SQL ENJEKSİYON

Öğretim Görevlisi A. Berika VAROL MALKOÇOĞLU

BEYKOZ ÜNİVERSİTESİ

İçindekiler

- Metasploitable Yükleme
- SQL Enjeksiyon

SQL Enjeksiyon

- Veritabanını tahrip edebilecek kötü amaçlı bir kod yerleştirme tekniğidir.
- SQL Enjeksiyon sayesinde saldırganlar web sitesindeki;
  - Kullanıcı bilgilerini çalabilir,
  - Gizlenmiş bilgilere ulaşabilir,
  - Mevcut verilere müdahale edebilir,
  - Bazı işlemleri değiştirebilir,
  - Yetkisini yükseltebilir,
  - Veritabanını komple silebilir.

SQL Enjeksiyon için Açık Bulmak

- SQL Injection bir sitede aranıp bulunurken arama kutularına ‘(tırnak) işareti koymak gerekir.
- Bu tür özel karakterler form girdilerine denenerek sayfada veritabanı hatası almayı çalışılır.
- Böylelikle SQL açığı olup olmadığı manuel bir şekilde aranmış olur.

SQL Enjeksiyon için Açık Bulmak

- Otomatik algılama için **SQLMap** gibi özel araçlar mevcuttur.
- SQLMap veritabanın kullanıcılarını, parolalarını, hash değerlerini, rolleri, tabloları, sütunları gibi bilgileri tespit edebilen bir araçtır.
- Açık kaynaklı bir yazılımdır.
- Kali Linux işletim sistemine kurulu olarak gelir.
- Bunun yanında Acunetix, Netsparker, Vega gibi bilgi toplama araçları SQL açığı aranırken kullanılabilir.

SQL Enjeksiyon İçin

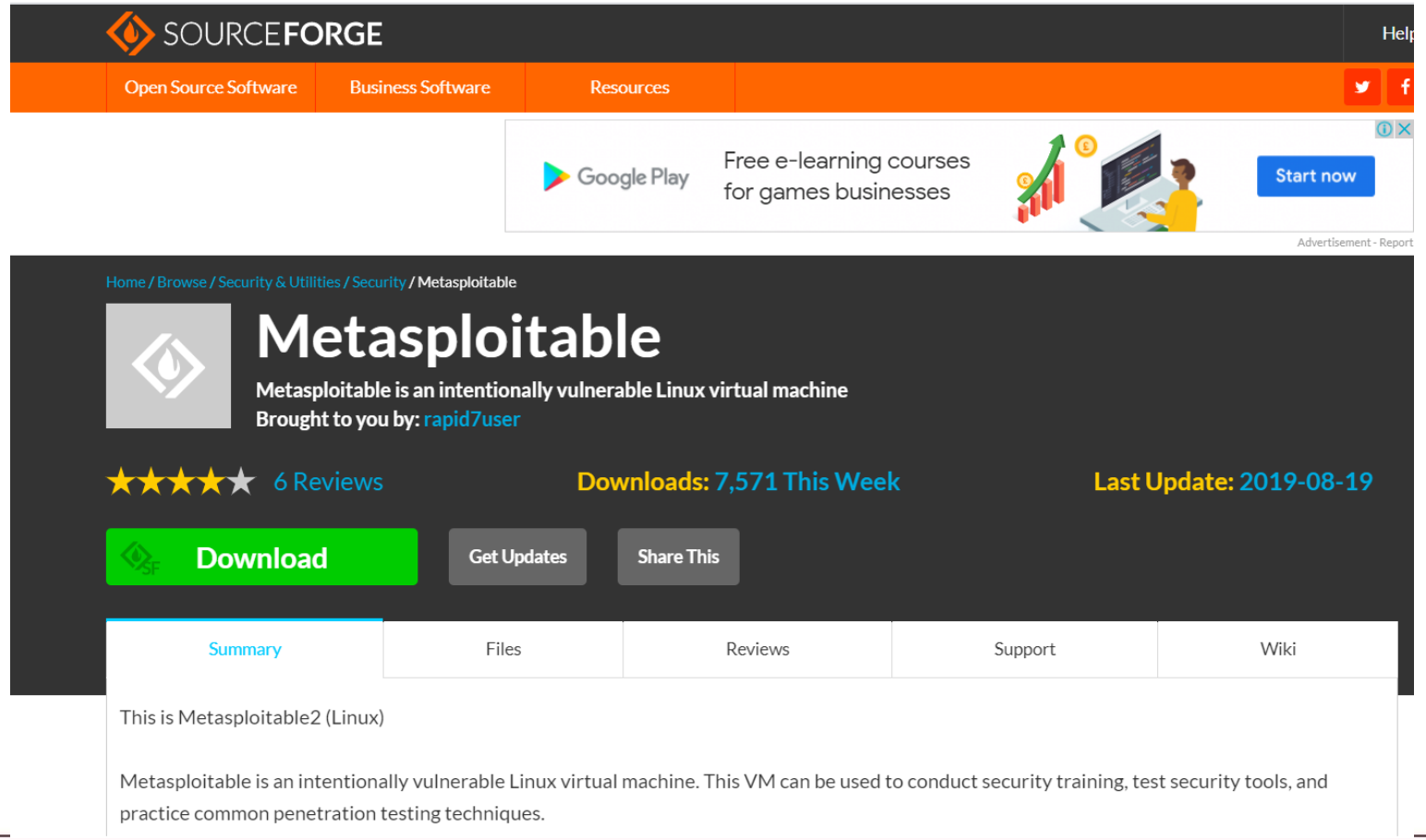
- Mutillidea web sitesini kullanıcağız.
- Mutillidea , Web uygulama güvenliği alanında kendini geliştirmek isteyen pentesterlar ve güvenlik ile uğraşanlar için PHP ile oluşturulmuş içinde belli web zafiyetlerini barındıran bir eğitim sistemidir.
- Bunu için Metasploitable yükleyeceğiz.
- Mutillidea içinde manuel açık arama gerçekleştireceğiz.

Metasploitable Yükleme

- Hacklenmesi içi yapılmış bir sanal makinedir.
- Metasploit aracının test edilebilmesi için geliştirilmiştir.
- Sızma testleri için olanak sağlayan bir sistem.
- Amacımız içindeki açıkları kullanarak saldırmak.

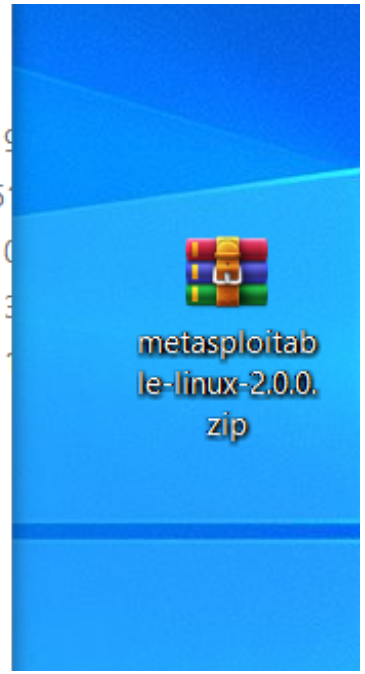
- Kurulumu: https://sourceforge.net/projects/metasploitable/

Metasploitable Yükleme

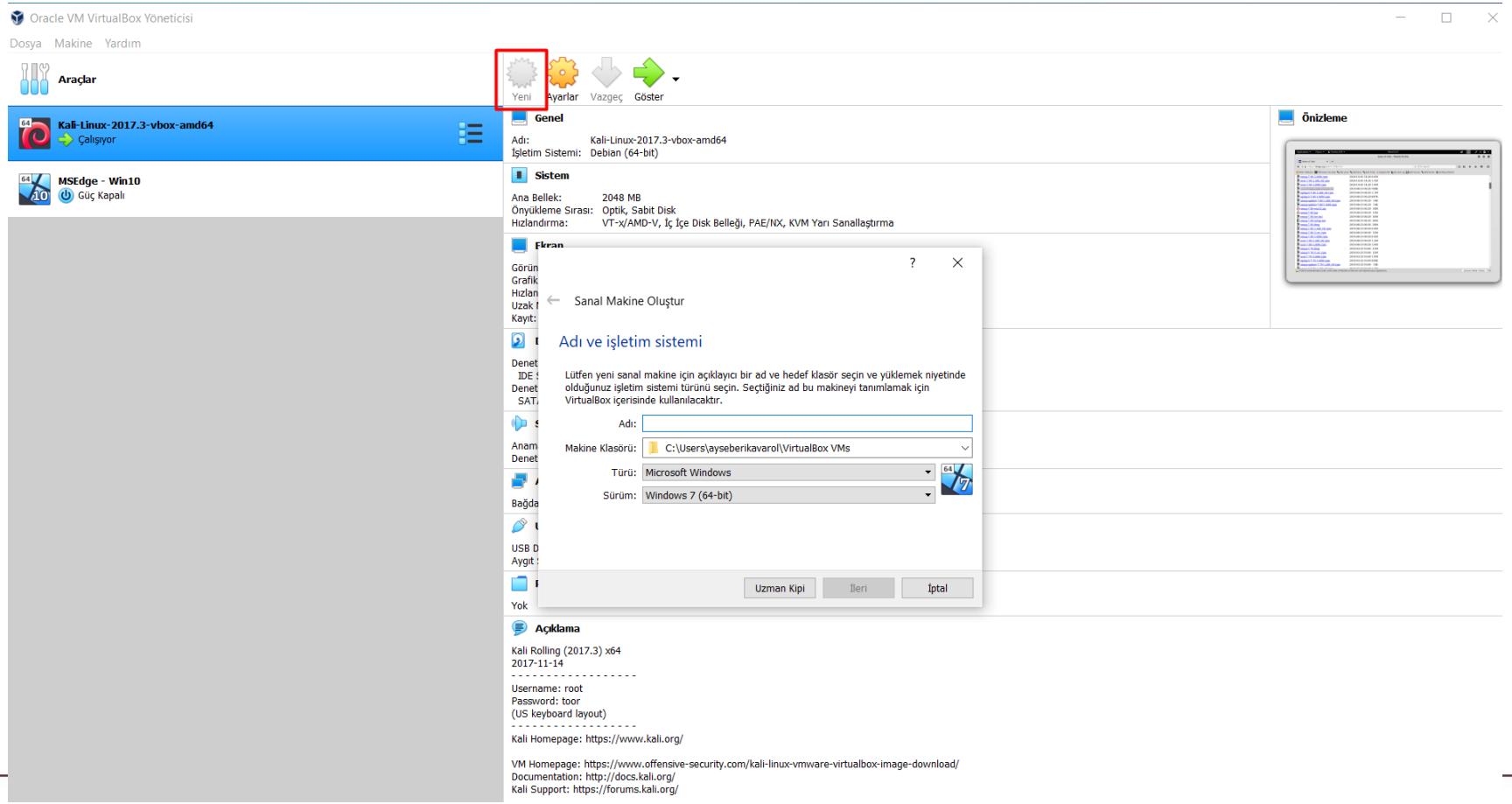


Metasploitable Yükleme

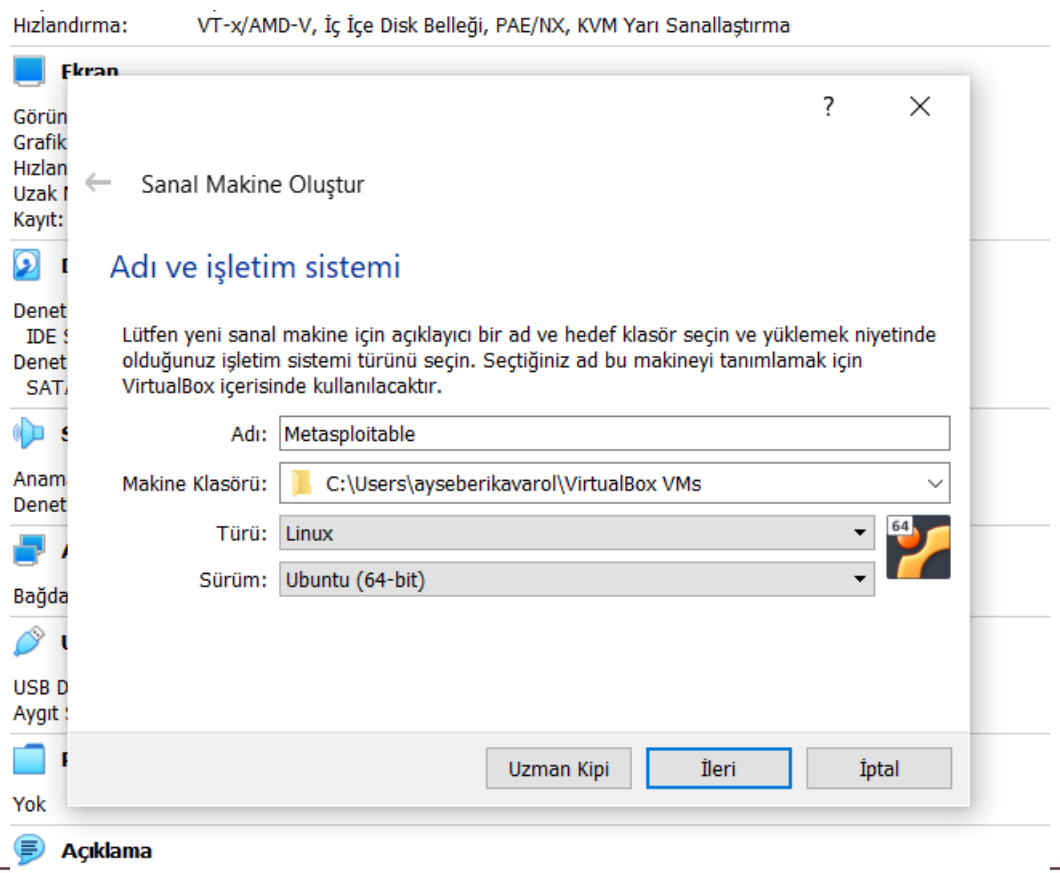
Ad	Değiştirme tarihi	Tür	Boyut
Metasploitable.nvram	20.05.2012 14:56	NVRAM Dosyası	9
Metasploitable.vmdk	20.05.2012 15:01	Virtual Machine Di...	1.880.5
Metasploitable.vmsd	7.05.2010 14:46	VMSD Dosyası	0
Metasploitable.vmx	20.05.2012 15:00	VMX Dosyası	3
Metasploitable.vmxf	7.05.2010 14:46	VMXF Dosyası	1



