Web Application Security Audit of Covidcare Integration

Test URL

https://covid19-staging.nhp.gov.in/covidcare/login

**Level-1 Report** 

09<sup>th</sup> FEB 2022



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### Web Application Security Test Report

#### **Presented by:**

Shashank Jain

#### **Application Testing Conducted On:**

04-02-2022 to 09-02-2022



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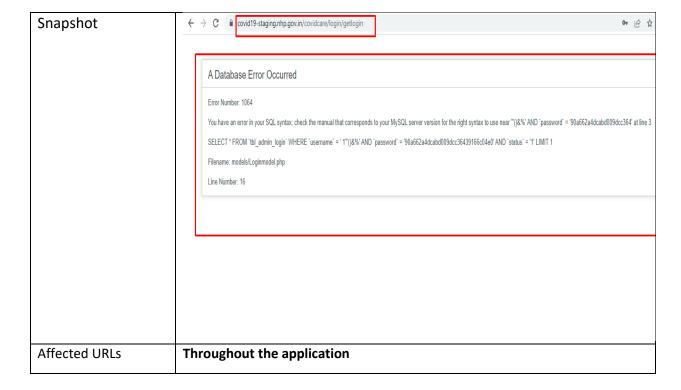
# High



### 1. SQL Injection

1) Vulnerability	Title: SQL Injection
Risk	High
Abstract	It was observed that the application is vulnerable to SQL Injection.
Ease of Exploitation	Medium
Impact	An attacker may execute arbitrary SQL statements on the vulnerable system, this may compromise the integrity of your database and/or expose sensitive information.
Recommendations	expose sensitive information.  The input data should be validated for special characters both in value fields and in URL. It is mandatory to implement server-side validations for every input vector in the application i.e. GET as well as POST parameters. Use parameterized queries in the application so that the all supplied parameters are treated as data, rather than potentially executable queries. Validation at the client side and server end is mandatory and application must trap all errors and give customized error message to the user.  It is recommended to filter out all the following characters at user input:  [1]   (pipe sign) [2] & (ampersand sign) [3] ; (semicolon sign) [4] \$ (dollar sign) [5] % (percent sign) [6] @ (at sign) [7] ' (single apostrophe) [8] " (quotation mark) [9] \' (backslash-escaped apostrophe) [10] \" (backslash-escaped quotation mark) [11] <> (triangular parenthesis) [12] () (parenthesis) [13] + (plus sign) [14] CR (Carriage return, ASCII 0x0d) [15] LF (Line feed, ASCII 0x0a)
	[16], (comma sign) [17] \ (backslash)



