Pengembangan Aplikasi Web

Pertemuan Ke-5 (Sistem Basisdata dan Aplikasi *Web*)

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S1 Teknik Informatika – Universitas Trunojoyo Madura (UTM) Semester Gasal 2018-2019

Sub Pokok Bahasan

- Sistem Basisdata MySQL/MariaDB
- PHPMyAdmin
 - Membuat (Create) Basisdata dan Tabel
 - Memasukkan (Insert) Data Tabel
 - Akun dan Hak Akses (Priviledge) User
 - Structured Query Language (SQL)
- Aplikasi Web & Implementasi Basisdata
 - PHP Data Objects (PDO)
 - Koneksi Basisdata Halaman Web
 - PDO Query
 - Serangan SQL Injection
 - PDO Prepared Statement, INSERT, UPDATE & DELETE
 - Menampilkan Pesan Error
 - Menampilkan Data Foreign Keys

Sistem Basisdata - MySQL/MariaDB

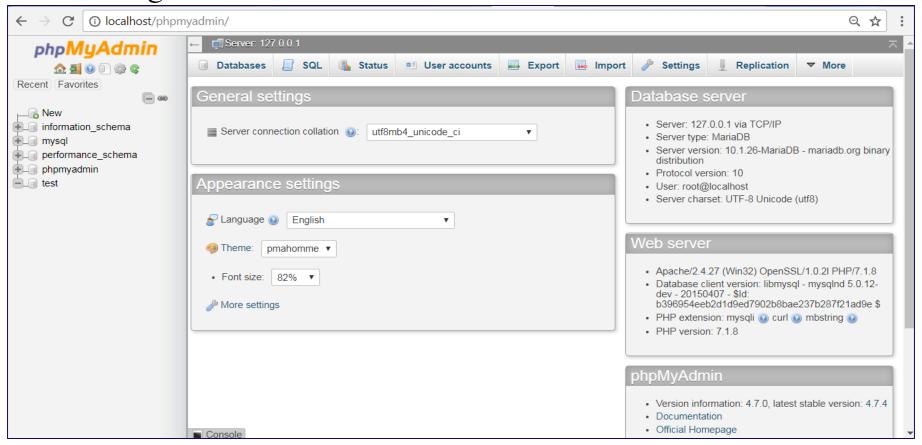
• Sistem basisdata open source yang paling populer



- Sejarah:
 - Dikembangkan oleh Michael Widenius & David Axmark pada tahun 1994
 - Diakusisi oleh Sun (sekarang dikenal sebagai Oracle) pada tahun 2008 (http://www.mysql.com/)
- Cross Platform
 - (Free) untuk Windows, Linux, Mac dan Unix → community
 edition
 - Supported version \rightarrow commercial customers