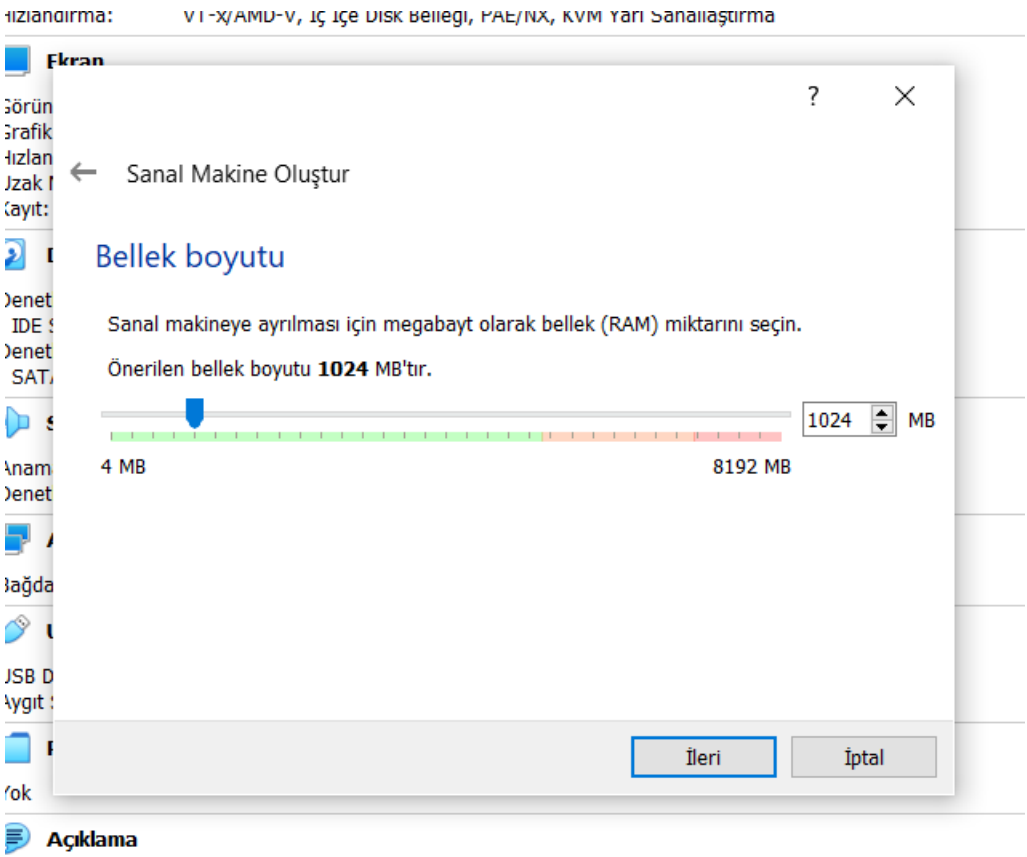
Metasploitable Yükleme



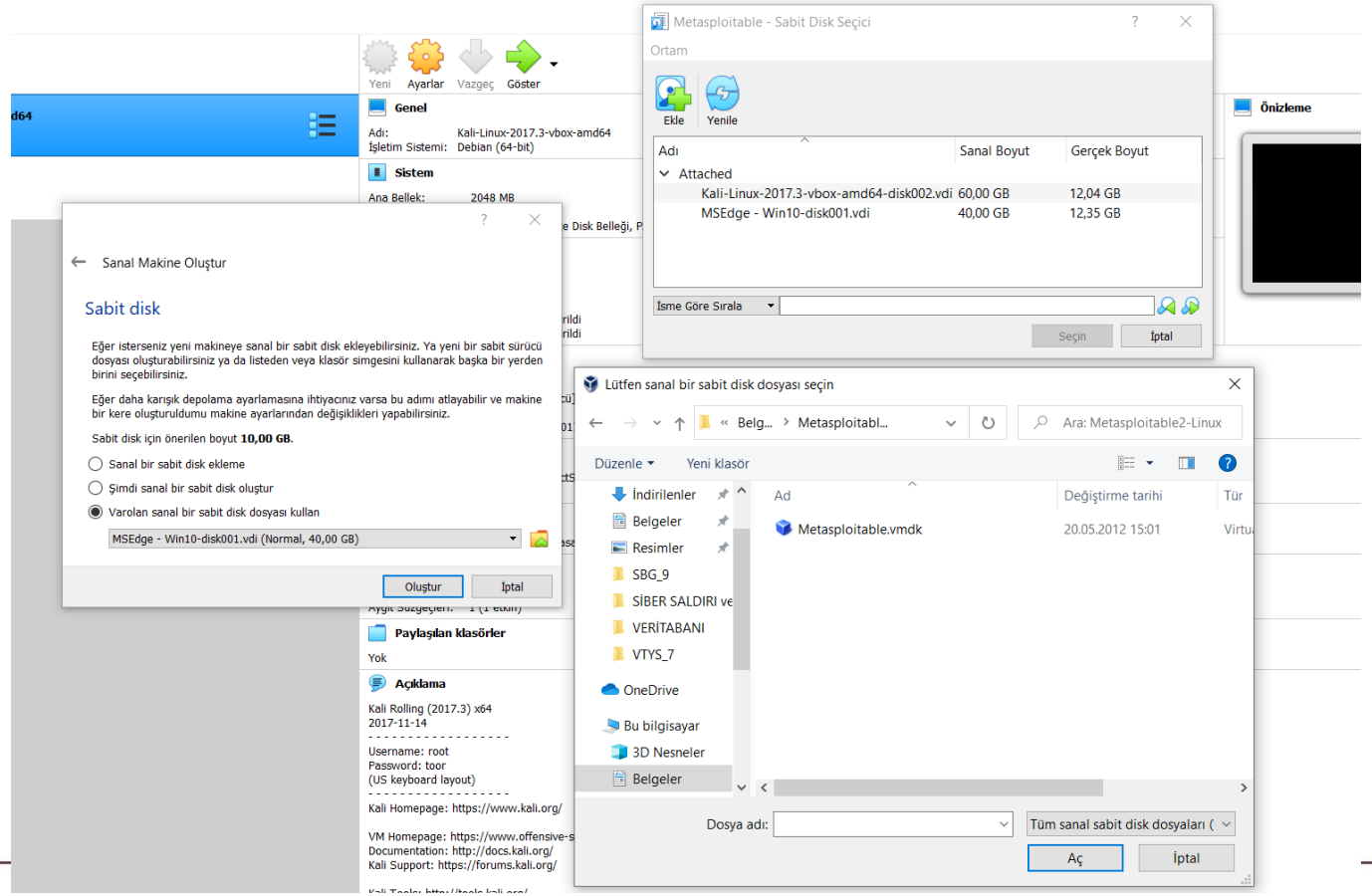
Metasploitable Yükleme



Metasploitable Yükleme



Metasploitable Yükleme



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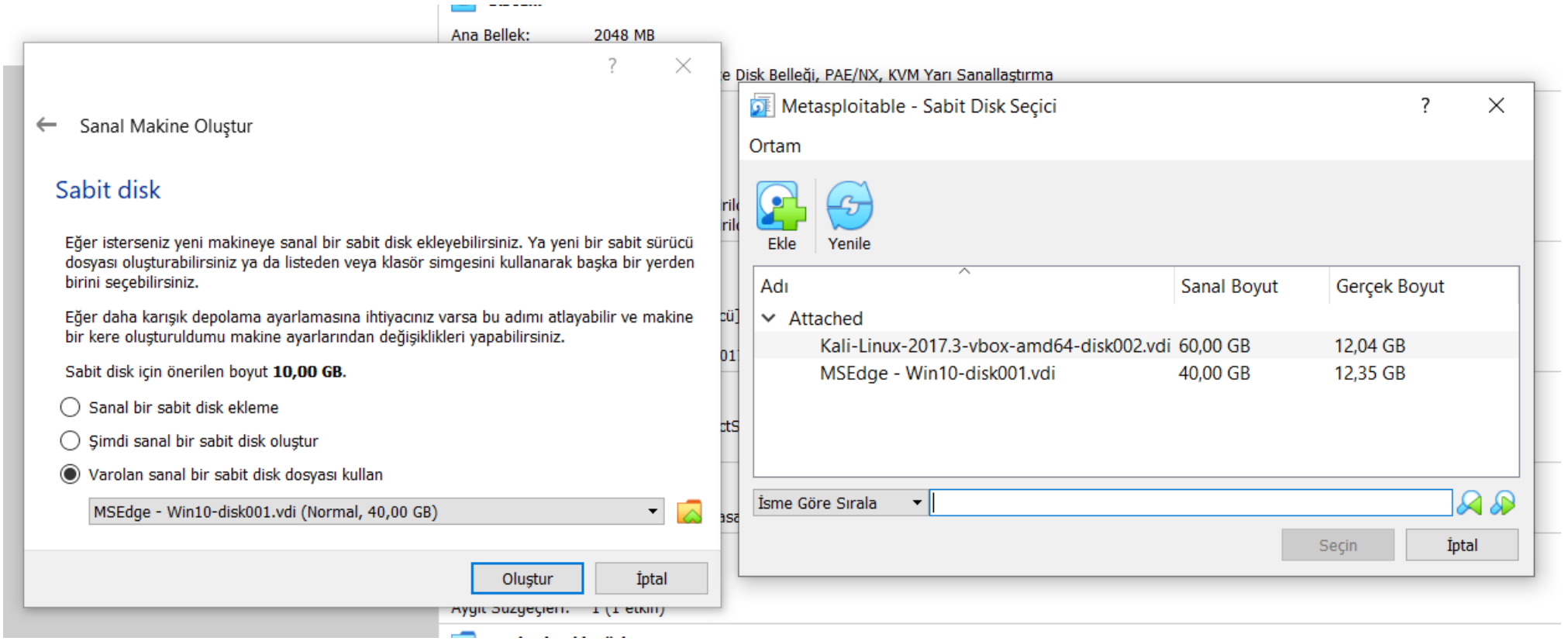

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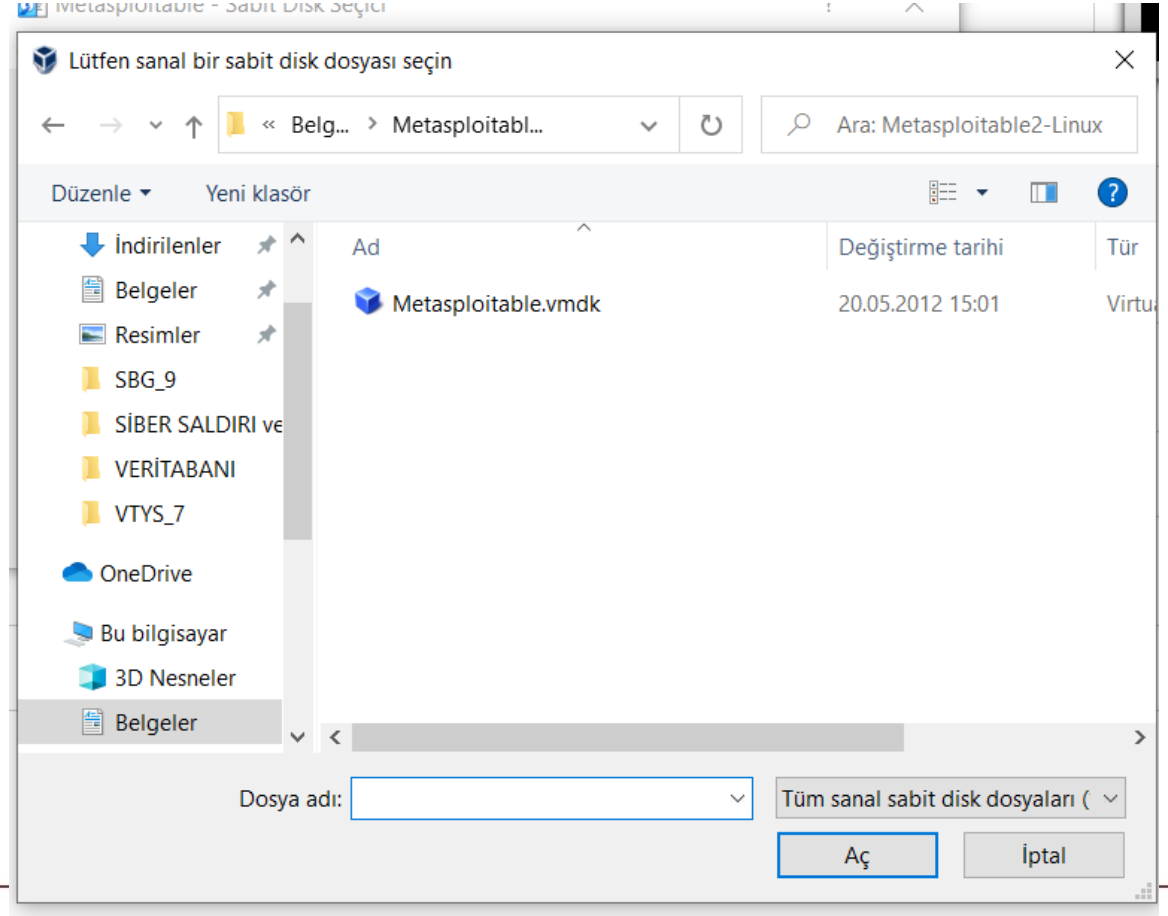

