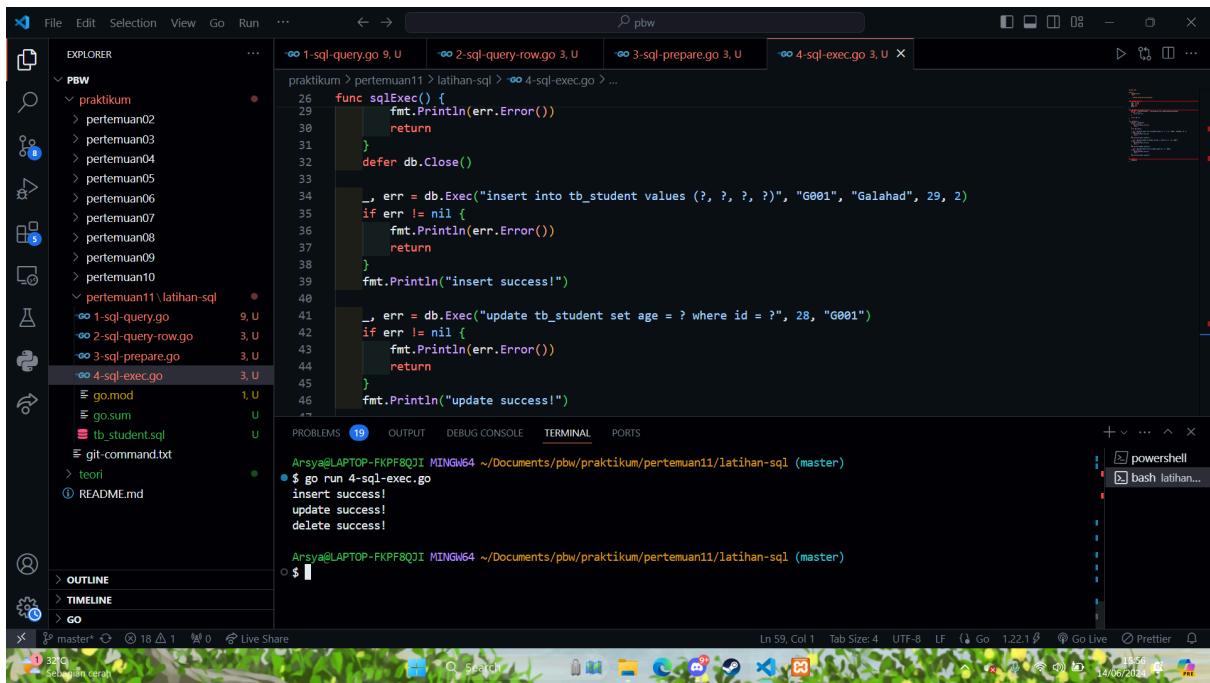
## A.56.6. Insert, Update, & Delete Data Menggunakan Exec()

## Source Code :

```
praktikum > pertemuan11 > latihan-sql > 4-sql-exec.go > ...
1 package main
2
3 import (
4     "database/sql"
5     "fmt"
6
7     _ "github.com/go-sql-driver/mysql"
8 )
9
10 type student struct {
11     id   string
12     name string
13     age  int
14     grade int
15 }
16
17 func connect() (*sql.DB, error) {
18     db, err := sql.Open("mysql", "root:@tcp(127.0.0.1:3306)/db_belajar_golang")
19     if err != nil {
20         return nil, err
21     }
22
23     return db, nil
24 }
25
26 func sqlExec() {
27     db, err := connect()
28     if err != nil {
29         fmt.Println(err.Error())
30         return
31     }
32     defer db.Close()
33 }
```

```
praktikum > pertemuan11 > latihan-sql > 4-sql-exec.go > ...
26 func sqlExec() {
27     fmt.Println("insert success!")
28     defer db.Close()
29
30     _, err = db.Exec("insert into tb_student values (?, ?, ?, ?)", "G001", "Galahad", 29, 2)
31     if err != nil {
32         fmt.Println(err.Error())
33         return
34     }
35     fmt.Println("insert success!")
36
37     _, err = db.Exec("update tb_student set age = ? where id = ?", 28, "G001")
38     if err != nil {
39         fmt.Println(err.Error())
40         return
41     }
42     fmt.Println("update success!")
43
44     _, err = db.Exec("delete from tb_student where id = ?", "G001")
45     if err != nil {
46         fmt.Println(err.Error())
47         return
48     }
49     fmt.Println("delete success!")
50
51 }
52
53 func main() {
54     sqlExec()
55 }
56
57 }
```

