# Penetration Testing Report

**Client**: Home project-1.
**Engagement Period**: October 15 - 17,2025.

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**Submission Date**: October 18,2025.

**Confidentiality Notice**:
*This report contains sensitive information. Unauthorized sharing or distribution is strictly prohibited.*

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## 1. Executive Summary

**Objective of the Test**

The objective of the penetration test was to identify security vulnerabilities of a “Linux System” and the prevention methods from the vulnerablities.

**Scope**

- **Network**: IP range 192.168.71.130

**High-Level Findings**

- Total vulnerabilities: 4
  - Critical: 3
  - High: 1

**Overall Risk Rating: Critical**

**Recommendations**

- Immediately address critical vulnerabilities, such CVE-2016-5195(Dirty Cow), CVE-2017-7533(inotfiy), CVE-2015-1328(Overlayfs).
- Implement a high security patch management system.

## 2. Introduction

**Purpose of the Test**

To evaluate the security posture of a lab’s ensuring protection against potential cyber threats.

**Methodology Used**

We followed the **OWASP Testing Guide** and **PTES (Penetration Testing Execution Standard)**. The engagement included both manual and automated testing.

### Scope of Work

- **Web Application**: http://192.168.71.130

### Limitations

- Testing was not conducted during business hours to avoid disruption (Like professionally).
- Certain DDoS techniques were not used due to the risk of system instability.

## 3. Methodology

1. **Reconnaissance**
    - Identified open ports with Nmap.
2. **Exploitation**
    - CVE :  2004-2687 (distccd)for initial access.
3. **Post-Exploitation**
    - CVE-2016-5195(Dirty Cow) Privilege Escalation(root)
4. **Reporting**
    - Documented all findings with PoC evidence.

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## 4. Findings

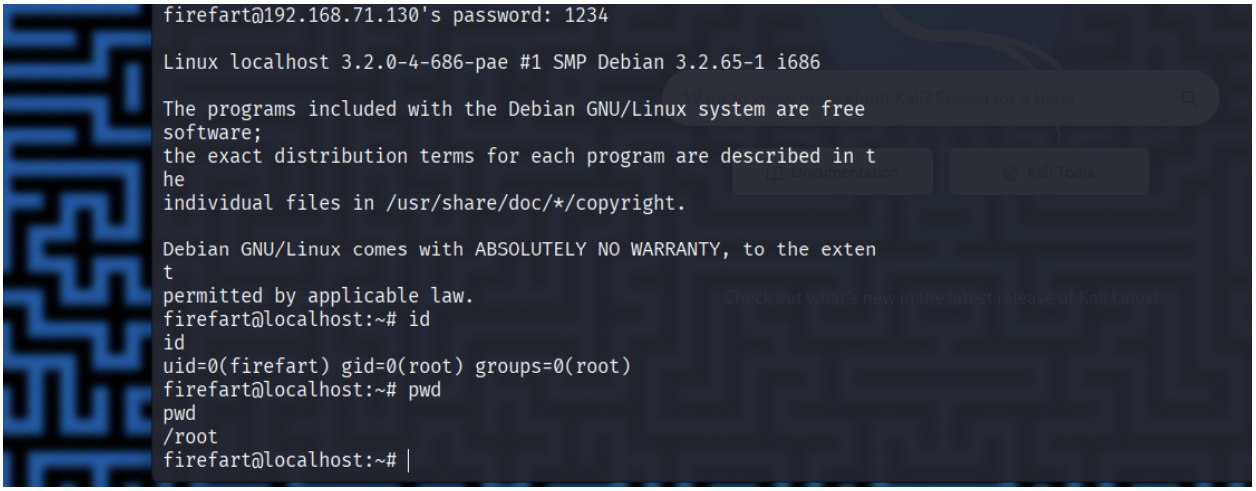
### Summary of Findings

| Severity | Count | Example Vulnerabilities |
|---|---|---|
| Critical | 3 | CVE-2016-5195(Dirty Cow), CVE-2017-7533(inotfiy), CVE-2015-1328(Overlayfs). Privilege Escalation |
| High | 1 | CVE : 2004-2687 (distccd)for initial access. |

