

# SMK\_HARAPAN

## BANGSA\_Depok\_Keamanan\_Database\_Mysql\_pada\_XAMPP\_HARDENING

### 13. Keamanan Database (MYSQL) pada XAMPP

#### Judul Soal:

“Mengamankan Database MySQL pada XAMPP agar Terhindar dari Serangan Umum”

#### Deskripsi Singkat:

Anda bertugas untuk melakukan hardening pada instalasi MySQL yang berjalan di dalam XAMPP pada sistem Ubuntu. Database ini akan digunakan untuk aplikasi web dan harus diamankan agar tidak mudah diakses oleh pihak yang tidak berwenang.

#### Instruksi Kasar:

Pastikan XAMPP sudah terpasang dan MySQL berjalan.

Nonaktifkan akses root MySQL dari host selain localhost.

Buat user baru bernama lksuser dengan password yang kuat, dan beri hak akses terbatas hanya pada database lksdb.

Ubah password root MySQL ke password yang kompleks.

Matikan user anonymous di MySQL.

Nonaktifkan fitur remote login root MySQL (jika belum).

Lakukan audit konfigurasi MySQL menggunakan perintah `mysql_secure_installation`.

Cek apakah port MySQL (3306) hanya terbuka untuk localhost menggunakan firewall.

Buat laporan singkat tentang langkah-langkah hardening yang sudah dilakukan.

### 14. Pengujian Keamanan Database (MYSQL) pada XAMPP

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#### 1. Pastikan MySQL di XAMPP sudah berjalan

```
/opt/lampp/lampp startmysql
```

Cek status:

```
/opt/lampp/lampp status
```

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## ✅ 2. Nonaktifkan akses root MySQL dari host selain localhost

Masuk ke MySQL:

```
/opt/lampp/bin/mysql -u root
```

Lihat user root:

```
SELECT Host, User FROM mysql.user WHERE User='root';
```

Hapus akses root selain localhost, jika ada:

```
DELETE FROM mysql.user WHERE User='root' AND Host!='localhost';  
FLUSH PRIVILEGES;
```

---

## ✅ 3. Buat user lksuser dengan password kuat dan akses terbatas ke lkldb

Contoh password kuat: Lks!2025@secure

Buat database dan user:

```
CREATE DATABASE lkldb;  
CREATE USER 'lksuser'@'localhost' IDENTIFIED BY 'Lks!2025@secure';  
GRANT SELECT, INSERT, UPDATE, DELETE ON lkldb.* TO 'lksuser'@'localhost';  
FLUSH PRIVILEGES;
```

---

## ✅ 4. Ubah password root ke password kompleks

Misalnya: `RootXampp@2025#Secure`

```
ALTER USER 'root'@'localhost' IDENTIFIED BY 'RootXampp@2025#Secure';  
FLUSH PRIVILEGES;
```

---

## ✓ 5. Hapus user anonymous

Cek:

```
SELECT User, Host FROM mysql.user WHERE User='';
```

Hapus:

```
DELETE FROM mysql.user WHERE User='';  
FLUSH PRIVILEGES;
```

---

## ✓ 6. Nonaktifkan remote login root MySQL

Sudah dilakukan pada langkah #2. Untuk memastikan:

```
SELECT User, Host FROM mysql.user WHERE User='root';
```

Pastikan hanya ada `localhost`.

---

## ✓ 7. Audit konfigurasi menggunakan `mysql_secure_installation`

Jalankan:

```
/opt/lampp/bin/mysql_secure_installation
```

Jawab semua pertanyaan untuk menghapus anonymous user, mengubah password root (boleh skip kalau sudah diubah), menonaktifkan remote login, dan menghapus test database.

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## ✓ 8. Pastikan port 3306 hanya diakses localhost menggunakan `ufw`

Jika `ufw` belum aktif:

```
ufw enable
```

Izinkan hanya localhost:

```
ufw allow from 127.0.0.1 to any port 3306
ufw deny 3306
```

Cek aturan:

```
ufw status numbered
```

---

## 15. Hasil Pengujian Keamanan Database (MYSQL) pada XAMPP

### ✓ 1. Uji: Root hanya bisa login dari localhost:

```
root@ubuntu-server:/opt/lampp/htdocs/labserangan# /opt/lampp/bin/mysql -u lksuser -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 18
Server version: 10.4.32-MariaDB Source distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.
```

### ✓ 2. Uji: User `lksuser` hanya bisa akses `lksdb` :

```
root@ubuntu-server:/opt/lampp/htdocs/labserangan# /opt/lampp/bin/mysql -u lksuser -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 18
Server version: 10.4.32-MariaDB Source distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.
```