## Run code menggunakan terminal:



```
func sqlExec() {
    db, err := db.Exec("insert into tb_student values (?, ?, ?, ?)", "G001", "Galahad", 29, 2)
    if err != nil {
        fmt.Println(err.Error())
        return
    }
    defer db.Close()

    _, err = db.Exec("update tb_student set age = ? where id = ?", 28, "G001")
    if err != nil {
        fmt.Println(err.Error())
        return
    }
    fmt.Println("update success!")
}

func sqlInsert() {
    db, err := db.Prepare("insert into tb_student values (?, ?, ?, ?)")
    if err != nil {
        fmt.Println(err.Error())
        return
    }
    defer db.Close()

    _, err = db.Exec("insert into tb_student values (?, ?, ?, ?)", "G001", "Galahad", 29, 2)
    if err != nil {
        fmt.Println(err.Error())
        return
    }
    fmt.Println("insert success!")

    _, err = db.Exec("update tb_student set age = ? where id = ?", 28, "G001")
    if err != nil {
        fmt.Println(err.Error())
        return
    }
    fmt.Println("update success!")

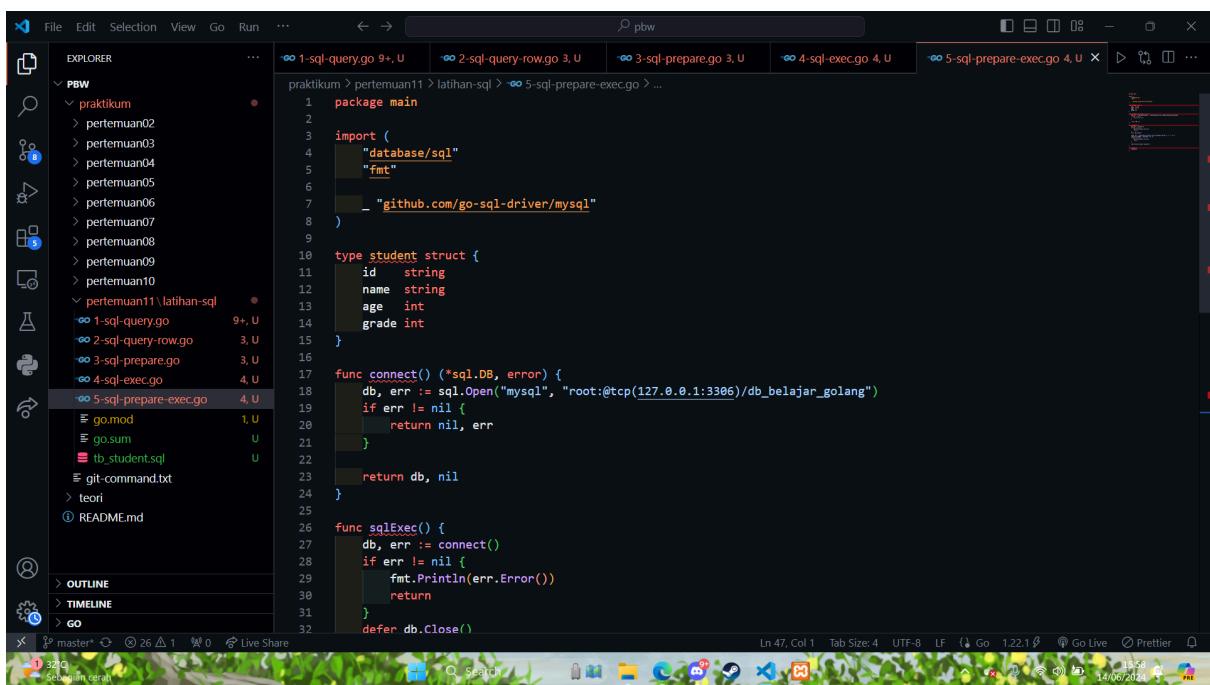
    _, err = db.Exec("delete from tb_student where id = ?", "G001")
    if err != nil {
        fmt.Println(err.Error())
        return
    }
    fmt.Println("delete success!")
}
```