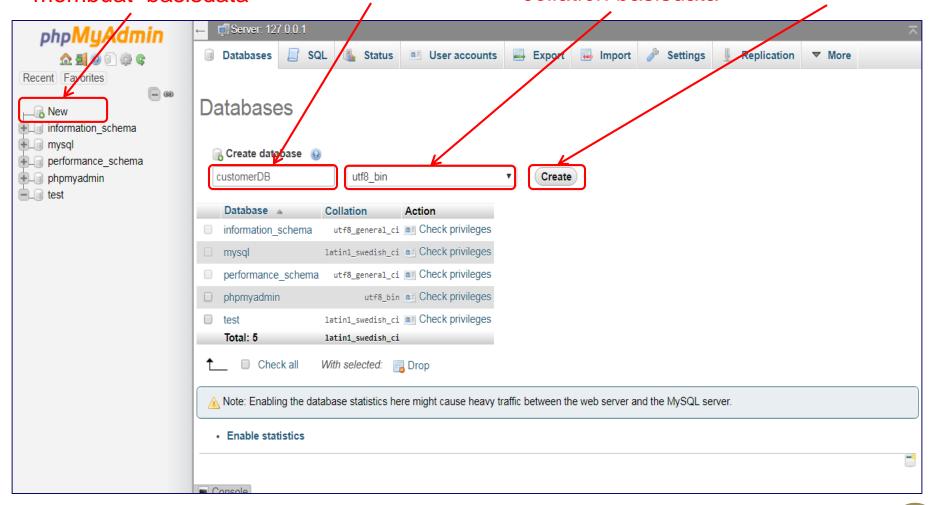
PHPMyAdmin

- Dibuat khusus untuk mengelola basisdata MySQL/MariaDB
- Terintegrasi dalam instalasi XAMPP



Membuat (Create) Basisdata

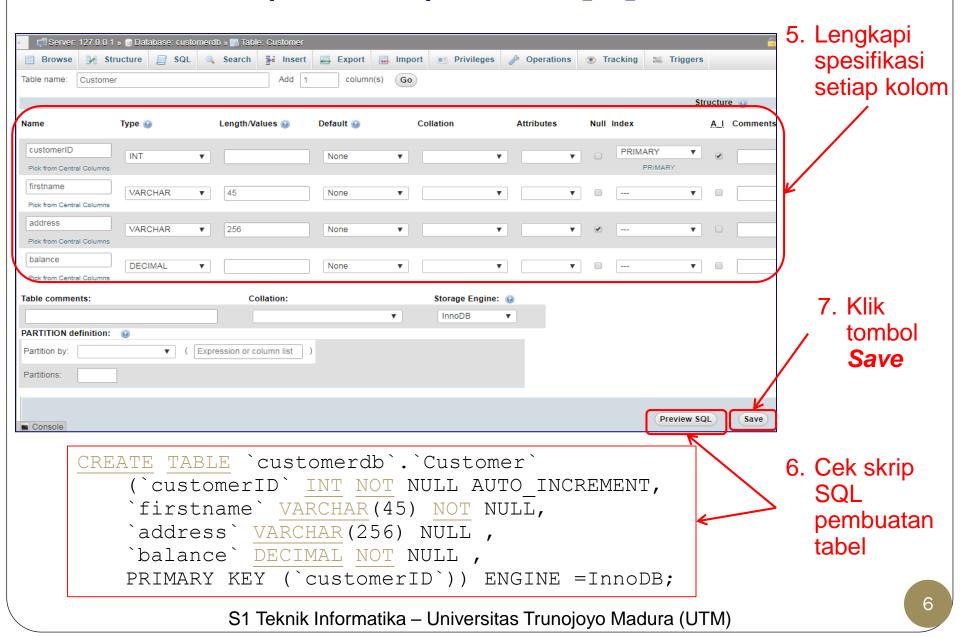
- Klik link **New** untuk membuat basisdata
- 2. Tentukan nama basisdata
- 3. Tentukan jenis collation basisdata
- 4. Klik tombol *Create*



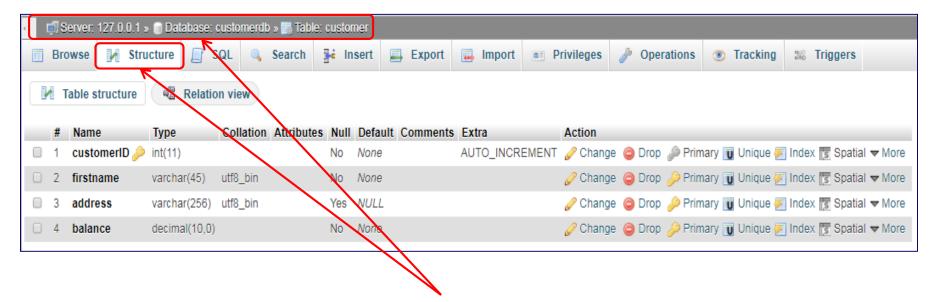
Membuat (Create) Tabel

4. Klik 1. Pilih basisdata yang Tentukan nama
 Tentukan jumlah tombol akan dibuatkan tabel kolom dalam tabel tabel Go Server: 127.0.0.1 » 📵 Database: customerdb Structure SQL Search Query Export ▼ More Recent Favorites No tables found in database. New customerdb 🔣 Create table information_schema mysql Number of columns: 4 Name: Customer performance schema phpmyadmin test Go