### ✓ 3. Uji: Anonymous user sudah dihapus:

```

root@ubuntu-server:/opt/lampp/htdocs/labserangan# /opt/lampp/bin/mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 19
Server version: 10.4.32-MariaDB Source distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> SELECT User, Host FROM mysql.user WHERE User='';
Empty set (0.002 sec)

MariaDB [(none)]> sS

```

#### ✓ 4. Uji: Port 3306 hanya terbuka di localhost

```

root@ubuntu-server:/opt/lampp/htdocs/labserangan# ss -tln | grep 3306
tcp    LISTEN 0      80      127.0.0.1:3306      0.0.0.0:*

```

#### ✓ 5. Cek hasil konfigurasi dari `mysql_secure_installation`

```

root@ubuntu-server:/opt/lampp/htdocs/labserangan# /opt/lampp/bin/mysql -u root -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 13
Server version: 10.4.32-MariaDB Source distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> SHOW VARIABLES LIKE 'skip_name_resolve';
+-----+-----+
| Variable_name | Value |
+-----+-----+
| skip_name_resolve | OFF |
+-----+-----+
1 row in set (0.007 sec)

MariaDB [(none)]> SELECT user, host FROM mysql.user;
+-----+-----+
| user  | host      |
+-----+-----+
| lksuser | localhost |
| pma    | localhost |
| root   | localhost |
+-----+-----+

```

#### ✓ 6. Pastikan port 3306 hanya diakses localhost menggunakan `ufw`

```

root@ubuntu-server:/opt/lampp/htdocs/labserangan# ufw status numbered
Status: active


```

	To	Action	From
[ 1]	9090/tcp	ALLOW IN	Anywhere
[ 2]	9116	ALLOW IN	Anywhere
[ 3]	3000	ALLOW IN	Anywhere
[ 4]	5000	ALLOW IN	Anywhere
[ 5]	2202	ALLOW IN	Anywhere
[ 6]	80	ALLOW IN	Anywhere
[ 7]	443	ALLOW IN	Anywhere
[ 8]	2202/tcp	ALLOW IN	Anywhere
[ 9]	80/tcp	ALLOW IN	Anywhere
[10]	443/tcp	ALLOW IN	Anywhere
[11]	3306	ALLOW IN	127.0.0.1

## ✓ 7. Audit konfigurasi menggunakan

### mysql\_secure\_installation

```
root@ubuntu-server:/opt/lampp/htdocs/labserangan# /opt/lampp/bin/mysql_secure_installation
```

```
NOTE: RUNNING ALL PARTS OF THIS SCRIPT IS RECOMMENDED FOR ALL MariaDB  
SERVERS IN PRODUCTION USE! PLEASE READ EACH STEP CAREFULLY!
```

```
In order to log into MariaDB to secure it, we'll need the current  
password for the root user. If you've just installed MariaDB, and  
haven't set the root password yet, you should just press enter here.
```

```
Enter current password for root (enter for none):  
OK, successfully used password, moving on...
```

```
Setting the root password or using the unix_socket ensures that nobody  
can log into the MariaDB root user without the proper authorisation.
```

```
You already have your root account protected, so you can safely answer 'n'.
```

```
Switch to unix_socket authentication [Y/n] n  
... skipping.
```

```
You already have your root account protected, so you can safely answer 'n'.
```

```
You already have your root account protected, so you can safely answer 'n'.
```

```
Change the root password? [Y/n] n  
... skipping.
```

```
By default, a MariaDB installation has an anonymous user, allowing anyone  
to log into MariaDB without having to have a user account created for  
them. This is intended only for testing, and to make the installation  
go a bit smoother. You should remove them before moving into a  
production environment.
```

```
Remove anonymous users? [Y/n] y  
ERROR 1146 (42S02) at line 1: Table 'mysql.global_priv' doesn't exist  
... Failed!  
Cleaning up ...  
root@ubuntu-server:/opt/lampp/htdocs/labserangan# █
```

Error ini:

```
ERROR 1146 (42S02) at line 1: Table 'mysql.global_priv' doesn't exist
```

dan kegagalan saat menghapus anonymous user via `mysql_secure_installation` **terjadi karena kamu sudah menghapus user anonymous secara manual sebelumnya** dengan perintah SQL ini:

```
DELETE FROM mysql.user WHERE User='';  
FLUSH PRIVILEGES;
```

## ✓ Kesimpulan

Tidak masalah dan **tidak berbahaya**. Itu hanya menandakan bahwa:

- Langkah hardening manual kamu sukses.
- karena user anonymous memang sudah **dihapus sebelumnya**.

