THE NATIONAL CYBERCHAMP COMPETITION 2023 (NCCC23)

ZONAL CHALLENGE

ETHICAL HACKING SESSION

DATE: 21 JANUARY, 2023

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GLAGO GIDEON ELORM

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PROJECT REQUIREMENTS

The CIO of New Wave Commercial Bank Ltd, Mohamed Ayala, has been asked by his board of directors to carry out quarterly assessments to meet security compliance mandates. The bank has hired you and your team to carry out a black box penetration testing engagement on one of the host machines owned by the bank

OUTLINE SHOWING STAGES OF THE ENGAGEMENT

Stage 1: Scanning and enumeration phase

Stage 2: Vulnerability assessment phase

Stage 3: Exploitation phase

Stage 4: Data exploration phase

Stage 5: Recommendations

Etc.

Scanning & Enumeration (1/2)

Output 1:

IP address of the attacker machine

192.168.56.103

Scanning & Enumeration (2/2)

Output 2:

IP address of the target machine

192.168.56.104

SERVICES IDENTIFIED & POTENTIAL VULNERABILITIES

Service 1: Secure shell
Potential Vulnerabilities:
-Openssh version 2.9 outdated
-Ssh grants access to unauthorized users to gain remote access to the machine.

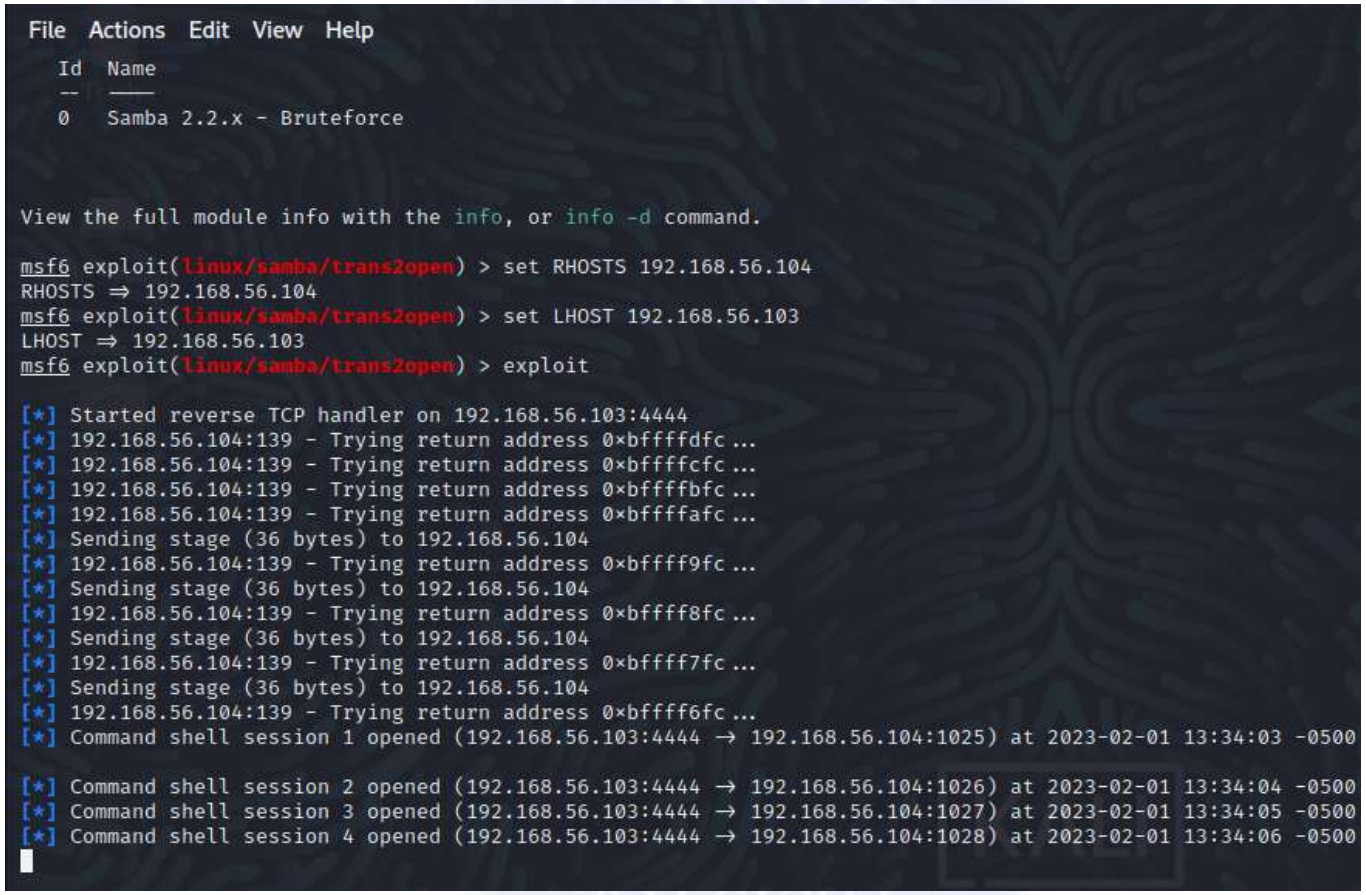
Service 3: Netbios-ssn
Potential Vulnerabilities: smb version 2.2.1a outdated