Membuat (Create) Tabel [2]

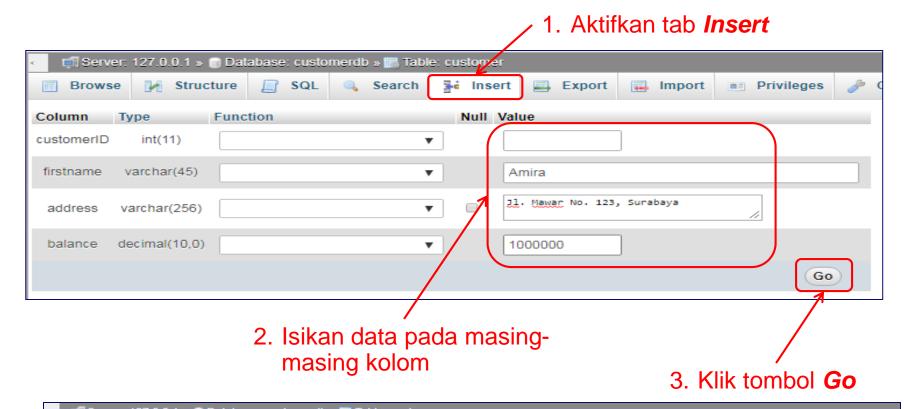


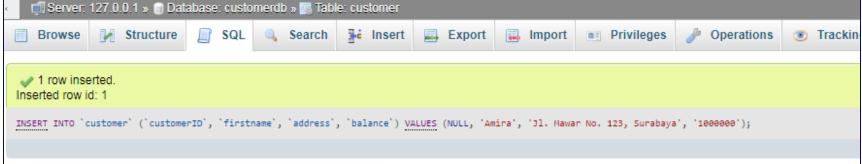
Membuat (Create) Tabel [3]



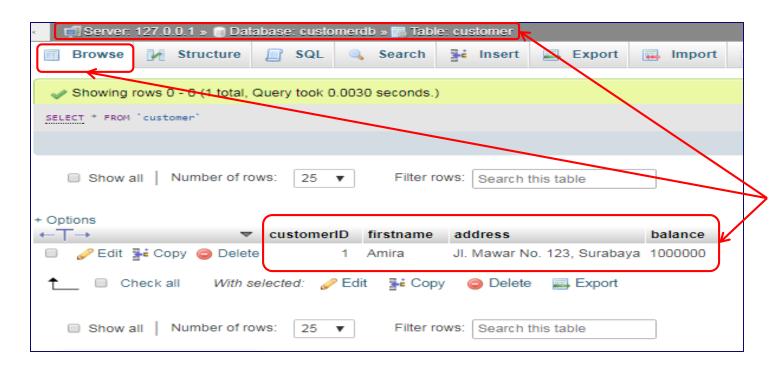
Struktur tabel **customer** dalam basisdata **customerdb**