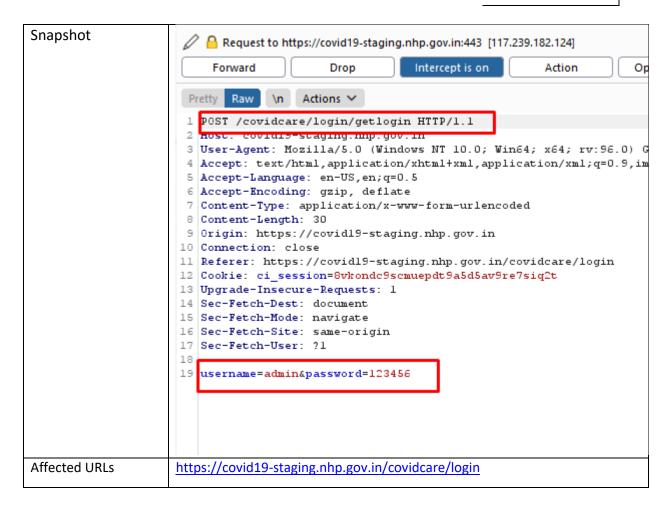




### 2. Password is travelling in the clear text

2) Vulnerability	Title: Password is travelling in the clear text
Risk	High
Abstract	It was observed that the user password is travel in clear text in the
	application.
Ease of Exploitation	Easy
Impact	A third party may be able to Sniff the user credentials.
Recommendations	It is recommended to use SHA-256 with salt for more secured
	application.
	a) Salted SHA-256 technique in, authentication or login module
	b) SHA-256 hash technique in, change password and reset password
	modules.
	The pre-requisite to this is that the backend database stores a SHA-256
	hash of the password. (SHA-256 hash is a cryptographic technique in
	which the actual value can never be recovered.). Here is how the salted
	SHA-256 technique works:
	When a client requests for the login page, the server generates a
	random number, the salt, and sends it to the client along with the
	page. A JavaScript code on the client computes the SHA-256 hash of
	the password entered by the user. It then concatenates the salt to the
	hash and re-computes the SHA-256 hash. This result is then sent to the
	server. The server picks the hash of the password from its database,
	concatenates the salt and computes the SHA-256 hash. If the user
	entered the correct password these two hashes should match. The
	server compares the two and if they match, the user is authenticated.







#### 3. Session Fixation is possible in the application

3) Vulnerability Title: Session Fixation is possible in the application		
Risk	High	
Abstract	It was observed that the application does not re-initialize the session ID stored in the cookie field after login. This allows an attacker to steal the session ID assigned after login, and then simultaneously use the stolen session ID of that user to access restricted pages in the application while the user is logged on. Application is vulnerable to Session Fixation attack.	
Ease of Exploitation	Easy	
Impact	When implemented successfully, attackers assume the identity of the compromised user, enjoying the same access to resources as the compromised user. Identity theft, Information theft, stealing sensitive data are some of the common impacts of session fixation.	
Recommendations	Add a new cookie that randomly changes for each login attempt. Generate different session id before and after authentication. Also every request after the successful authentication should be associated with an extra session identifier cookie which also randomly changes and expires when user logs out from the application or closes the browser.	
Snapshot	-	
Affected URLs	throughout the application	

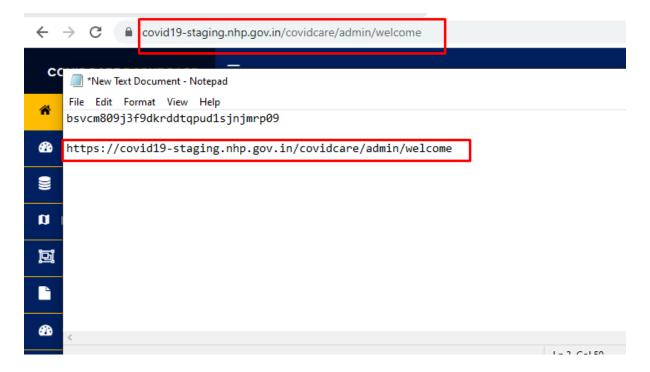


#### How Test was performed:

**Step#1:** Provide invalid credentials and click on 'Login' button and intercept the request. In the capture request, Copy the entire cookie value and paste it into the note pad as shown below:

```
| Post /covidcare/login/getlogin HTTP/1.1
| Host: covidl9-staging.nhp.gov.in
| Connection: close
| Content-Length: 31
| Cache-Control: max-age=0|
| Sec-ch-ua: "Not A;Brand';y="99", "Chromium";y="98", "Google Chrome";y="98"
| Sec-ch-ua-polite: 20
| Sec-ch-ua-plateform: "Windows"
| Upgrade-Insecure-Requests: 1
| Origin: https://covidi9-staging.nhp.gov.in
| Content-Type: application/x-www-form-urlencoded
| User-Agent: Mosilla/S.0 (Windows NT 10.0; Wind4; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/98.0.4758.80 Safari/537.36
| Accept: text/html, application/xhtml+xml, application/xml;q=0.9, image/avif,image/webp,image/apng, "/*;q=0.8, application/signed-exchange;v=b3;q=18
| Sec-Fetch-Site: same-origin |
| Sec-Fetch-Usee: 71
| Sec-Fetch-Usee: 71
| Sec-Fetch-Usee: 171
| Sec-Fetch-Usee: document |
| Referer: https://covidi9-staging.nhp.gov.in/covidcare/login |
| Accept-Encoding: gsip, deflate |
| Accept-Language: en-US, en;q=0.9 |
| Cookie: ci_session=| *VorBUSy3f9dkrddtqpud1sjnjmrp09 |
| New Text Document - Notepad |
| File Edit Format View Help |
| bsvcm809j3f9dkrddtqpud1sjnjmrp09 |
```