Service 4: HTTP
Potential Vulnerabilities: Data being sent on this service is unecrypted.

Service 5: HTTP
Potential Vulnerabilities: Apache version is out of date

EXPLOITATION OF VULNERABILITIES

Exploitation of Vulnerability 1: Samba version 2.2.1a

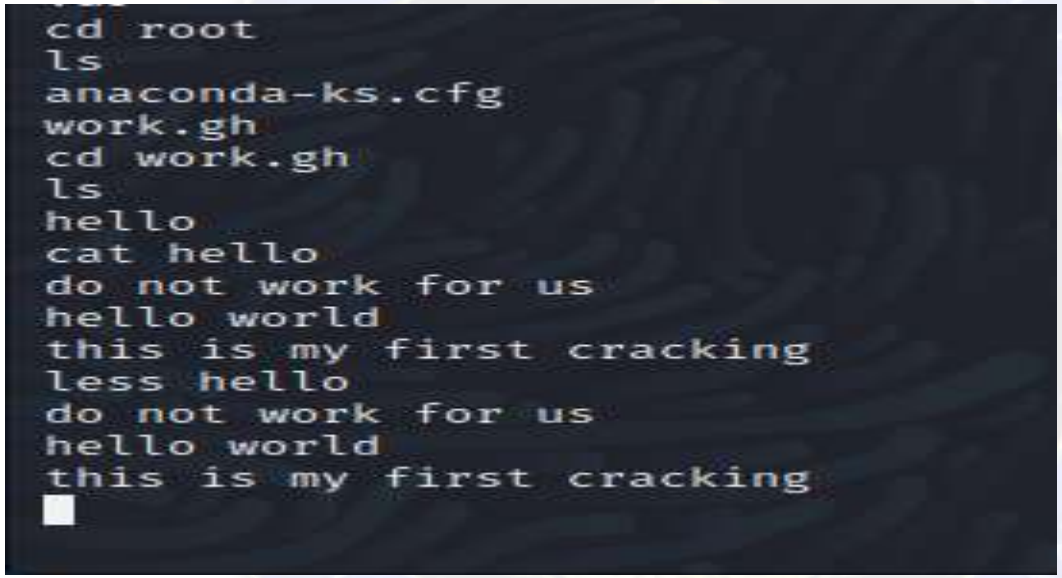


DATA EXFILTRATION/EXPLORATION/EXPOSURE

Output 1: Directories in the target machine

DATA EXFILTRATION/EXPLORATION/EXPOSURE

Output 2: Files on the target machine



SUMMARY OF VULNERABILITIES UNCOVERED

Vulnerability 1: The version of Secure Shell (ssh) running on port 22 is out of date (i.e. open ssh version 2.9).

Vulnerability 2: The version of Samba (smb version 2.2.1a) running on port 139 is out of date.

Vulnerability 3: Data being sent using the HTTP protocol is unencrypted.

Vulnerability 4: Files on the machine are unencrypted.

Vulnerability 5: The service Secure Shell running on port 22 grants remote access to unauthorized users.

RECOMMENDATIONS/CONCLUSIONS

Recommendation 1: The ssh service should be updated to Openssh version 9.1

Recommendation 2: Port 80 should be closed

Recommendation 3: Samba version 2.2.1a should be updated to version 4.17

Recommendation 4: Port 22 should be closed.

Recommendation 5: Data stored on the machine should be encrypted.

End of Presentation

THANK YOU