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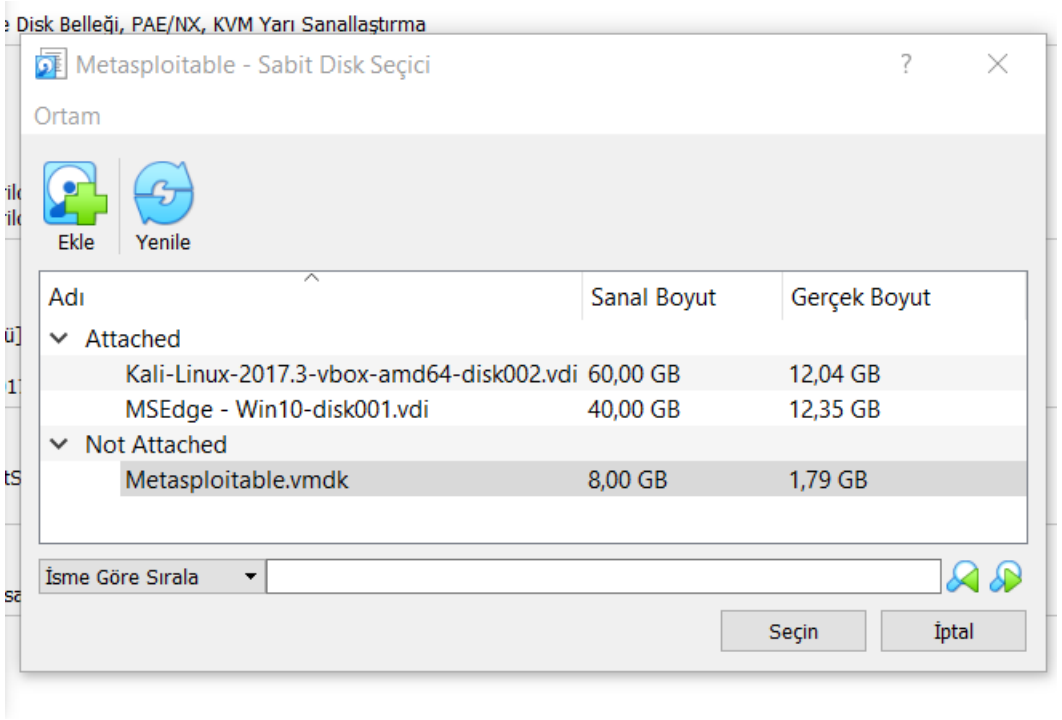
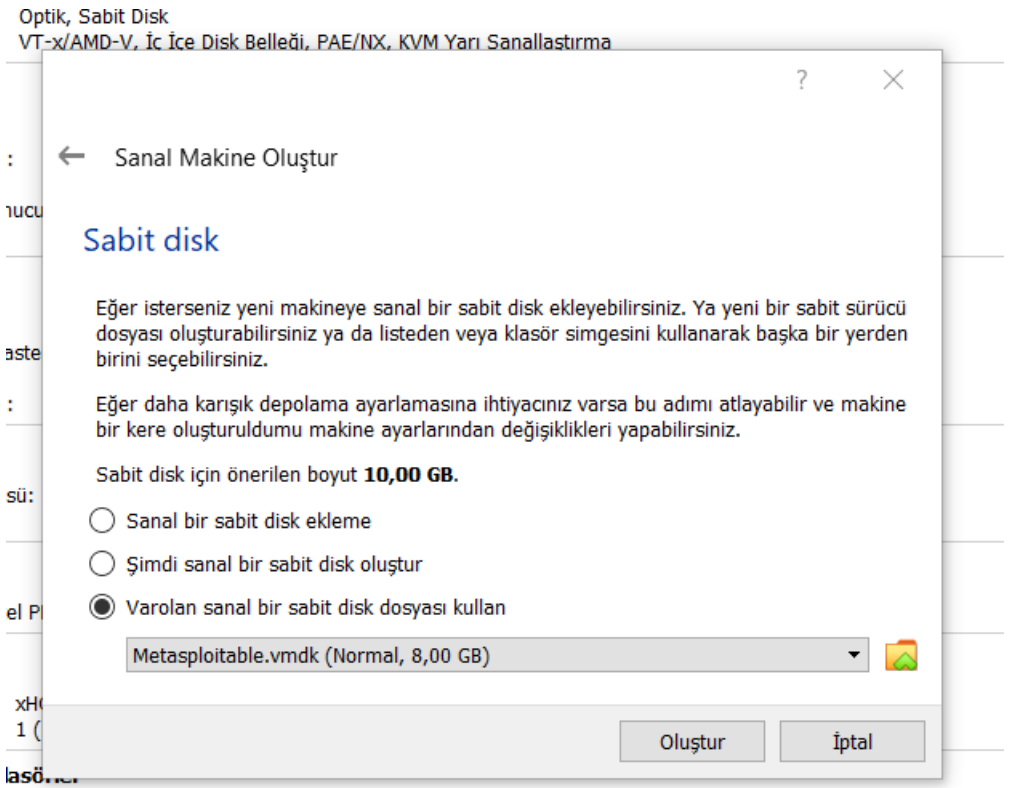
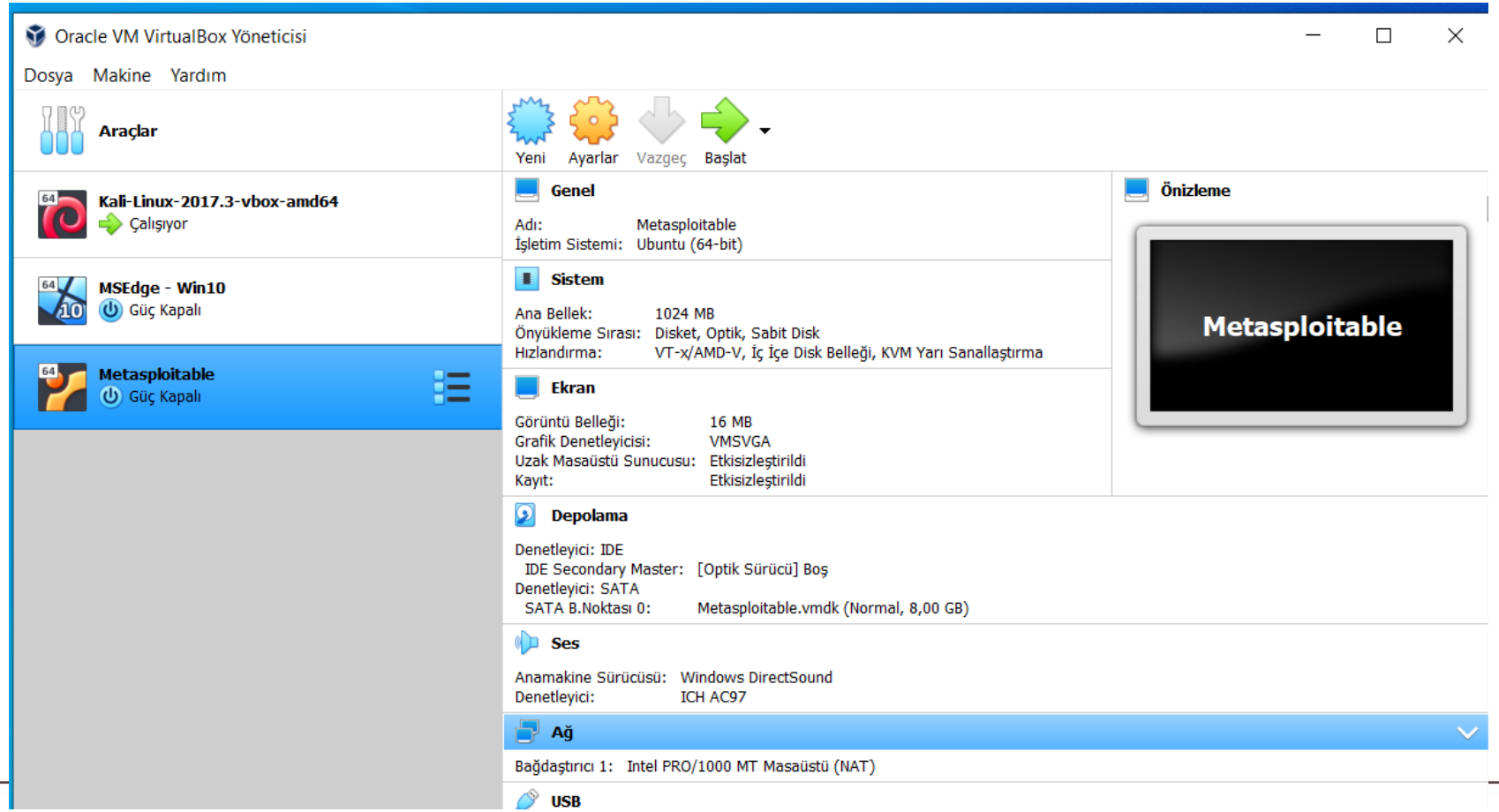