Terminal output:

```
$ go run 4-sql-exec.go
insert success!
update success!
delete success!
```

## PrepareExec()

### Source Code :



```
package main

import (
    "database/sql"
    "fmt"
    _ "github.com/go-sql-driver/mysql"
)

type student struct {
    id   string
    name string
    age  int
    grade int
}

func connect() (*sql.DB, error) {
    db, err := sql.Open("mysql", "root:@tcp(127.0.0.1:3306)/db_belajar_golang")
    if err != nil {
        return nil, err
    }
    return db, nil
}

func salExec() {
    db, err := connect()
    if err != nil {
        fmt.Println(err.Error())
        return
    }
    defer db.Close()
}
```

```
praktikum > pertemuan11 > latihan-sql > 5-sql-prepare-exec.go > ...
17 func connect() (*sql.DB, error) {
18     db, err := sql.Open("mysql", "root:@tcp(127.0.0.1:3306)/db_belajar_golang")
19     if err != nil {
20         return nil, err
21     }
22
23     return db, nil
24 }
25
26 func sqlExec() {
27     db, err := connect()
28     if err != nil {
29         fmt.Println(err.Error())
30         return
31     }
32     defer db.Close()
33
34     stmt, err := db.Prepare("insert into tb_student values (?, ?, ?, ?)")
35     stmt.Exec("G001", "Galahad", 29, 2)
36     if err != nil {
37         fmt.Println(err.Error())
38         return
39     }
40
41     fmt.Println("insert success!")
42 }
43
44 func main() {
45     sqlExec()
46 }
```

Run code menggunakan terminal:

```
praktikum > pertemuan11 > latihan-sql > 5-sql-prepare-exec.go > ...
1 package main
2
3 import (
4     "database/sql"
5     "fmt"
6     _ "github.com/go-sql-driver/mysql"
7 )
8
9
10 type student struct {
11     id   string
12     name string
13     age  int
14     grade int
15 }
16
17
18
19
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21
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23
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Menampilkan baris 0 - 4 (total 5, Pencarian dilakukan dalam 0,0002 detik.)

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SELECT * FROM `tb_student`
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<input type="checkbox"/>	Ubah	B001	Jason Bourne	29	1
<input type="checkbox"/>	Ubah	B002	James Bond	27	1
<input type="checkbox"/>	Ubah	E001	Ethan Hunt	27	2
<input type="checkbox"/>	Ubah	G001	Galahad	29	2
<input type="checkbox"/>	Ubah	W001	John Wick	28	2

Pilih Semua Dengan pilihan:  Ubah  Salin  Hapus  Eksport

Tampilkan semua Jumlah baris: 25 Saring baris: Cari di tabel ini Sort by key: Tidak ada

Operasi hasil kueri

Cetak  Salin ke clipboard  Eksport  Tampilkan bagan  Buat tampilan

Konsol

## Upload Ke Git

