MODULE 8
DATABASE

1.1 RINGKASAN

Database digunakan untuk menyimpan data pada aplikasi. Database terdiri dari satu atau banyak table dan setiap table terdiri dari baris dan kolom. Untuk memanipulasi database, PHP memiliki perintah-perintah yang digunakan untuk meng-eksekusi SQL.

1.2 LATIHAN

Latihan pada pada praktikum ini secaumum mencakup koneksi database, menjalankan perintah SQL dan mengambil keluaran dari perintah tersebut.

1) Koneksi database

```php
1.  <?php
2.  $servername = "localhost";
3.  $username = "root";
4.  $password = "";
5.
6.  // Create connection
7.  $conn = mysqli_connect($servername, $username, $password);
8.
9.  // Check connection
10. if (!$conn) {
11.     die("Connection failed: " . mysqli_connect_error());
12. }
13. echo "Connected successfully";
14. ?>
```

2) Membuat database di PHP

```php
1.  <?php
2.  $servername = "localhost";
3.  $username = "root";
4.  $password = "";
5.
6.  // Create connection
7.  $conn = mysqli_connect($servername, $username, $password);
8.  // Check connection
9.  if (!$conn) {
10.     die("Connection failed: " . mysqli_connect_error());
11. }
12.
13. // Create database
14. $sql = "CREATE DATABASE myDB";
15. if (mysqli_query($conn, $sql)) {
```

```php
16.      echo "Database created successfully";
17. } else {
18.      echo "Error creating database: " . mysqli_error($conn);
19. }
20.
21. mysqli_close($conn);
22. ?>
```

3)   Membuat Table di PHP

```php
1.  <?php
2.  $servername = "localhost";
3.  $username = "root";
4.  $password = "";
5.  $dbname = "myDB";
6.
7.  // Create connection
8.  $conn = mysqli_connect($servername, $username, $password, $dbname);
9.  // Check connection
10. if (!$conn) {
11.      die("Connection failed: " . mysqli_connect_error());
12. }
13.
14. // sql to create table
15. $sql = "CREATE TABLE MyGuests (
16. id INT(6) UNSIGNED AUTO_INCREMENT PRIMARY KEY,
17. firstname VARCHAR(30) NOT NULL,
18. lastname VARCHAR(30) NOT NULL,
19. email VARCHAR(50),
20. reg_date TIMESTAMP
21. )";
22.
23. if (mysqli_query($conn, $sql)) {
24.      echo "Table MyGuests created successfully";
25. } else {
26.      echo "Error creating table: " . mysqli_error($conn);
27. }
28.
29. mysqli_close($conn);
30. ?>
```

4)   Insert data pada table

```php
1.  <?php
2.  $servername = "localhost";
3.  $username = "root";
4.  $password = "";
5.  $dbname = "myDB";
6.
7.  // Create connection
8.  $conn = mysqli_connect($servername, $username, $password, $dbname);
9.  // Check connection
10. if (!$conn) {
11.      die("Connection failed: " . mysqli_connect_error());
12. }
13.
14. $sql = "INSERT INTO MyGuests (firstname, lastname, email)
15. VALUES ('John', 'Doe', 'john@example.com')";
16.
17. if (mysqli_query($conn, $sql)) {
18.      echo "New record created successfully";
19. } else {
```

```
20.      echo "Error: " . $sql . "<br>" . mysqli_error($conn);
21. }
22.
23. mysqli_close($conn);
24. ?>
```

5)   Mendapatkan ID dari data yang dimasukan

```
1.  <?php
2.  $servername = "localhost";
3.  $username = "root";
4.  $password = "";
5.  $dbname = "myDB";
6.
7.  // Create connection
8.  $conn = mysqli_connect($servername, $username, $password, $dbname);
9.  // Check connection
10. if (!$conn) {
11.     die("Connection failed: " . mysqli_connect_error());
12. }
13.
14. $sql = "INSERT INTO MyGuests (firstname, lastname, email)
15. VALUES ('John', 'Doe', 'john@example.com')";
16.
17. if (mysqli_query($conn, $sql)) {
18.     $last_id = mysqli_insert_id($conn);
19.     echo "New record created successfully. Last inserted ID is: " . $last_id;
20. } else {
21.     echo "Error: " . $sql . "<br>" . mysqli_error($conn);
22. }
23. mysqli_close($conn);
24. ?>
```