Metasploitable Yükleme

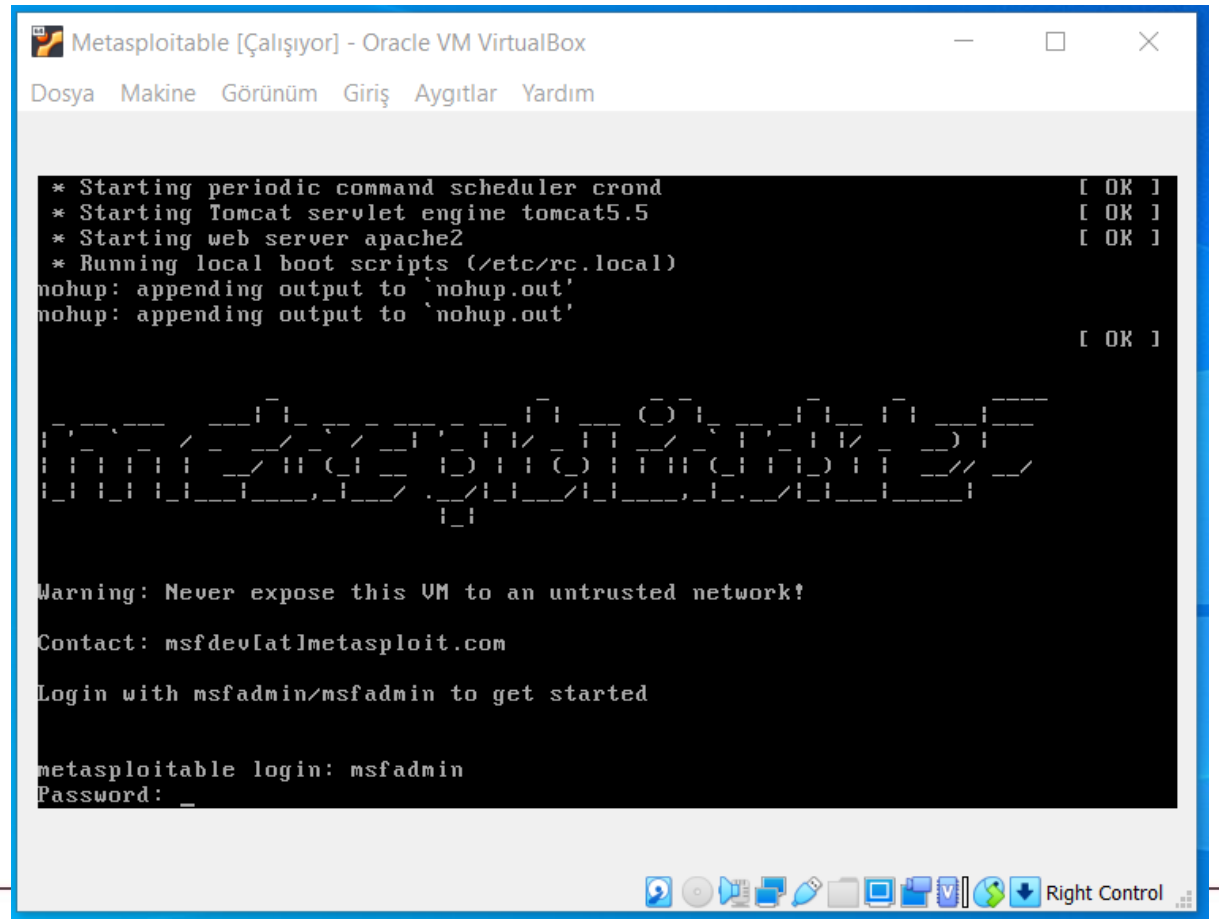


Metasploitable Yükleme



BEYKOZ ÜNİVERSİTESİ

Metasploitable Yükleme



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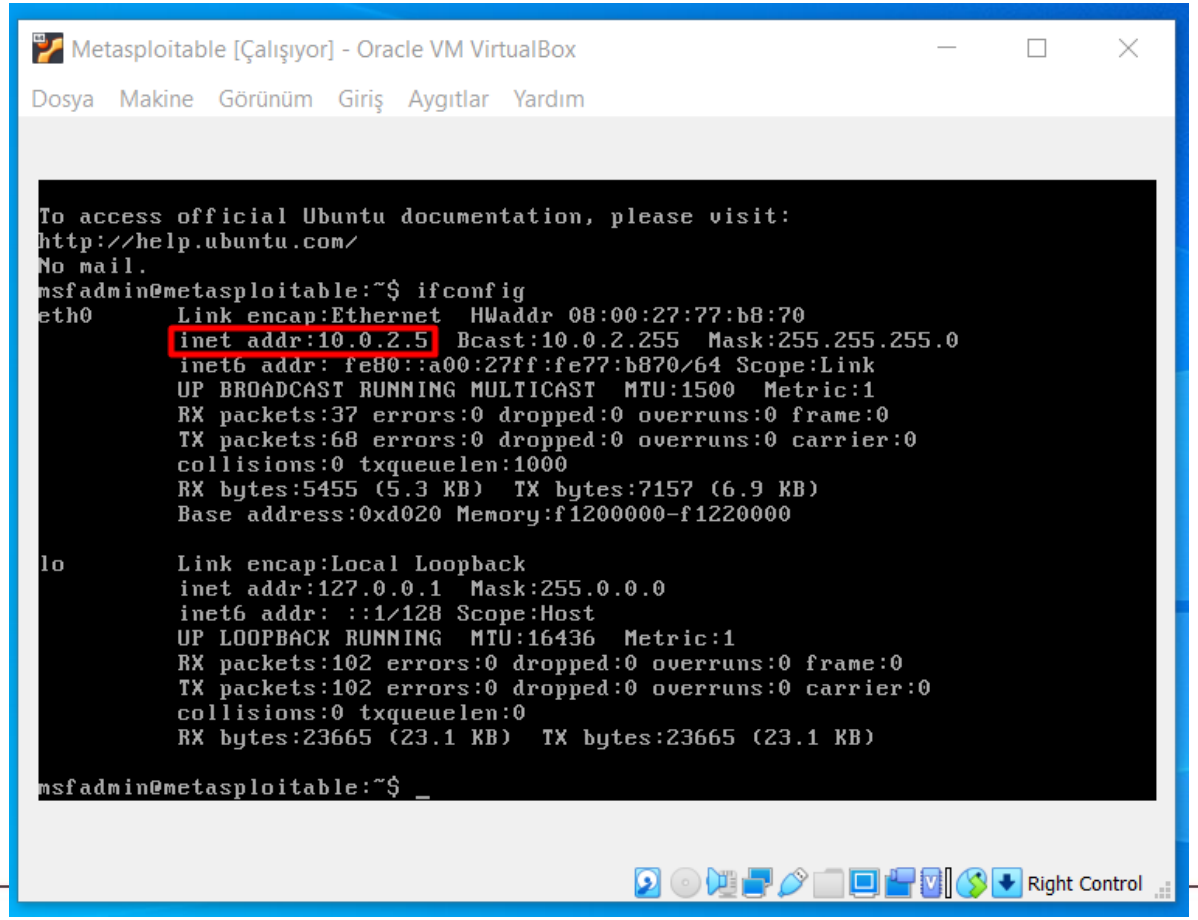
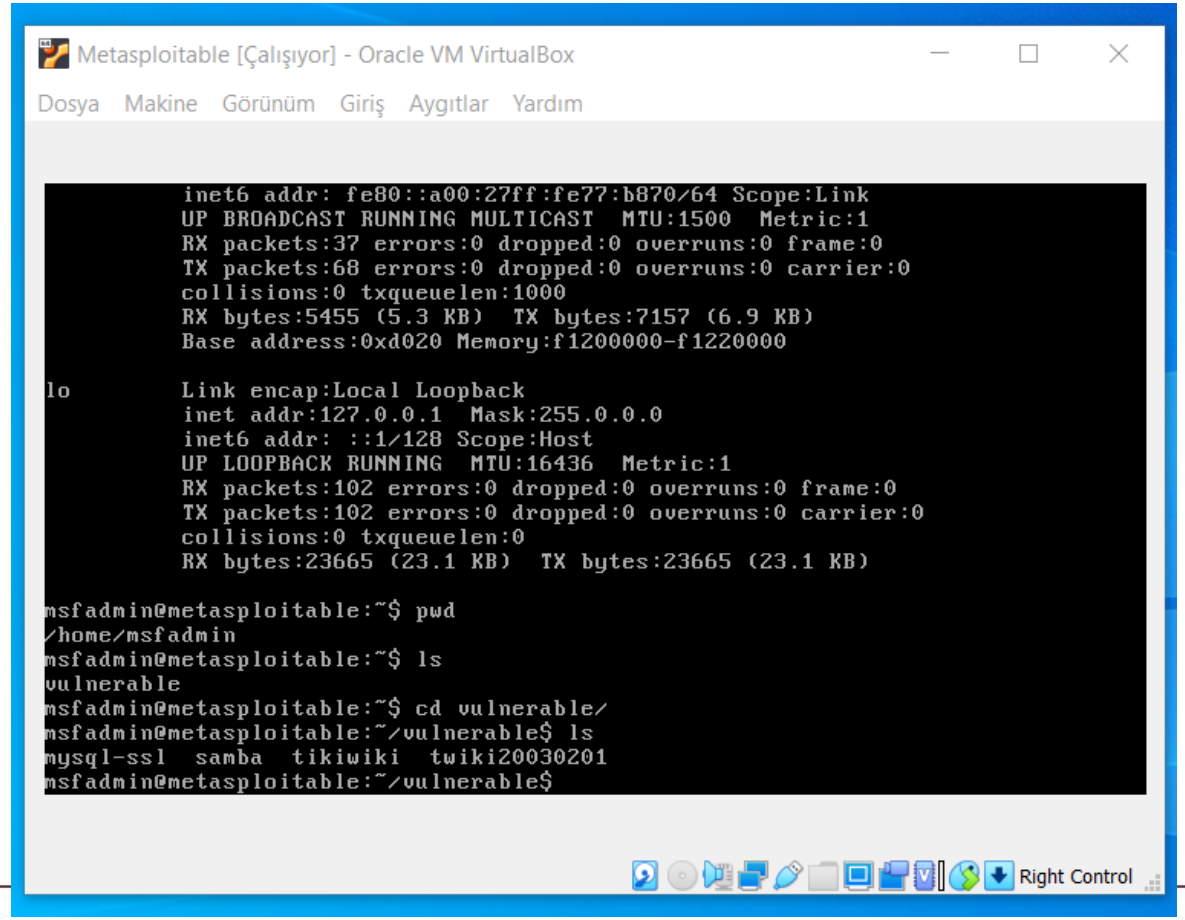
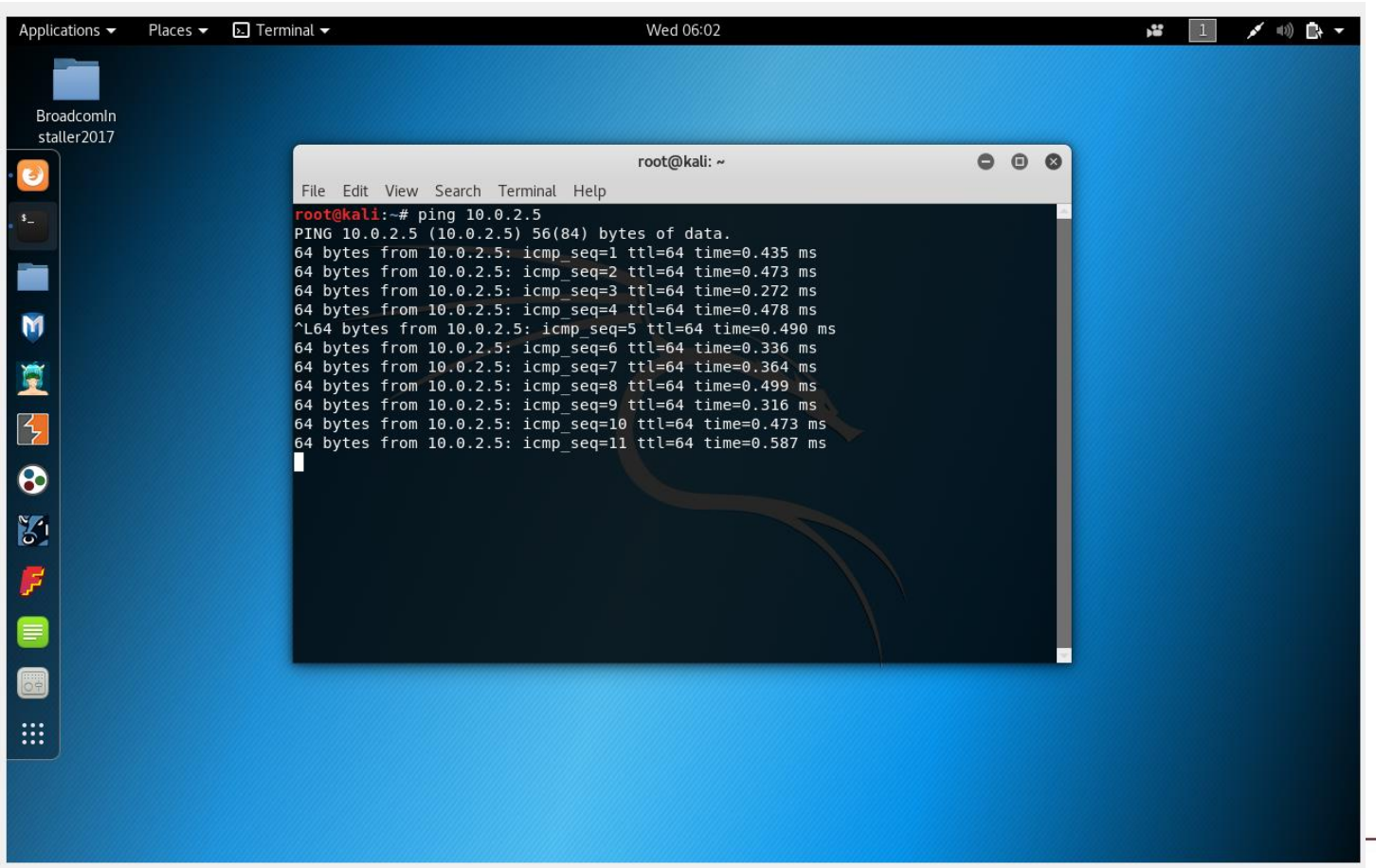


BEYKOZ ÜNİVERSİTESİ

Metasploitable Yükleme



Metasploitable Yükleme



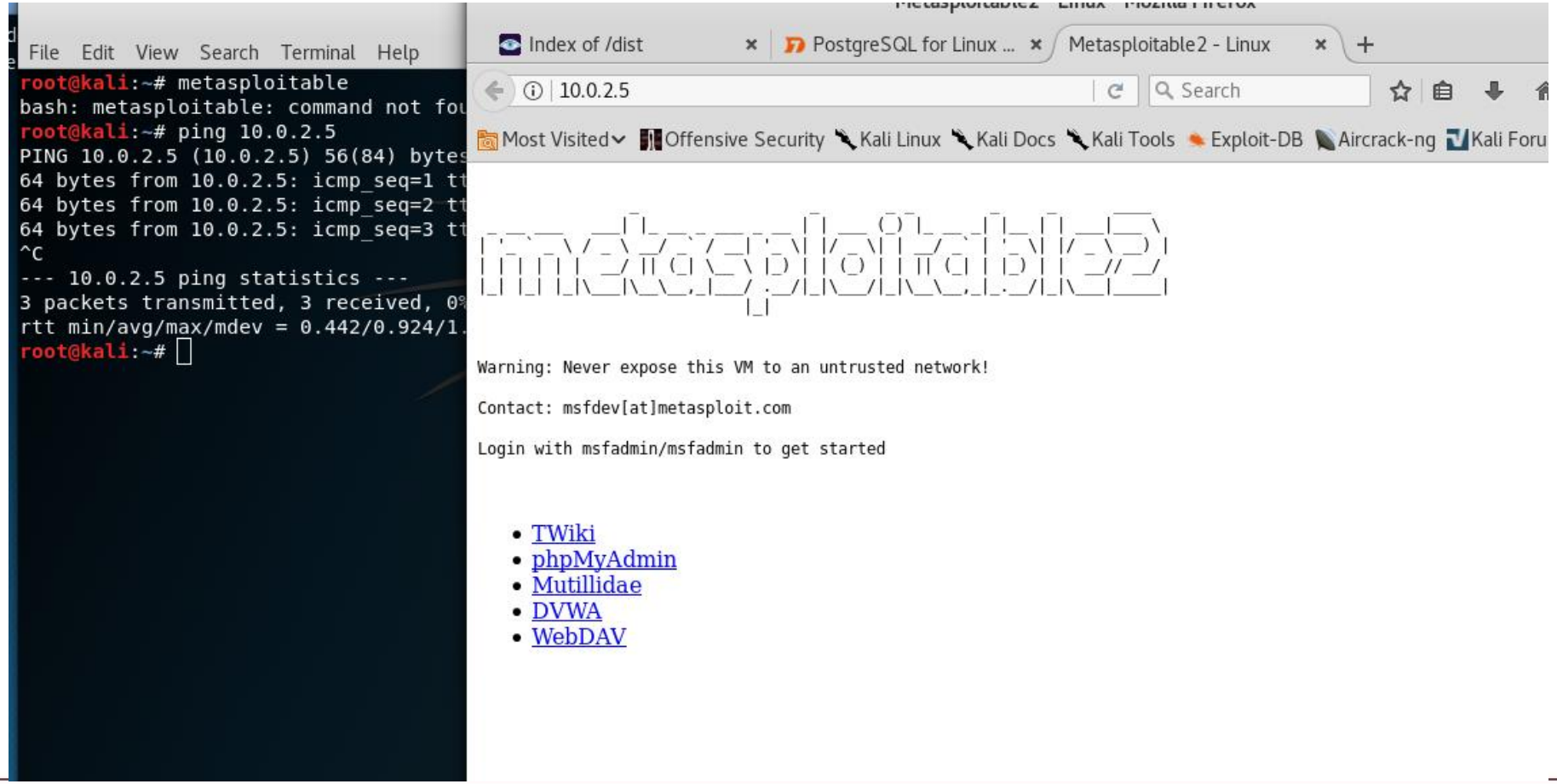
Metasploitable İçeriği (Veritabanları)

```
root@kali:~# mysql -u root -h 10.0.2.5
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MySQL connection id is 8
Server version: 5.0.51a-3ubuntu5 (Ubuntu)

Copyright (c) 2000, 2017, Oracle, MariaDB Corporation Ab and others.

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

MySQL [(none)]> show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| dvwa               |
| metasploit         |
| mysql              |
| owasp10            |
| tikiwiki           |
| tikiwiki195        |
+--------------------+
7 rows in set (0.00 sec)
```

```
MySQL [(none)]> use owasp10;
Reading table information for completio
You can turn off this feature to get a

Database changed
MySQL [owasp10]> show tables;
+-------------------+
| Tables_in_owasp10 |
+-------------------+
| accounts          |
| blogs_table       |
| captured_data     |
| credit_cards      |
| hitlog            |
| pen_test_tools    |
+-------------------+
6 rows in set (0.00 sec)
```

```
MySQL [owasp10]> select * from credit_cards;
+------+------------------+------+------------+
| ccid | ccnumber         | ccv  | expiration |
+------+------------------+------+------------+
|    1 | 4444111122223333 | 745  | 2012-03-01 |
|    2 | 7746536337776330 | 722  | 2015-04-01 |
|    3 | 8242325748474749 | 461  | 2016-03-01 |
|    4 | 7725653200487633 | 230  | 2017-06-01 |
|    5 | 1234567812345678 | 627  | 2018-11-01 |
+------+------------------+------+------------+
5 rows in set (0.01 sec)
```

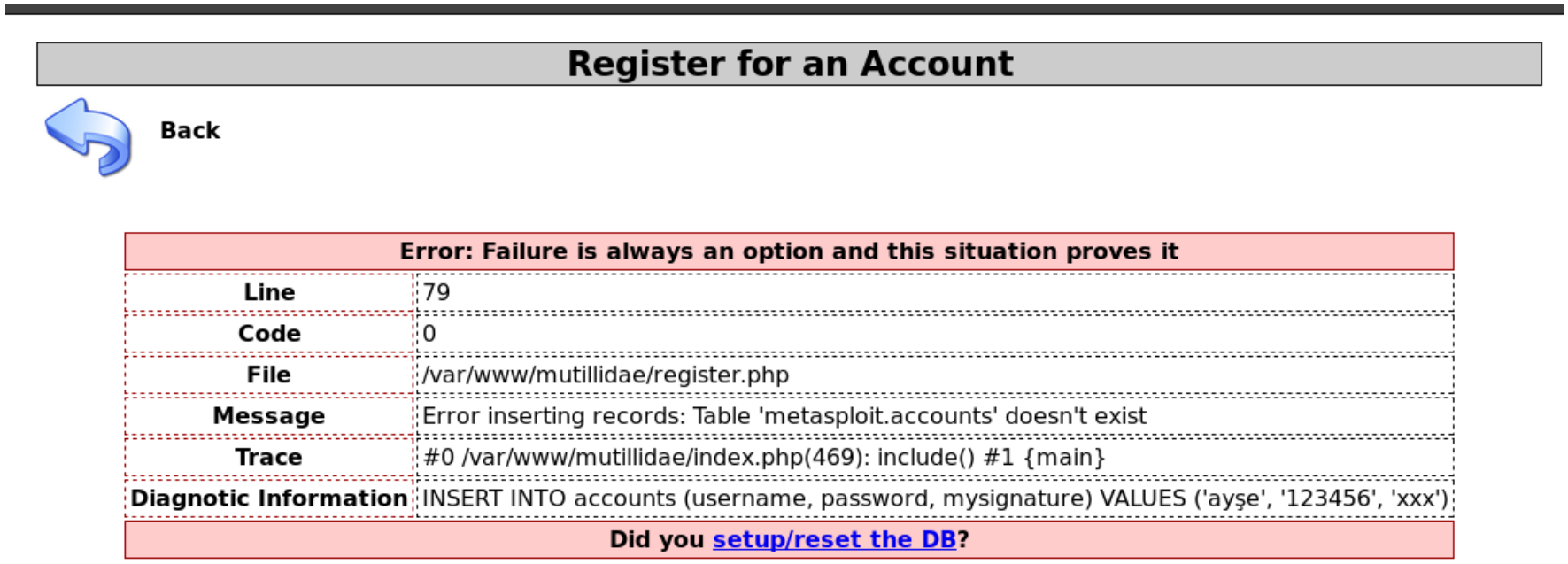
Metasploitable İçeriği (Web Siteleri)