```
pbw
File Edit Selection View Go Run ... ← → ⌂ pbw
EXPLORER
PBW
praktikum
pertemuan02
pertemuan03
pertemuan04
pertemuan05
pertemuan06
pertemuan07
pertemuan08
pertemuan09
pertemuan10
pertemuan11\latihan-sql
1-sql-query.go
2-sql-query-row.go
3-sql-prepare.go
4-sql-exec.go
5-sql-prepare-exec.go
go.mod
go.sum
tb_student.sql
git-command.txt
teori
README.md
OUTLINE
TIMELINE
GO
PROBLEMS 27 OUTPUT DEBUG CONSOLE TERMINAL PORTS
Arsyaa@LAPTOP-FKPF8QJI MINGW64 ~/Documents/pbw/praktikum/pertemuan11/latihan-sql (master)
$ cd ..
$ git add .
warning: in the working copy of 'praktikum/pertemuan11/latihan-sql/1-sql-query.go', LF will be replaced by CRLF the next time
Git touches it
warning: in the working copy of 'praktikum/pertemuan11/latihan-sql/2-sql-query-row.go', LF will be replaced by CRLF the next t
ime Git touches it
warning: in the working copy of 'praktikum/pertemuan11/latihan-sql/3-sql-prepare.go', LF will be replaced by CRLF the next tim
e Git touches it
warning: in the working copy of 'praktikum/pertemuan11/latihan-sql/4-sql-exec.go', LF will be replaced by CRLF the next time
Git touches it
warning: in the working copy of 'praktikum/pertemuan11/latihan-sql/5-sql-prepare-exec.go', LF will be replaced by CRLF the nex
t time Git touches it
warning: in the working copy of 'praktikum/pertemuan11/latihan-sql/go.mod', LF will be replaced by CRLF the next time Git touc
hes it
warning: in the working copy of 'praktikum/pertemuan11/latihan-sql/go.sum', LF will be replaced by CRLF the next time Git touc
hes it
warning: in the working copy of 'praktikum/pertemuan11/latihan-sql/tb_student.sql', LF will be replaced by CRLF the next time
Git touches it
Arsyaa@LAPTOP-FKPF8QJI MINGW64 ~/Documents/pbw/praktikum/pertemuan11 (master)
$ git commit -m "upload latihan praktikum 11"
[master F7567ed] upload latihan praktikum 11
8 files changed, 305 insertions(+)
create mode 100644 praktikum/pertemuan11/latihan-sql/1-sql-query.go
create mode 100644 praktikum/pertemuan11/latihan-sql/2-sql-query-row.go
create mode 100644 praktikum/pertemuan11/latihan-sql/3-sql-prepare.go
create mode 100644 praktikum/pertemuan11/latihan-sql/4-sql-exec.go
create mode 100644 praktikum/pertemuan11/latihan-sql/5-sql-prepare-exec.go
Ln 47, Col 1 Tab Size: 4 UTF-8 LF ↵ Go Live ⌂ Prettier ⌂
powershell
bash pertem...
```

32 Q Selamat cerah 15:58 14/06/2024

```
pbw
File Edit Selection View Go Run ... ← → ⌂ pbw
PROBLEMS 27 OUTPUT DEBUG CONSOLE TERMINAL PORTS
hes it
warning: in the working copy of 'praktikum/pertemuan11/latihan-sql/tb_student.sql', LF will be replaced by CRLF the next time
Git touches it

Arsyad@LAPTOP-FKPF8QJI MINGW64 ~/Documents/pbw/praktikum/pertemuan11 (master)
$ git commit -m "upload latihan praktikum 11"
[master f7567ed] upload latihan praktikum 11
8 files changed, 305 insertions(+)
create mode 100644 praktikum/pertemuan11/latihan-sql/1-sql-query.go
create mode 100644 praktikum/pertemuan11/latihan-sql/2-sql-query-row.go
create mode 100644 praktikum/pertemuan11/latihan-sql/3-sql-prepare.go
create mode 100644 praktikum/pertemuan11/latihan-sql/4-sql-exec.go
create mode 100644 praktikum/pertemuan11/latihan-sql/5-sql-prepare-exec.go
create mode 100644 praktikum/pertemuan11/latihan-sql/go.mod
create mode 100644 praktikum/pertemuan11/latihan-sql/go.sum
create mode 100644 praktikum/pertemuan11/latihan-sql/tb_student.sql

Arsyad@LAPTOP-FKPF8QJI MINGW64 ~/Documents/pbw/praktikum/pertemuan11 (master)
$ git push -f origin master
Enumerating objects: 15, done.
Counting objects: 100% (15/15), done.
Delta compression using up to 12 threads
Compressing objects: 100% (12/12), done.
Writing objects: 100% (13/13), 2.51 KiB | 1.25 MiB/s, done.
Total 13 (delta 5), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (5/5), completed with 1 local object.
To https://github.com/Arsyad11/pbw.git
 59ae3ab..f7567ed master -> master
```

## Kesimpulan

Praktikum Go tentang SQL memberikan pemahaman dasar tentang cara mengintegrasikan aplikasi Go dengan MySQL database, mulai dari instalasi driver, setup koneksi, hingga berbagai operasi database seperti membaca, menambah, mengupdate, dan menghapus data. Dengan menggunakan method QueryRow() untuk pengambilan data tunggal dan Prepare() untuk eksekusi query yang lebih aman dan efisien, peserta praktikum akan memiliki keterampilan dasar yang diperlukan untuk membangun aplikasi Go yang berinteraksi dengan database secara optimal.

## Link Repository Github:

<https://github.com/Arsyad11/pbw/tree/master/praktikum/pertemuan11>