Memasukkan (Insert) Data Tabel





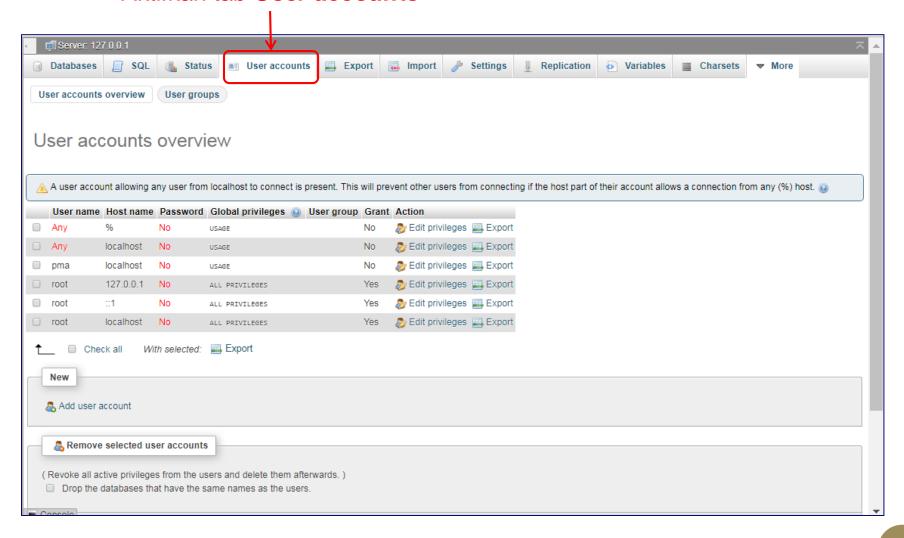
Memasukkan (Insert) Data Tabel [2]



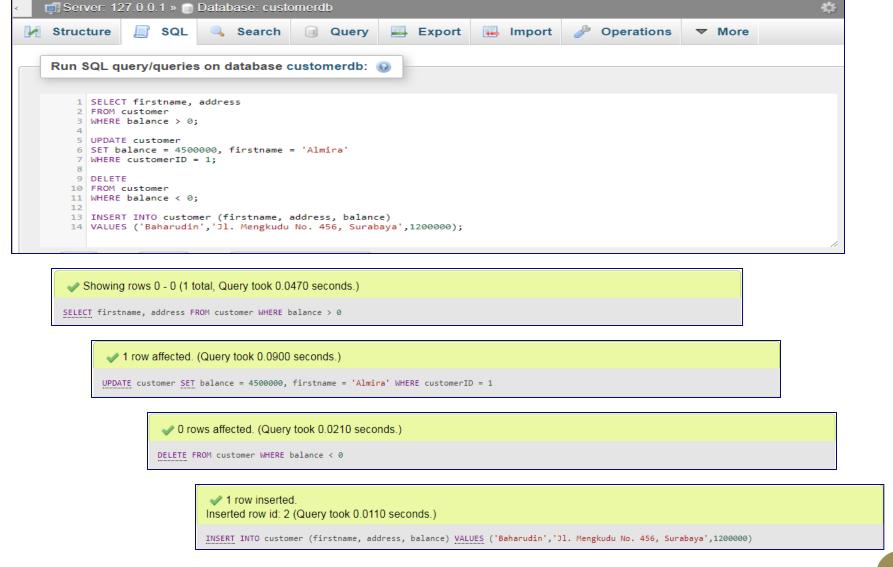
Data tabel customer dalam basisdata customerdb