BEYKOZ ÜNİVERSİTESİ

Mutillidae Veritabanında Düzeltme

Mutillidae Veritabanında Düzeltme



Register for an Account

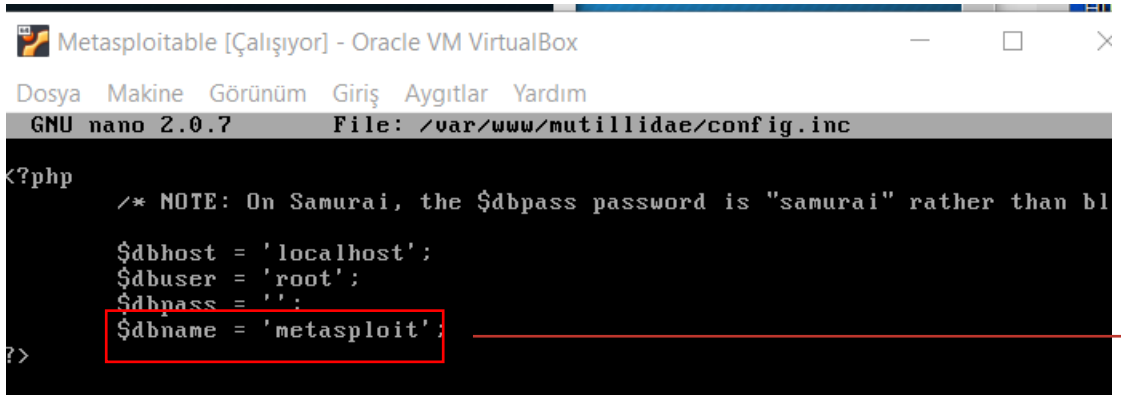
Back

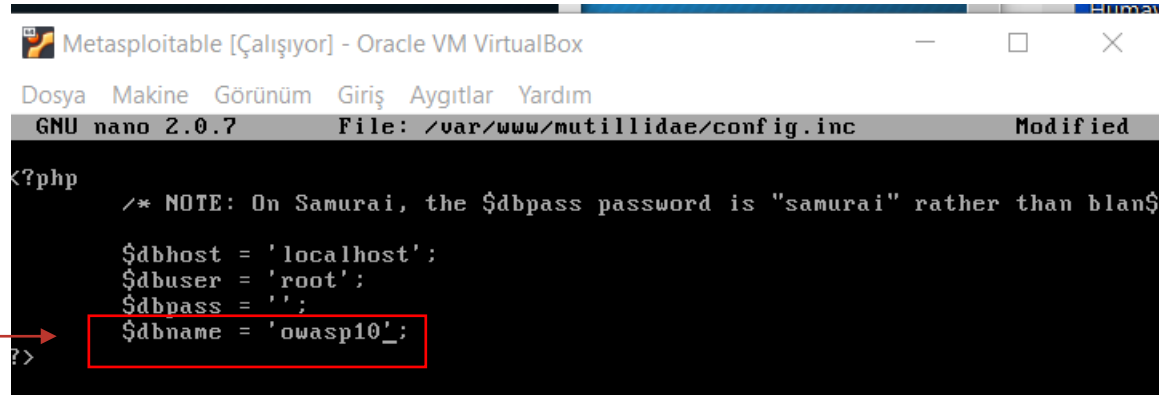
Error: Failure is always an option and this situation proves it	
Line	79
Code	0
File	/var/www/mutillidae/register.php
Message	Error inserting records: Table 'metasploit.accounts' doesn't exist
Trace	#0 /var/www/mutillidae/index.php(469): include() #1 {main}
Diagnotic Information	INSERT INTO accounts (username, password, mysignature) VALUES ('ayşe', '123456', 'xxx')
Did you setup/reset the DB?	

BEYKOZ ÜNİVERSİTESİ

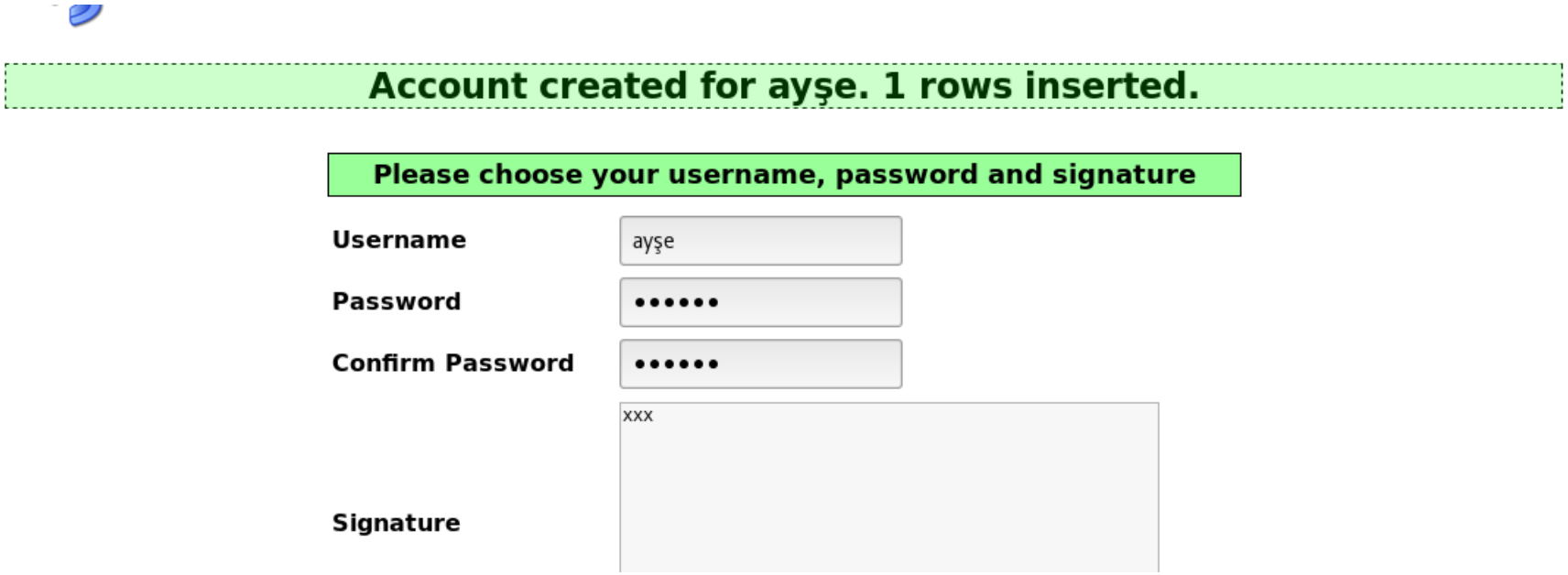
Metasploitable da Düzeltme

```
msfadmin@metasploitable:~$ sudo nano /var/www/mutillidae/config.inc
[sudo] password for msfadmin:
```





Mutillidae Kullanıcı Kaydı



Mutillidae Yanlış Parola Girilmesi

Error: Failure is always an option and this situation proves it	
Line	49
Code	0
File	/var/www/mutillidae/process-login-attempt.php
Message	Error executing query: You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '''' at line 1
Trace	#0 /var/www/mutillidae/index.php(96): include() #1 {main}
Diagnotic Information	SELECT * FROM accounts WHERE username='ayşe ' AND password='''
Did you setup/reset the DB?	

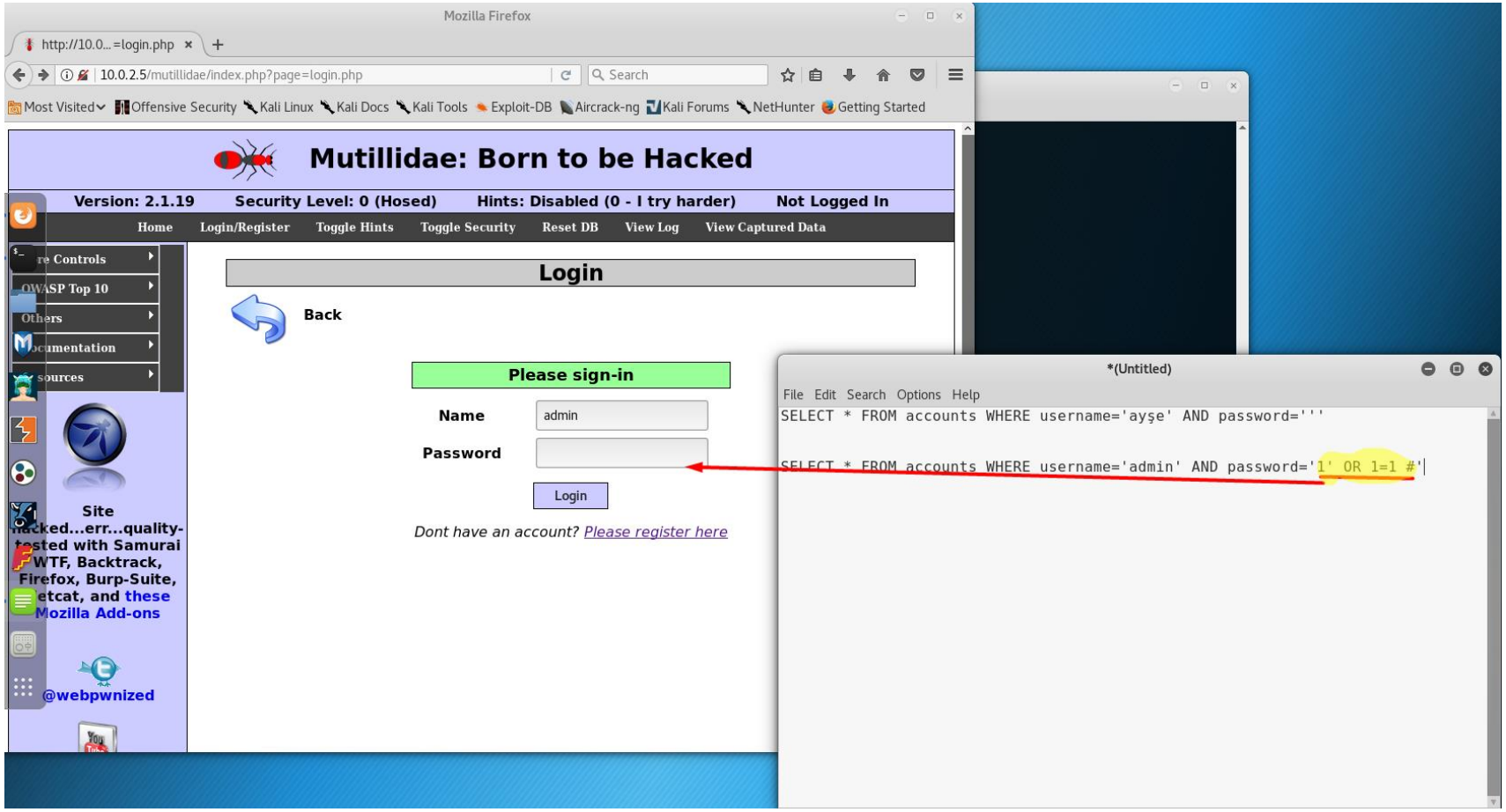
Warning: Cannot modify header information - headers already sent by (output started at /var/www/mutillidae/process-login-attempt.php:97) in **/var/www/mutillidae/index.php** on line **148**

Warning: Cannot modify header information - headers already sent by (output started at /var/www/mutillidae/process-login-attempt.php:97) in **/var/www/mutillidae/index.php** on line **254**

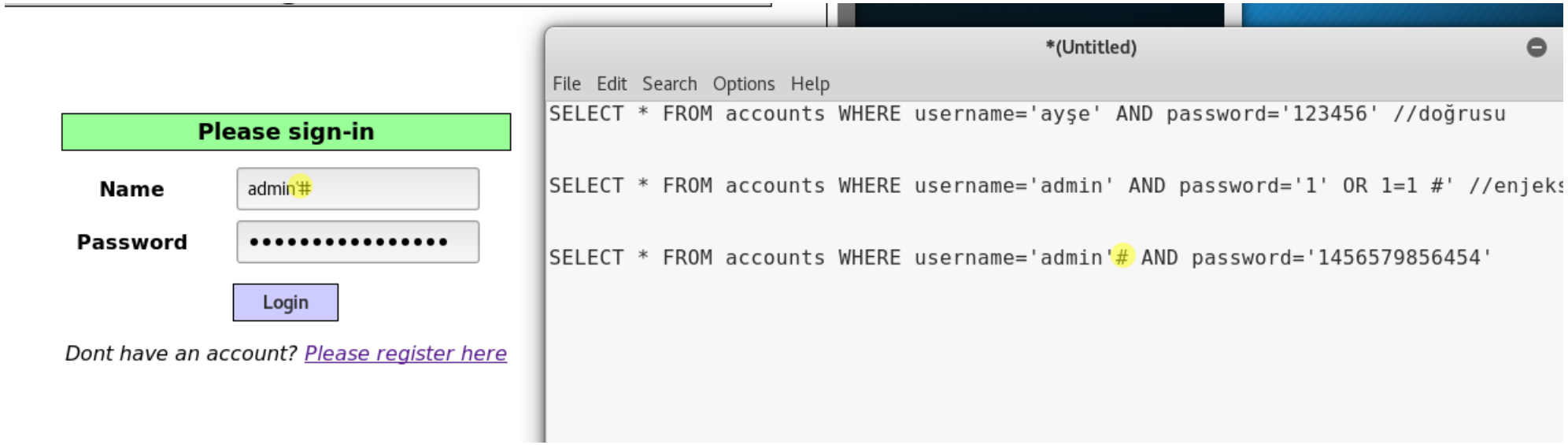
Warning: Cannot modify header information - headers already sent by (output started at /var/www/mutillidae/process-login-attempt.php:97) in **/var/www/mutillidae/index.php** on line **255**

Warning: Cannot modify header information - headers already sent by (output started at /var/www/mutillidae/process-login-attempt.php:97) in **/var/www/mutillidae/index.php** on line **256**