6)   Eksekusi multiple Kueri

```
1.  <?php
2.  $servername = "localhost";
3.  $username = "root";
4.  $password = "";
5.  $dbname = "myDB";
6.
7.  // Create connection
8.  $conn = mysqli_connect($servername, $username, $password, $dbname);
9.  // Check connection
10. if (!$conn) {
11.     die("Connection failed: " . mysqli_connect_error());
12. }
13.
14. $sql = "INSERT INTO MyGuests (firstname, lastname, email)
15. VALUES ('John', 'Doe', 'john@example.com');";
16. $sql .= "INSERT INTO MyGuests (firstname, lastname, email)
17. VALUES ('Mary', 'Moe', 'mary@example.com');";
18. $sql .= "INSERT INTO MyGuests (firstname, lastname, email)
19. VALUES ('Julie', 'Dooley', 'julie@example.com')";
20.
21. if (mysqli_multi_query($conn, $sql)) {
22.     echo "New records created successfully";
23. } else {
24.     echo "Error: " . $sql . "<br>" . mysqli_error($conn);
25. }
26. mysqli_close($conn);
27. ?>
```

7)   Prepared Statement dan Bound Parameter

```php
1.  <?php
2.  $servername = "localhost";
3.  $username = "root";
4.  $password = "";
5.  $dbname = "myDB";
6.
7.  // Create connection
8.  $conn = new mysqli($servername, $username, $password, $dbname);
9.
10. // Check connection
11. if ($conn->connect_error) {
12.     die("Connection failed: " . $conn->connect_error);
13. }
14.
15. // prepare and bind
16. $stmt = $conn-
    >prepare("INSERT INTO MyGuests (firstname, lastname, email) VALUES (?, ?, ?)");
17. $stmt->bind_param("sss", $firstname, $lastname, $email);
18.
19. // set parameters and execute
20. $firstname = "John";
21. $lastname = "Doe";
22. $email = "john@example.com";
23. $stmt->execute();
24.
25. $firstname = "Mary";
26. $lastname = "Moe";
27. $email = "mary@example.com";
28. $stmt->execute();
29.
30. $firstname = "Julie";
31. $lastname = "Dooley";
32. $email = "julie@example.com";
33. $stmt->execute();
34.
35. echo "New records created successfully";
36.
37. $stmt->close();
38. $conn->close();
39. ?>
```

8)   Select Data

```php
1.  <?php
2.  $servername = "localhost";
3.  $username = "root";
4.  $password = "";
5.  $dbname = "myDB";
6.
7.  // Create connection
8.  $conn = mysqli_connect($servername, $username, $password, $dbname);
9.  // Check connection
10. if (!$conn) {
11.     die("Connection failed: " . mysqli_connect_error());
12. }
13.
14. $sql = "SELECT id, firstname, lastname FROM MyGuests";
15. $result = mysqli_query($conn, $sql);
```

```
16.
17. if (mysqli_num_rows($result) > 0) {
18.     // output data of each row
19.     while($row = mysqli_fetch_assoc($result)) {
20.         echo "id: " . $row["id"]. " -
     Name: " . $row["firstname"]. " " . $row["lastname"]. "<br>";
21.     }
22. } else {
23.     echo "0 results";
24. }
25.
26. mysqli_close($conn);
27. ?>
```

9)   Hapus Data

```
1.  <?php
2.  $servername = "localhost";
3.  $username = "root";
4.  $password = "";
5.  $dbname = "myDB";
6.
7.  // Create connection
8.  $conn = mysqli_connect($servername, $username, $password, $dbname);
9.  // Check connection
10. if (!$conn) {
11.     die("Connection failed: " . mysqli_connect_error());
12. }
13.
14. // sql to delete a record
15. $sql = "DELETE FROM MyGuests WHERE id=3";
16.
17. if (mysqli_query($conn, $sql)) {
18.     echo "Record deleted successfully";
19. } else {
20.     echo "Error deleting record: " . mysqli_error($conn);
21. }
22.
23. mysqli_close($conn);
24. ?>
25. <?php
26. $servername = "localhost";
27. $username = "root";
28. $password = "";
29. $dbname = "myDB";
30.
31. // Create connection
32. $conn = mysqli_connect($servername, $username, $password, $dbname);
33. // Check connection
34. if (!$conn) {
35.     die("Connection failed: " . mysqli_connect_error());
36. }
37.
38. // sql to delete a record
39. $sql = "DELETE FROM MyGuests WHERE id=3";
40.
41. if (mysqli_query($conn, $sql)) {
42.     echo "Record deleted successfully";
43. } else {
44.     echo "Error deleting record: " . mysqli_error($conn);
45. }
46.
47. mysqli_close($conn);
48. ?>
```

10) Ubah Data

```php
1.  <?php
2.  $servername = "localhost";
3.  $username = "root";
4.  $password = "";
5.  $dbname = "myDB";
6.
7.  // Create connection
8.  $conn = mysqli_connect($servername, $username, $password, $dbname);
9.  // Check connection
10. if (!$conn) {
11.     die("Connection failed: " . mysqli_connect_error());
12. }
13.
14. $sql = "UPDATE MyGuests SET lastname='Doe' WHERE id=2";
15.
16. if (mysqli_query($conn, $sql)) {
17.     echo "Record updated successfully";
18. } else {
19.     echo "Error updating record: " . mysqli_error($conn);
20. }
21.
22. mysqli_close($conn);
23. ?>
```