Akun dan Hak Akses (Priviledge) User

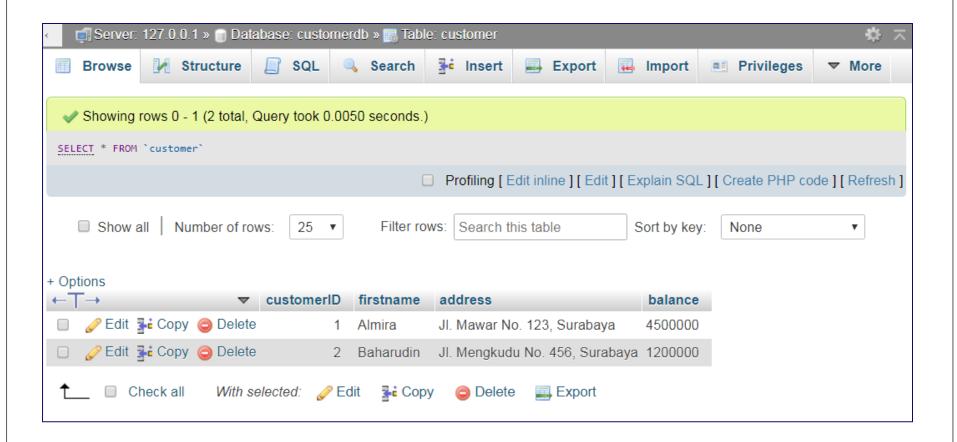
Aktifkan tab *User accounts*



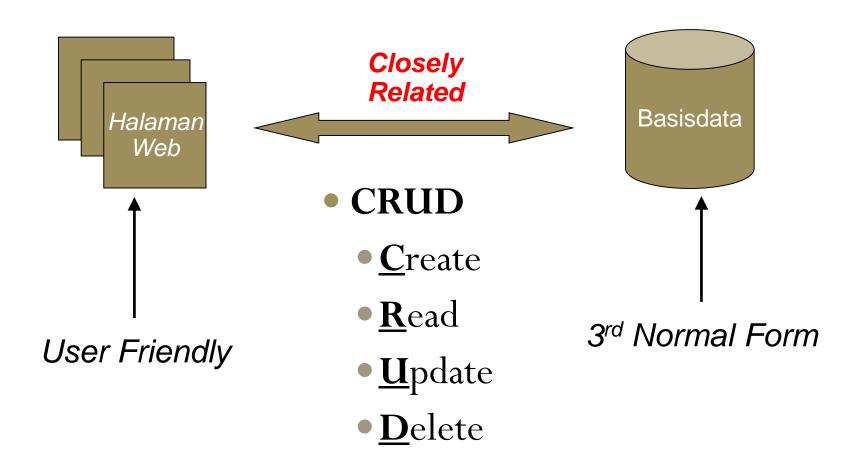
Structured Query Language (SQL)



Structured Query Language (SQL) [2]



Aplikasi Web & Implementasi Basisdata



PHP Data Objects (PDO)

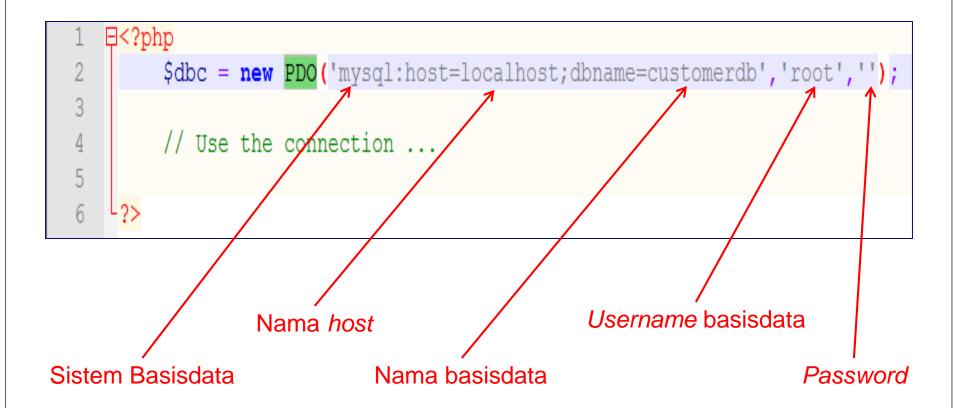
http://php.net/manual/en/book.pdo.php

- Merupakan Object-Oriented extension library → tersedia pada
 PHP versi 5.1 dan setelahnya
- Digunakan untuk melakukan akses ke sistem basisdata

PDO			
PDO support	enabled		
PDO drivers	mysql, sqlite		
pdo_mysql			
PDO Driver for My SQL	enabled		