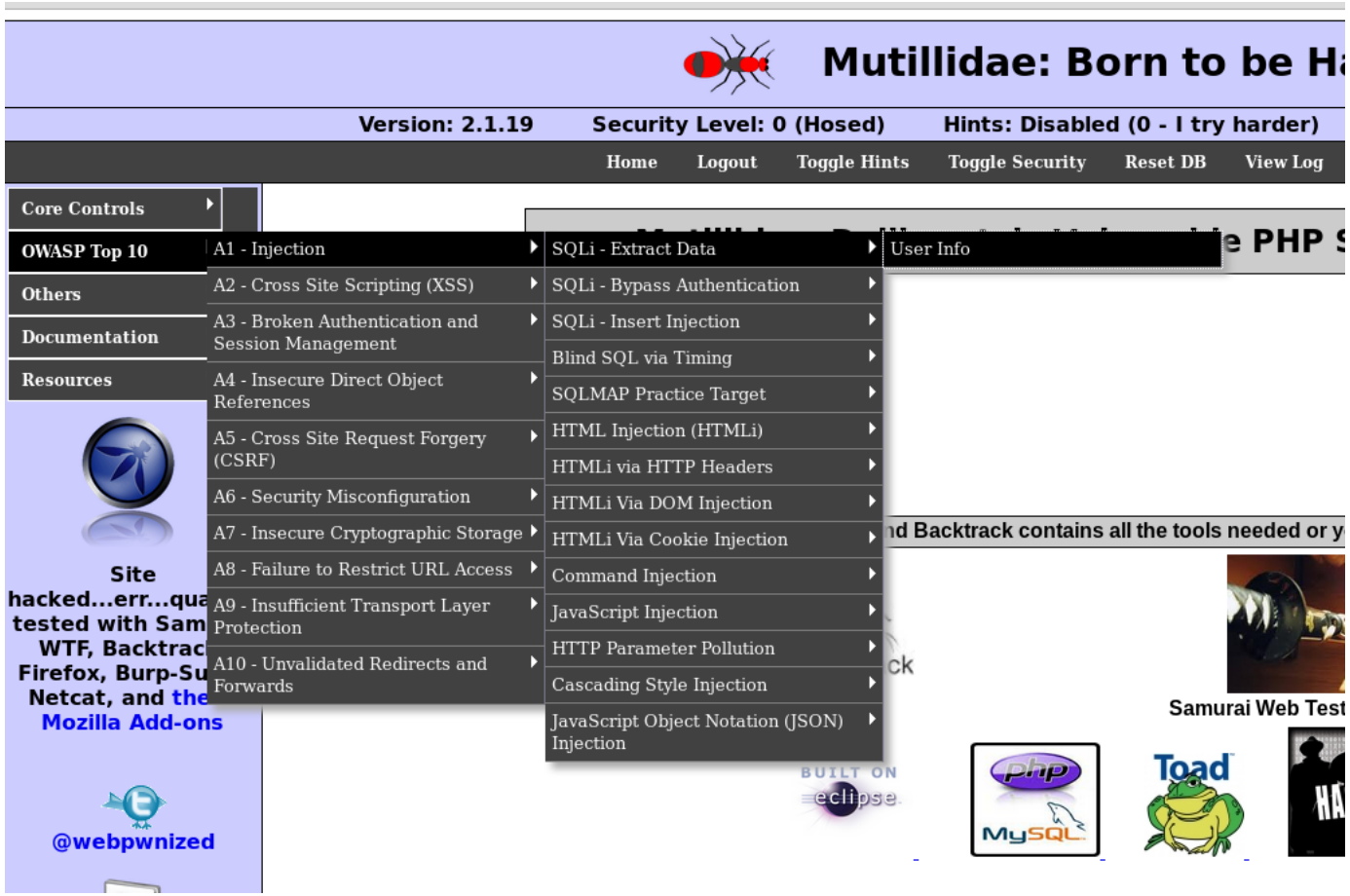
SQL Enjeksiyon Post Metodu



SQL Enjeksiyon Post Metodu



SQL Enjeksiyon Get Metodu



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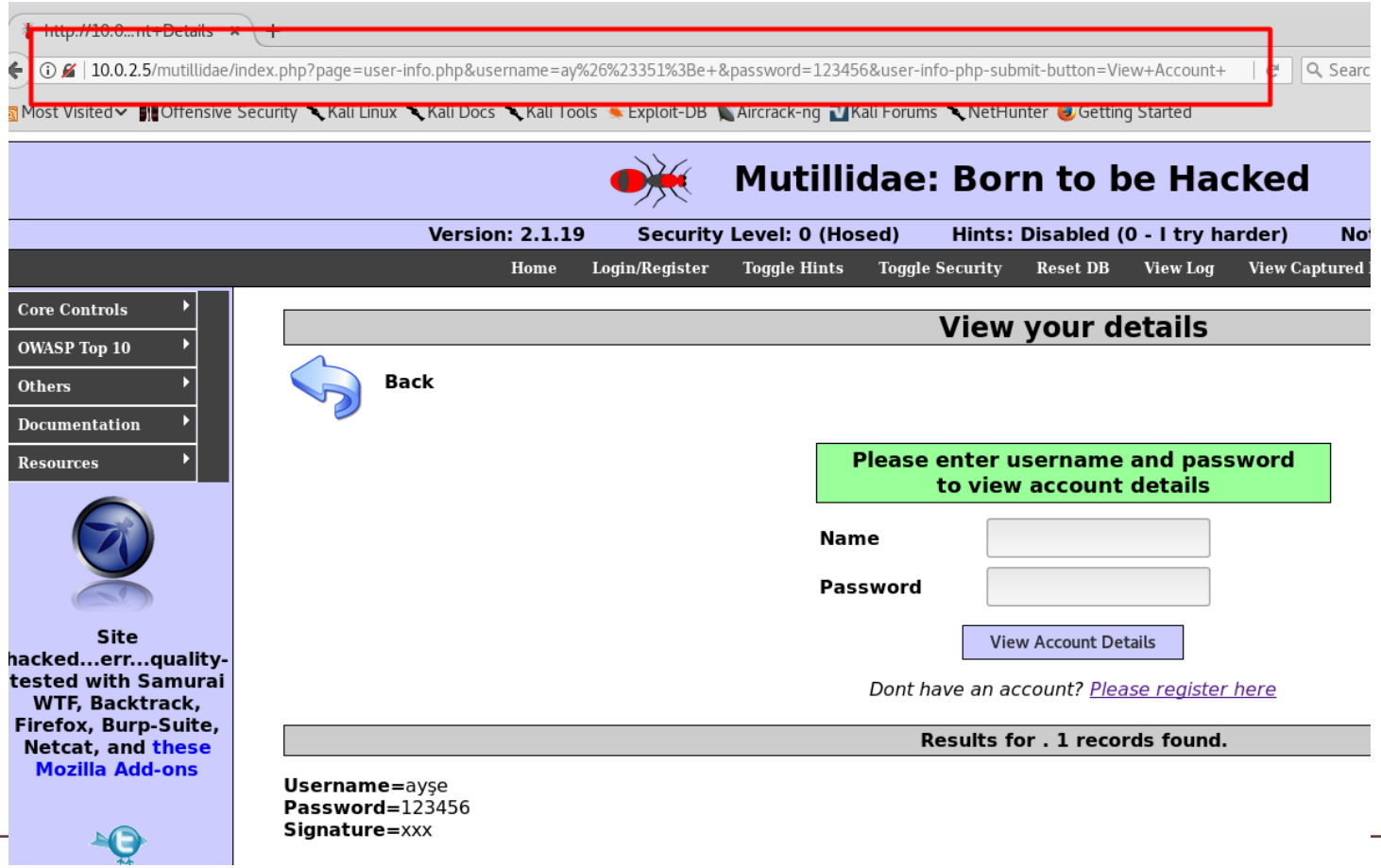
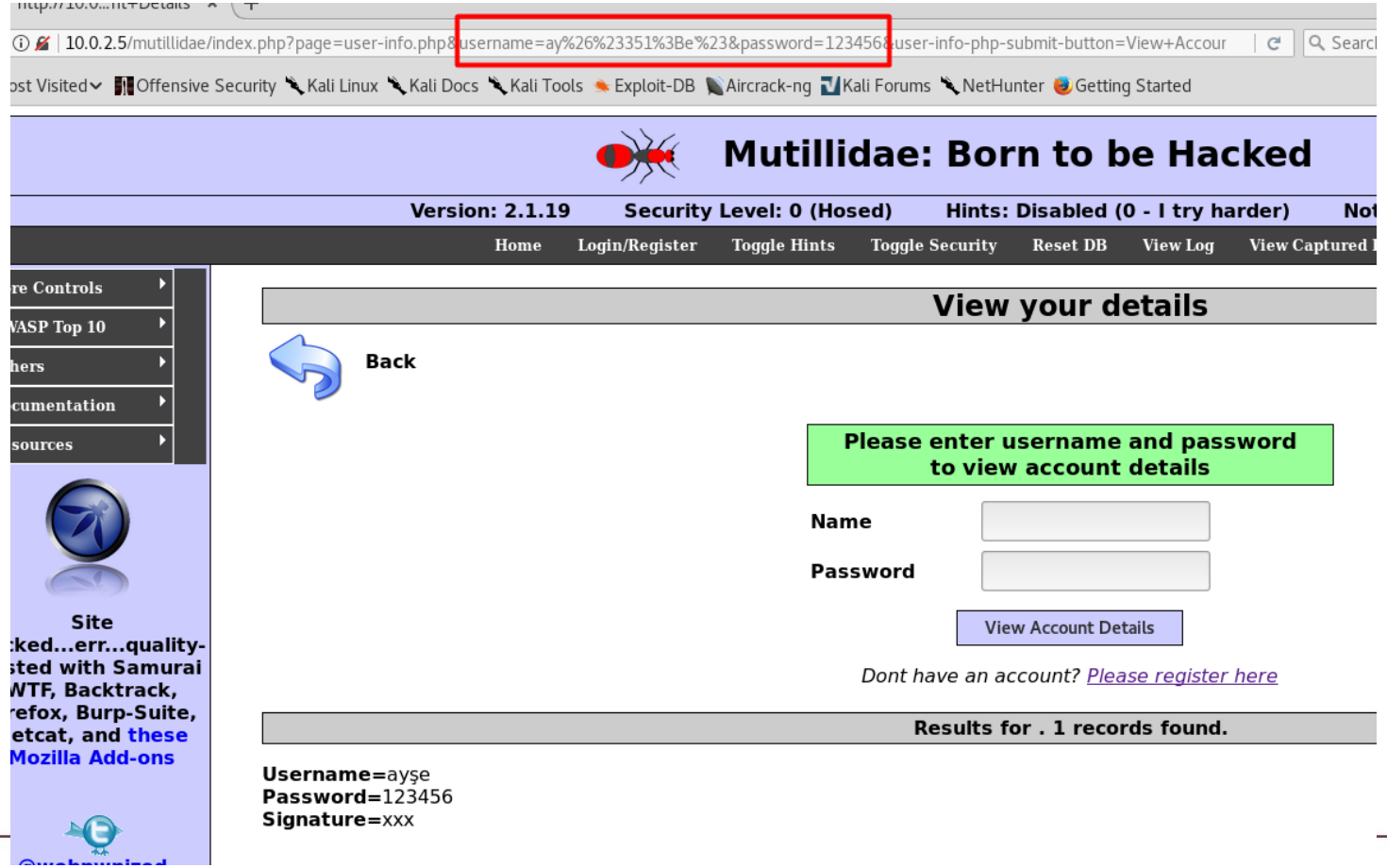
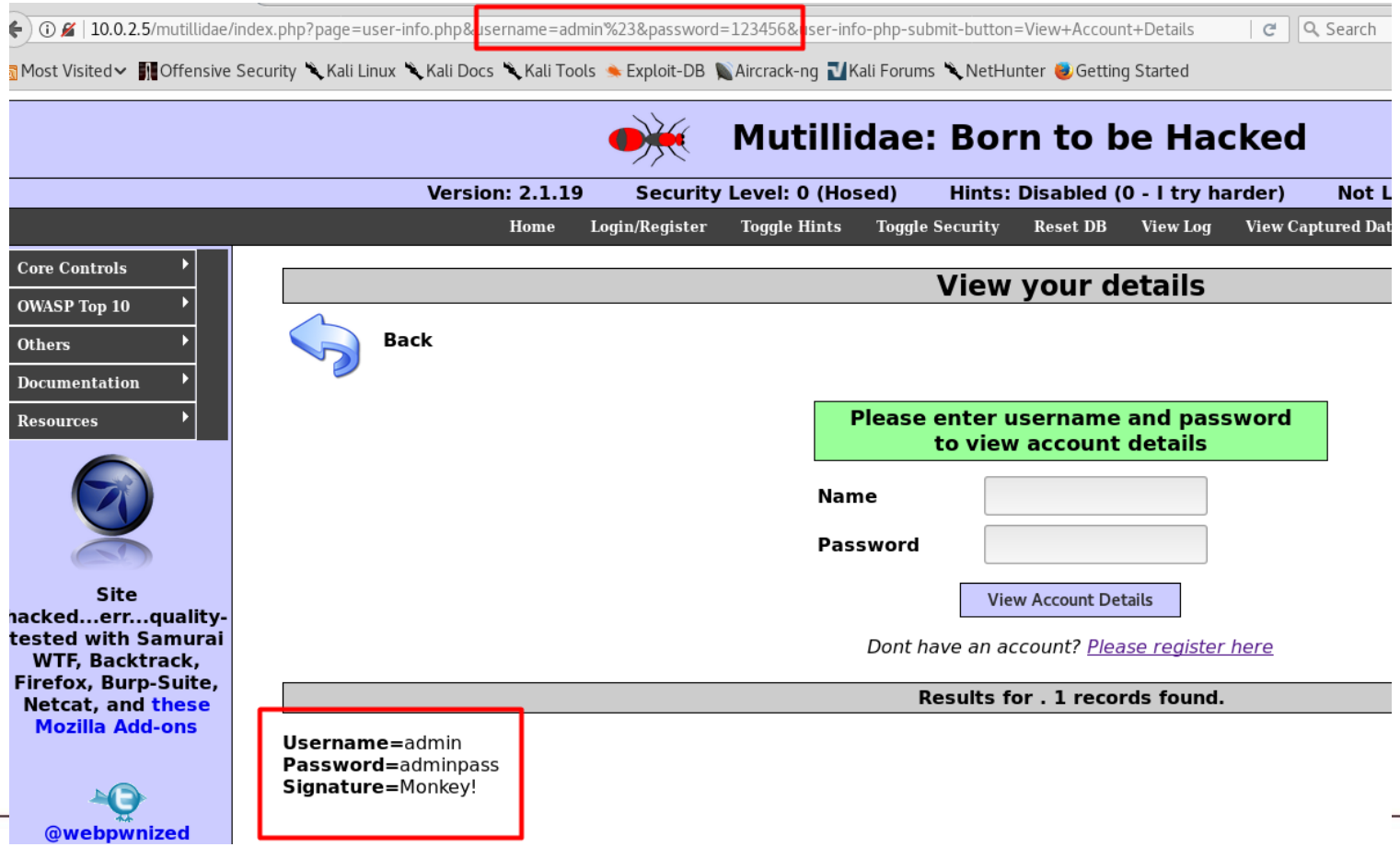


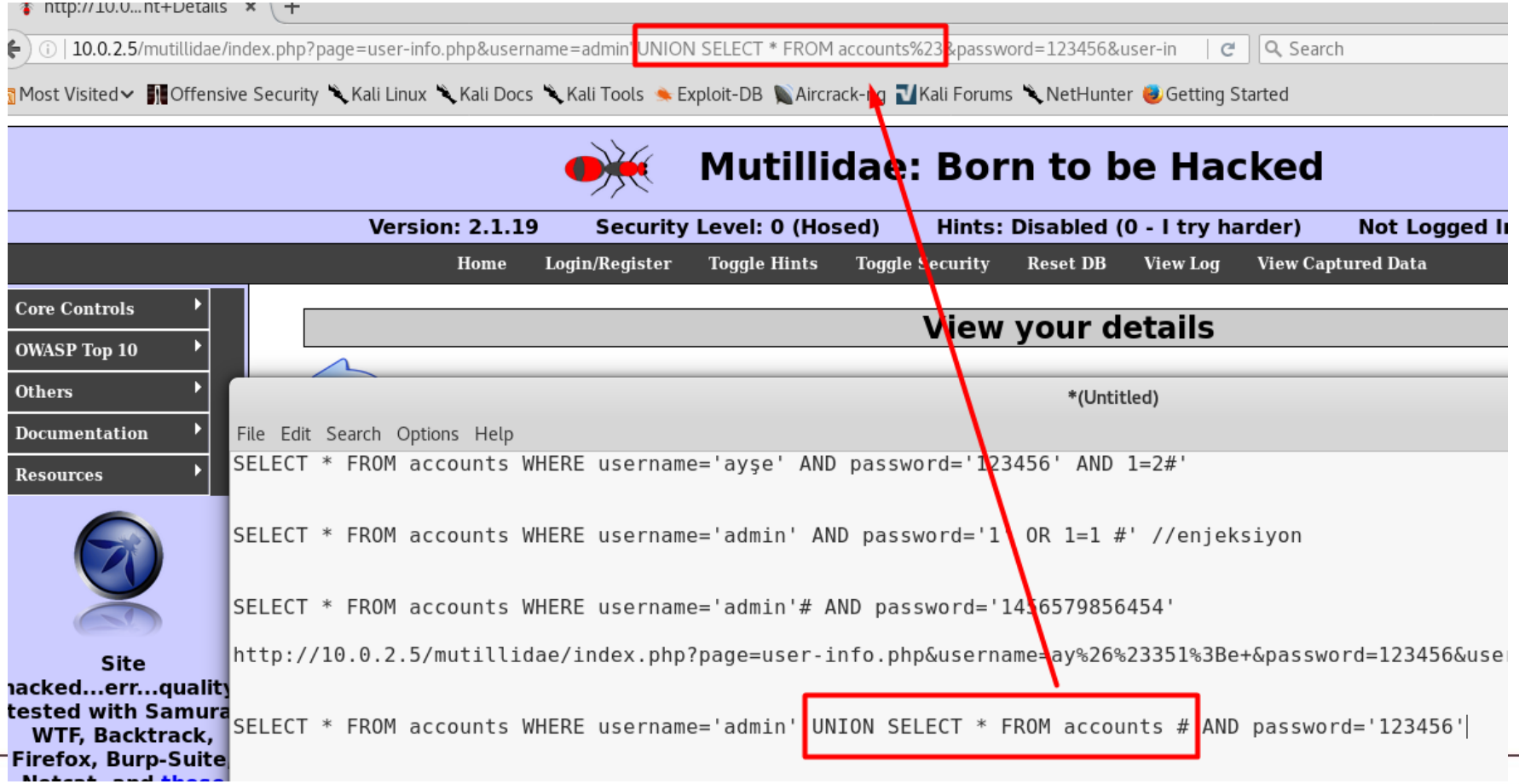
SQL Enjeksiyon Get Metodu



SQL Enjeksiyon Get Metodu



Veritabanındaki Tüm Verileri Çalmak



Veritabanındaki Tüm Verileri Çalmak

Username=admin
Password=adminpass
Signature=Monkey!