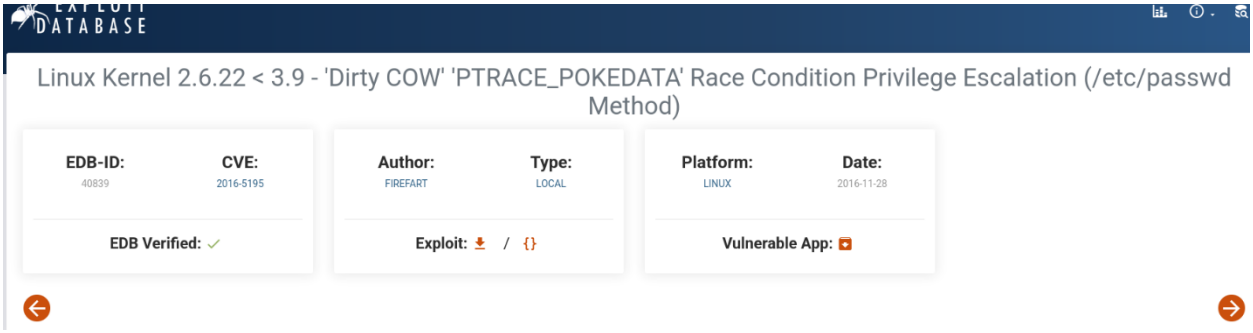
### Detailed Findings

***Finding 1*** *CVE-2016-5195(Dirty Cow), Privilege Escalation*

- **Severity**: Critical
- **Description**: Can get root access.
- **Affected Asset**: http://192.168.71.130
- **Proof of Concept (PoC)**:
  Endpoint:




Exploit:



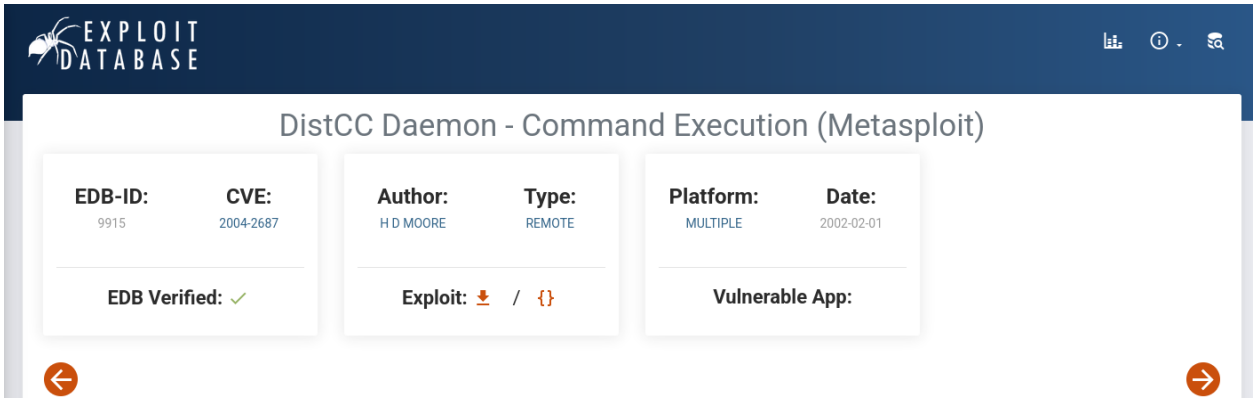

- **Impact**: Full system  compromise with root access, leading to potential data theft.
- **Recommendation**: Apply vendor security updates / kernel patch immediately.

***Finding 2:*** *CVE :  2004-2687 for initial access.*

- **Severity**: High
- **Description**: Sensitive Data Exposures lead to initial access
- **Affected Asset**: http://192.168.71.130
- **Proof of Concept (PoC)**:

Endpoint:


Exploit:




- **Impact**: Initial Access to all distccd user's files, leading to potential data theft.
- **Recommendation**: Restrict port permission for distccd user.

## 5. Recommendations

1. **Address Critical Issues**:
    - Update your system regularly.
    - Use WAF & EDR
2. **Patch Management**:
    - Update software regularly to fix known vulnerabilities.
3. **Security Awareness Training**:
    - Train employees on secure practices.
4. **Ongoing Monitoring**:
    - Implement continuous security monitoring tool.

## 6. Conclusion

The penetration test revealed several critical and high vulnerabilities that pose a significant risk to the target lab/box. Immediate remediation of these issues is required to enhance security. Regular testing and monitoring are recommended.