Koneksi Basisdata - Halaman Web

http://id1.php.net/manual/en/pdo.connections.php



PDO Query

http://php.net/manual/en/pdo.query.php

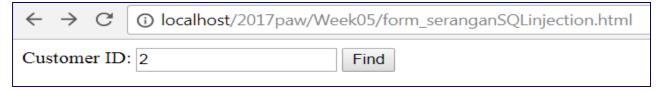
Almira

Jl. Mawar No. 123, Surabaya

Baharudin

Jl. Mengkudu No. 456, Surabaya

Serangan SQL Injection



```
← → C  o localhost/2017paw/Week05/seranganSQLinjection.php?customerID=2&find=Find

Baharudin

Jl. Mengkudu No. 456, Surabaya
```

SELECT firstname, address FROM customer WHERE customerID = 2 OR true

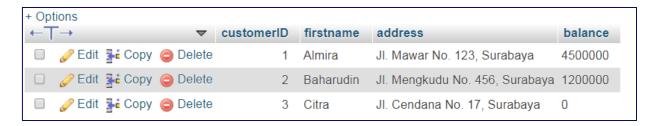
PDO Prepared Statement

http://php.net/manual/en/pdo.prepared-statements.php

```
⊟<?php
         $dbc = new PDO('mysgl:host=localhost;dbname=customerdb','root','');
         $statement = $dbc->prepare("SELECT * FROM customer WHERE firstname = :firstname");
         $statement->bindValue(':firstname', $ GET['firstname']);
         $statement->execute();
8
         foreach ($statement as $customer)
            echo "{$customer['address']}";
10
```

PDO Prepared Statement: INSERT

Customer Data		
Firstname: Address	Citra Jl. Cendana No. 17, Surabaya Add Data Reset	



PDO Prepared Statement: UPDATE, DELETE

```
<?php

$dbc = new PDO('mysql:host=localhost;dbname=customerdb','root','');

$statement = $dbc->prepare("DELETE FROM customer WHERE customerID = :customerID");

$statement->bindValue(':customerID', $_GET['customerID']);

$statement->execute();

?>
```

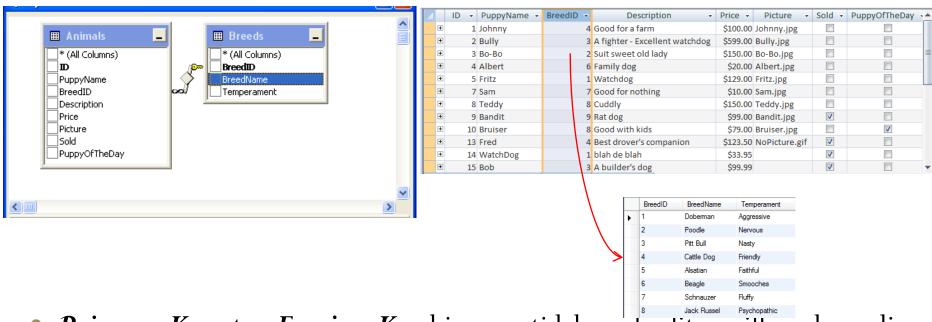
Menampilkan Pesan Error

http://php.net/manual/en/pdo.setattribute.php

SQLSTATE[42000]: Syntax error or access violation: 1064 You have an error in your SQL syntax; check the manual that corresponds to your MariaDB server version for the right syntax to use near 'INERT IN cccustomer (fffirstname, aaaddress, bbbalance) VALUES ('Fahra' at line 1

• PDO Error Mode secara default adalah **ERRMODE_SILENT** (silently ignore all database errors)

Menampilkan Data Foreign Keys



- Primary Key atau Foreign Key biasanya tidak perlu ditampilkan, kecuali jika memang dianggap sangat penting untuk diketahui oleh end-user
 - Terkadang operasi JOIN perlu dilakukan untuk menampilkan data Foreign Key

```
contoh: SELECT PuppyName, Breed.BreedName, Picture, Sold
    FROM Animals, Breeds
    WHERE Animals.BreedID = Breeds.BreedID
```



Tugas

Ikuti sesi <u>Praktikum 1</u> dan kerjakan <u>Tugas Mingguan</u> <u>ke-1 dan 2</u>!



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