Username=adrian
Password=somepassword
Signature=Zombie Films Rock!

Username=john
Password=monkey
Signature=I like the smell of confunk

Username=jeremy
Password=password
Signature=d1373 1337 speak

Username=bryce
Password=password
Signature=I Love SANS

Username=samurai
Password=samurai
Signature=Carving Fools

Username=jim
Password=password
Signature=Jim Rome is Burning

Username=bobby
Password=password
Signature=Hank is my dad

Username=simba
Password=password
Signature=I am a cat

Username=dreveil
Password=password
Signature=Preparation H

Signature=Go Wildcats

Username=john
Password=password
Signature=Do the Duggie!

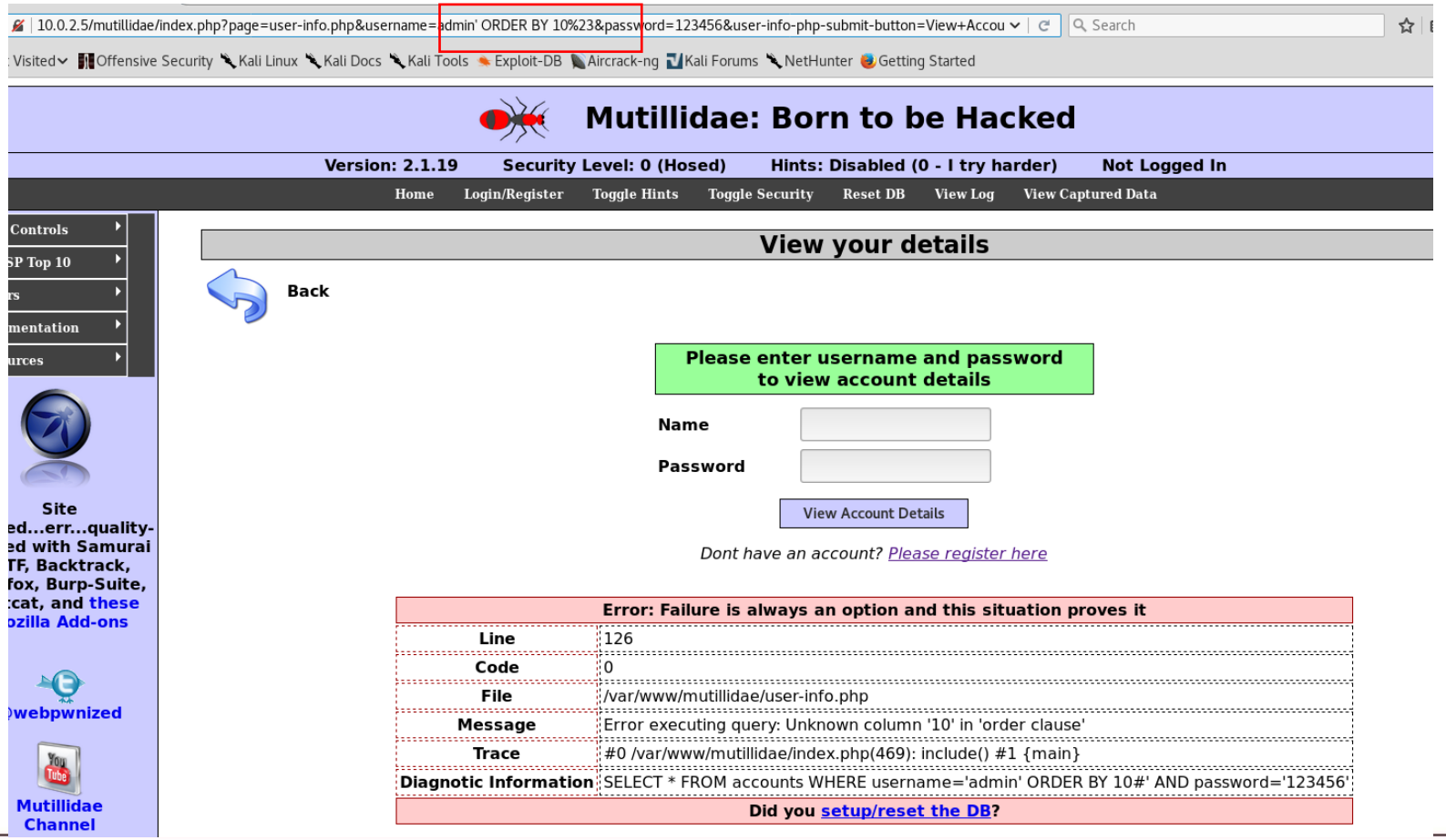
Username=kevin
Password=42
Signature=Doug Adams rocks

Username=dave
Password=set
Signature=Bet on S.E.T. FTW

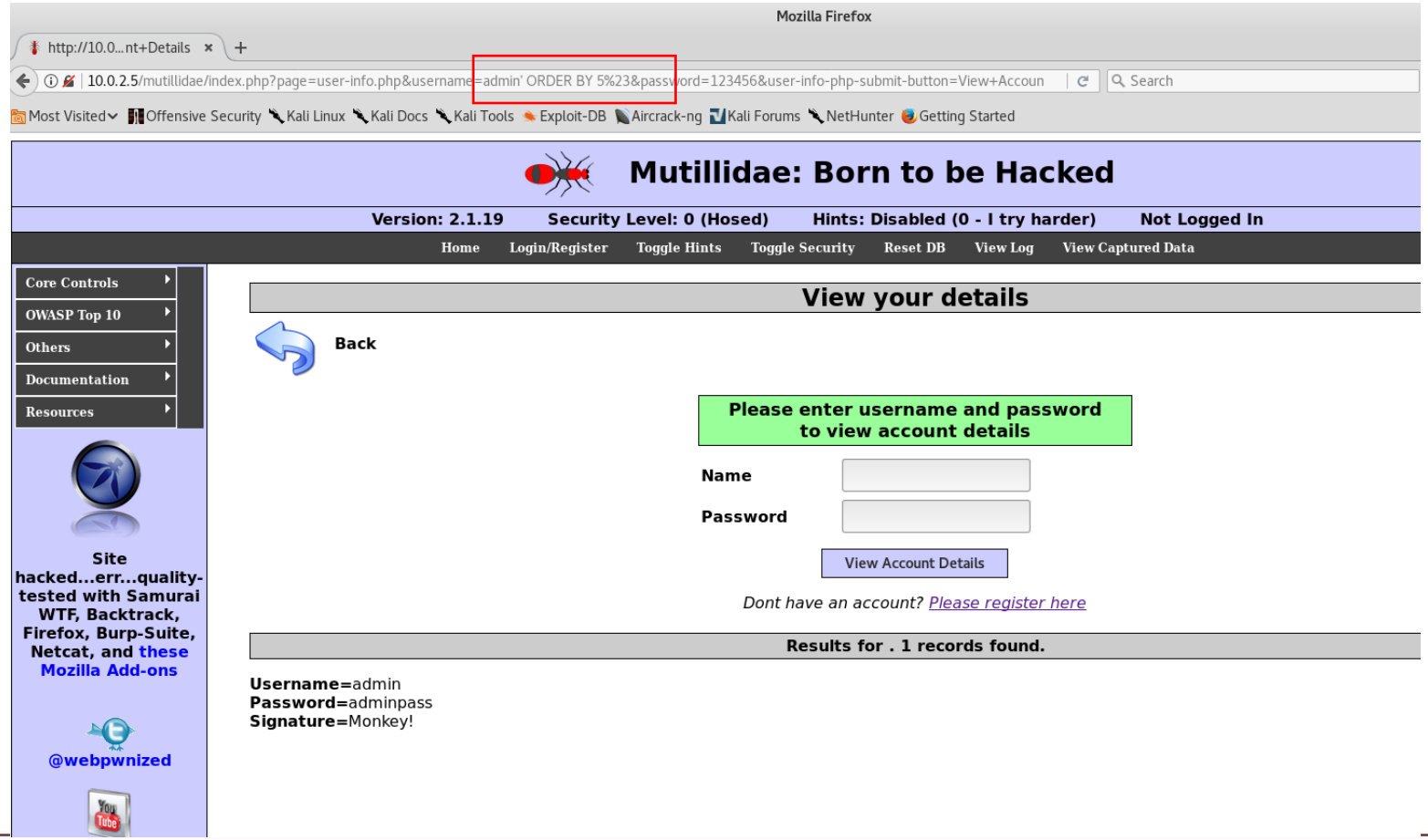
Username=ed
Password=pentest
Signature=Commandline KungFu anyone?

