

# 私人裝置的 偵測、認證與存取控制

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# 研究進展

- 繼續先前的研究，本次完成整體認證機制
  - **database**：建立**User table**以及**Device table**分別記錄合法使用者以及認證過的**AP**資訊。
  - **Controller APP**：建立動態陣列管理待認證裝置，完成透過**portal**導向認證網頁的機制。
  - **Authentication web**：透過輸入**User**帳號密碼認證裝置並**update Device table**。

# 研究成果

測試流程：

1. Portal starts apache service.

2. Host connects to firefox.

- Device table is originally blank.

3. Enter any website address.

- the AP is now recorded in Device table with

VALID = 0.

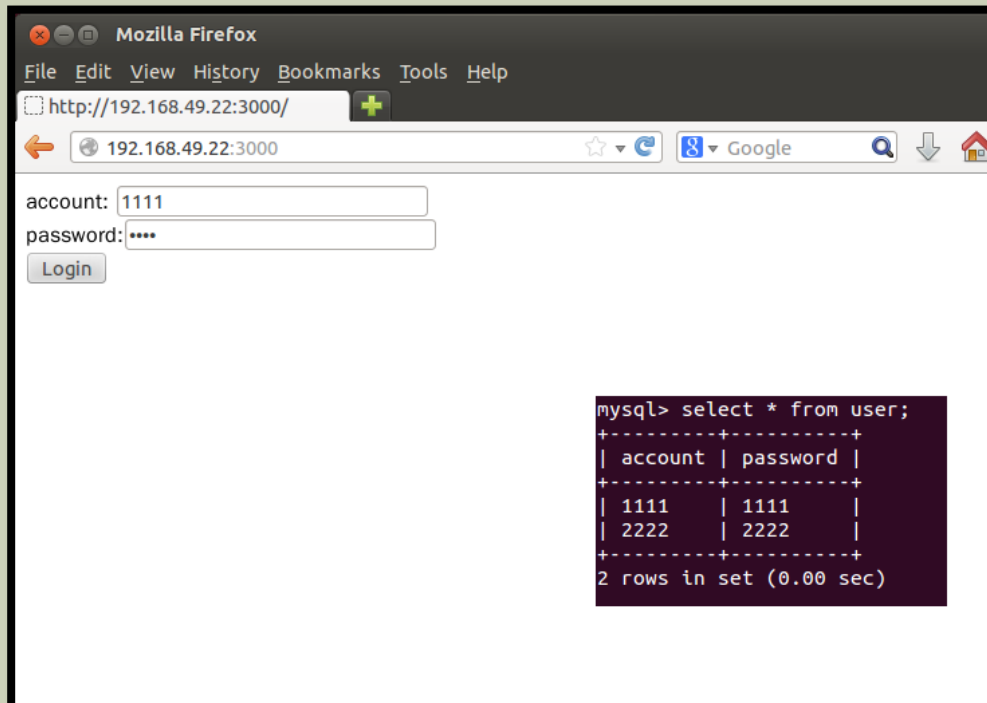
```
mysql> select * from Device;
```

MAC	IP	VALID
8e:e5:d6:66:26:fb	192.168.49.11	0

row in set (0.00 sec)

# 研究成果

4. User is redirected to the authentication web and asked to login.
  - The user table records legal users



The screenshot shows a Mozilla Firefox browser window with the address bar displaying `http://192.168.49.22:3000/`. The browser's address bar also shows `192.168.49.22:3000`. The page content includes a login form with the following fields and buttons:

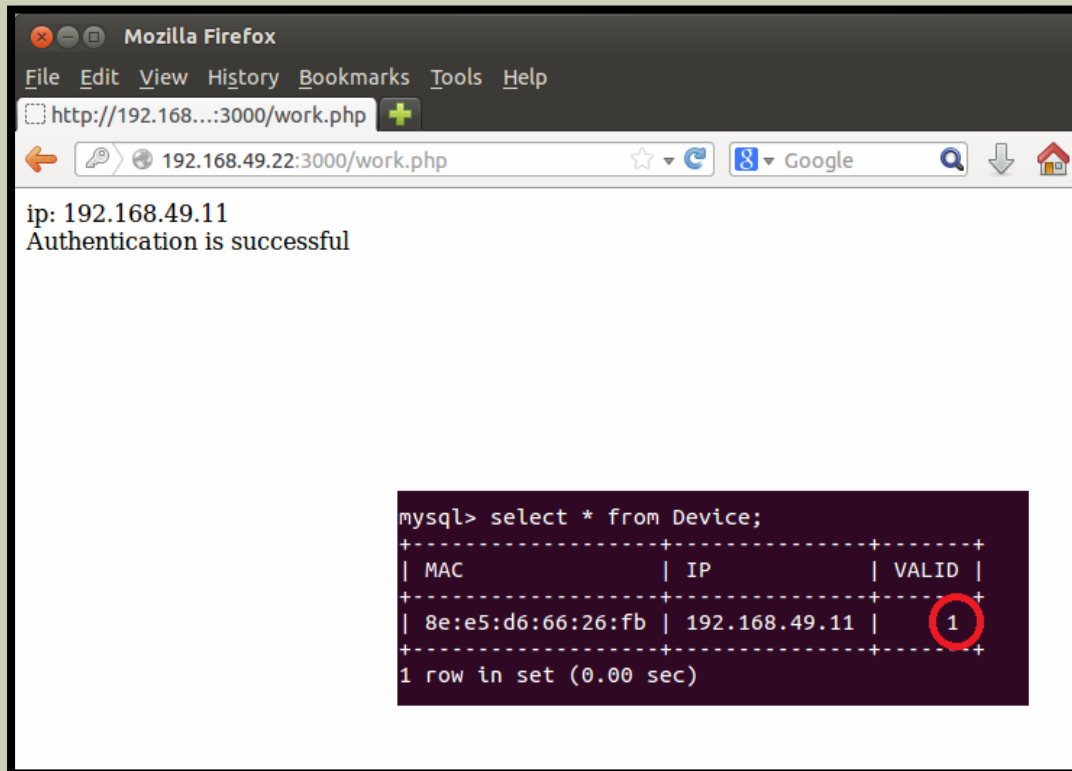
- account:
- password:
- Login button

In the bottom right corner of the browser window, there is a terminal window displaying the following MySQL query and its result:

```
mysql> select * from user;
+-----+-----+
| account | password |
+-----+-----+
| 1111    | 1111    |
| 2222    | 2222    |
+-----+-----+
2 rows in set (0.00 sec)
```

# 研究成果

## 5. Login succeeds and AP is registered.



The screenshot shows a Mozilla Firefox browser window with the address bar displaying `http://192.168.49.22:3000/work.php`. The page content displays the text:

```
ip: 192.168.49.11
Authentication is successful
```

Below the browser window, a terminal window shows the execution of a MySQL query:

```
mysql> select * from Device;
```

MAC	IP	VALID
8e:e5:d6:66:26:fb	192.168.49.11	1

The terminal output indicates that 1 row was returned in 0.00 seconds. The value '1' in the VALID column is circled in red.