Username=ayşe
Password=123456
Signature=xxx

Manuel olarak Veritabanının İsmini Öğrenmek



Manuel olarak Veritabanının İsmini Öğrenmek



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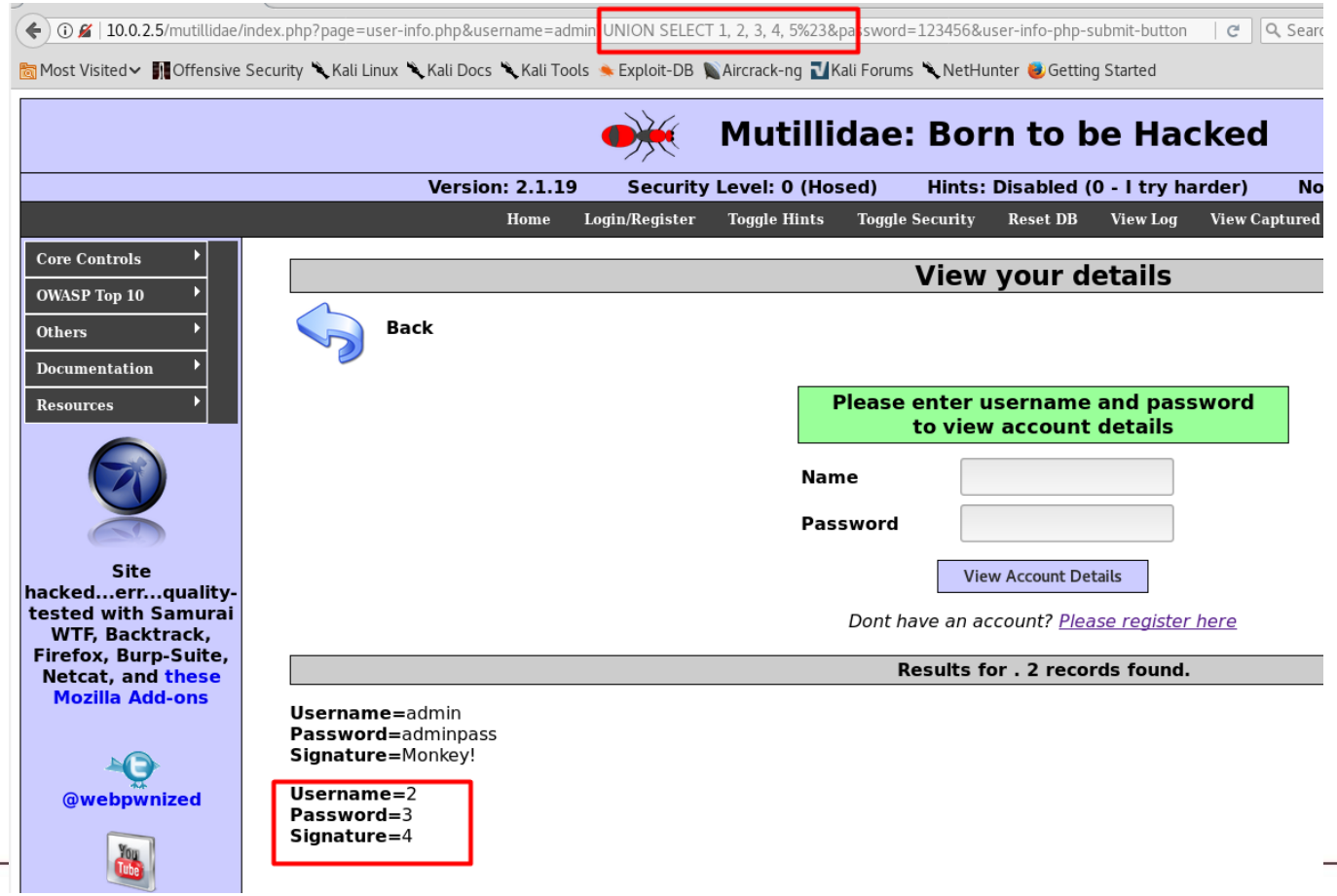
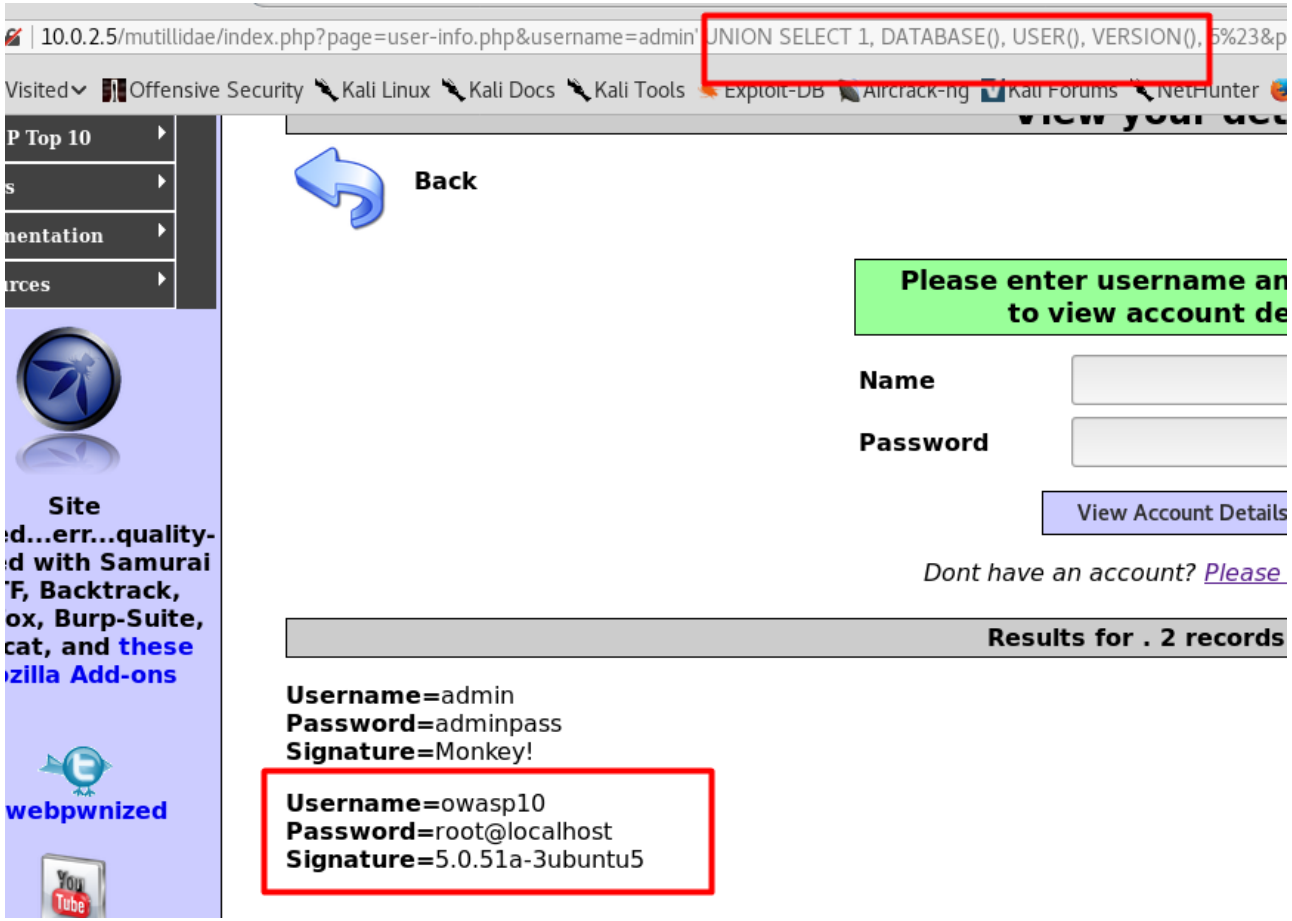
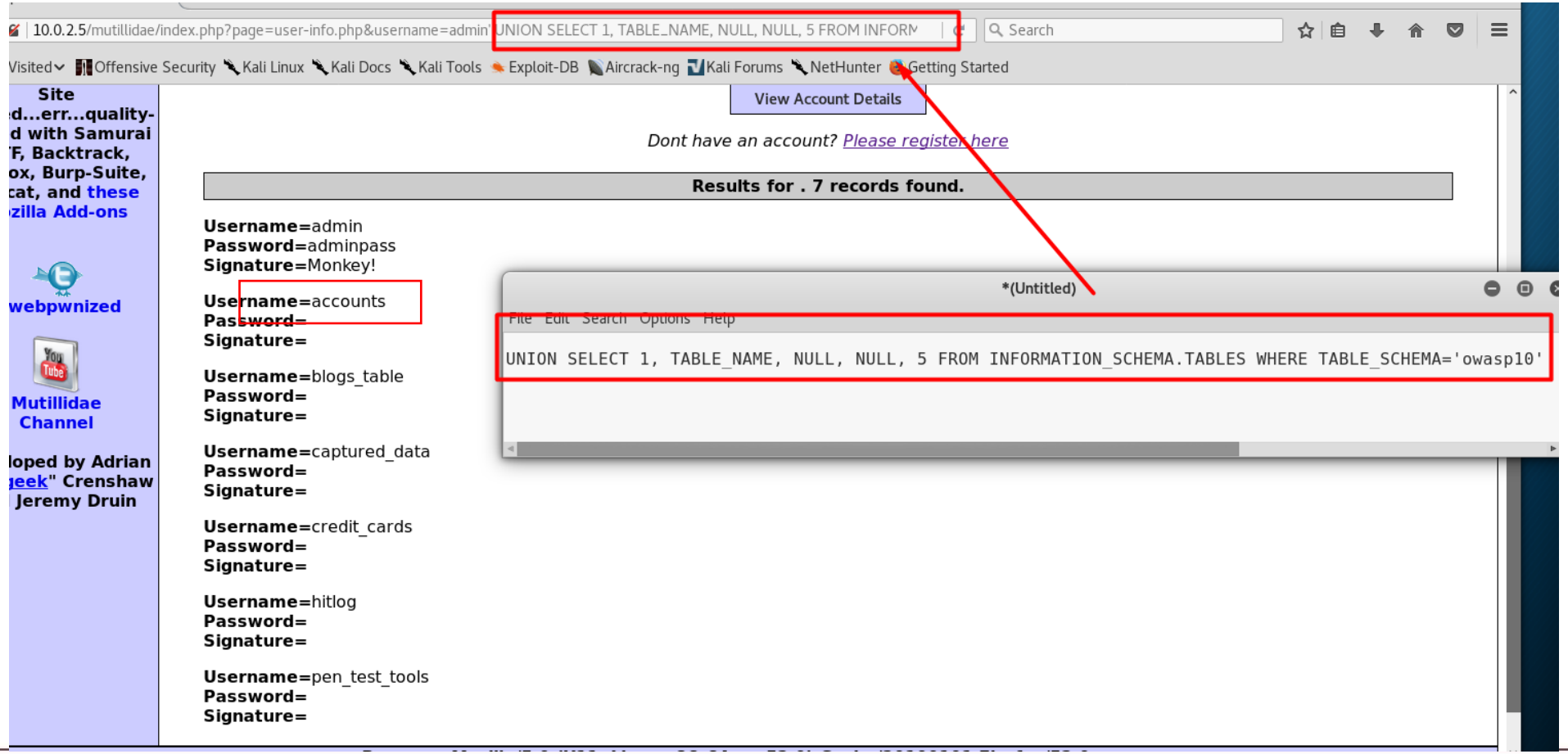


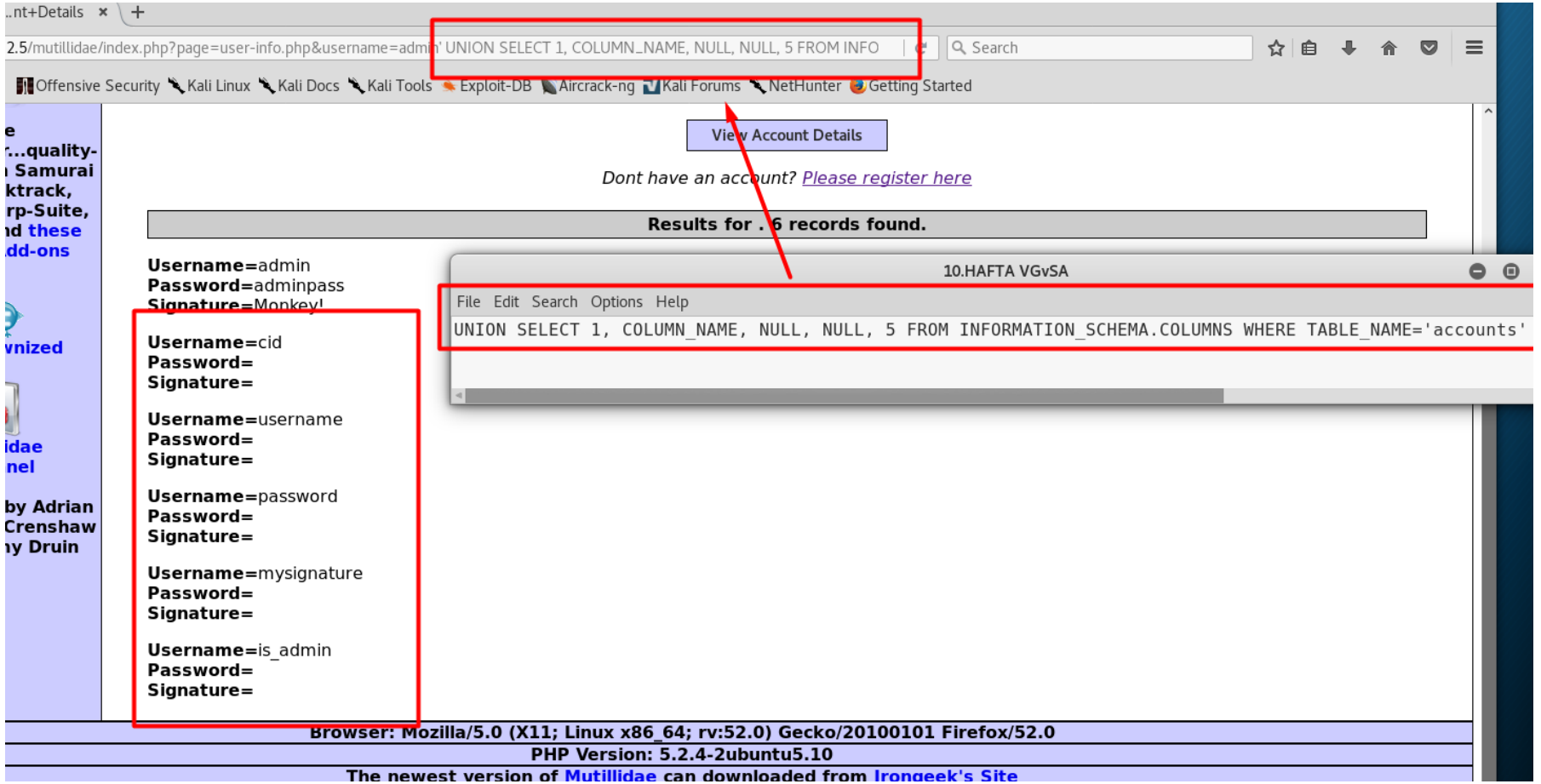
Manuel olarak Veritabanının İsmini Öğrenmek



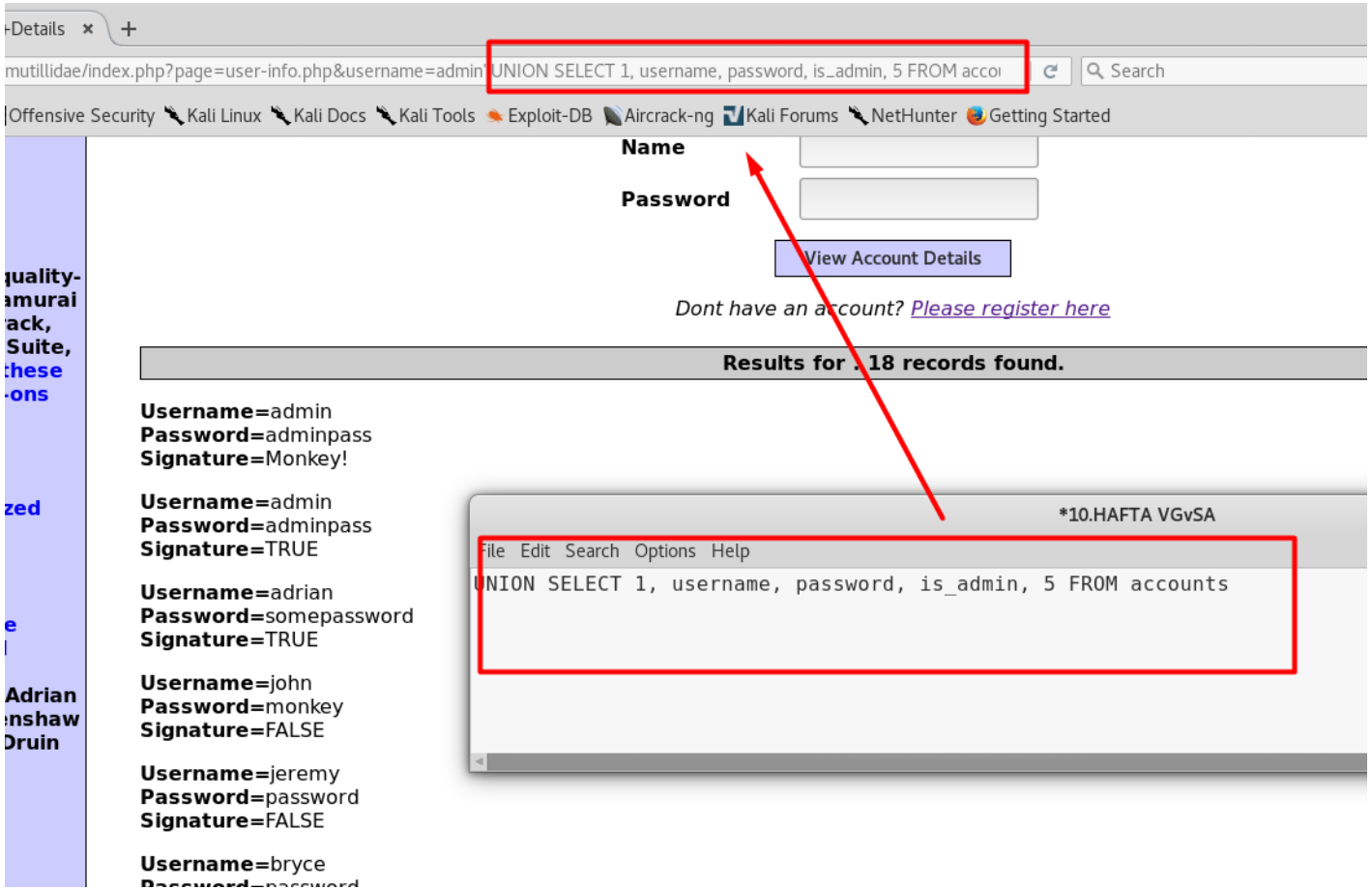
Manuel olarak Veritabanındaki Tabloları Öğrenmek



Manuel olarak Veritabanındaki Sütunları Öğrenmek



Manuel olarak Veritabanındaki Tüm Verileri Çalmak



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Username=kevin
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Signature=Bet on S.E.T. FTW

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Password=pentest
Signature=Commandline KungFu anyone?

Username=ayşe
Password=123456
Signature=xxx