Step#2: Login with valid credentials and copy the authenticated URL and paste it into the notepad.



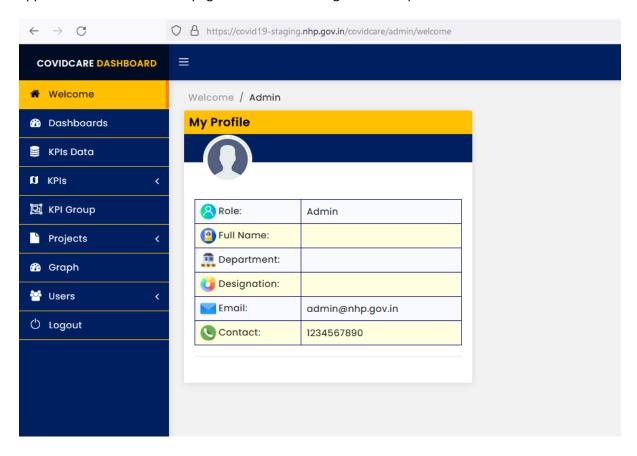


**Step#3:** Open another browser. Paste the copied URL into the address bar and intercept the request. In the captured request, replace the current cookie value with previously copied value and forward the modified request to the server as shown below.





**Step#4:** In the following snapshot, it is clearly seen that session fixation is possible in the application as authenticated page is accessible through modified pre-authenticated cookie value.





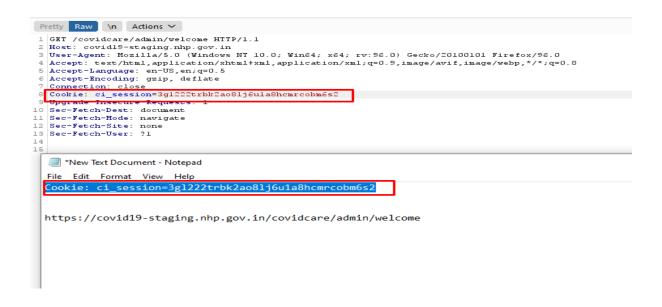
#### 4. Session Hijacking is possible in the application

4) Vulnerability Title: Session Hijacking is possible in the application		
Risk	High	
Abstract	Session hijacking is possible in the application	
Ease of Exploitation	Medium	
Impact	This test is to check whether the cookie can be reused in another computer during the login phase. The server maintains the user state between any client and itself by exchanging the cookie for each request-response between them. If this unique identifier is not removed from the state table of the web application server when user tries to login the same account from another computer then any request subsequent to the user login will be happily serviced by the web application, (Session Hijacking).	
Recommendations	1. Add a new cookie that randomly changes for each login attempt. Generate different session id before and after authentication. Also every request after the successful authentication should be associated with an extra auth cookie: It is possible to view the sensitive information by fetching the page from the cache option of the browser. session identifier cookie which also randomly changes and expires when user logs out from the application or closes the browser. For example; Cookie: AUTHCookie=69BK7F0D8KL; ASP.NET_SessionId= JNHG7H0LKJ57CF4; Cookie: AUTHCookie=5A0KN5F9ER5; ASP.NET_SessionId= JNHG7H0LKJ57CF4; Cookie: AUTHCookie=CG4K8L3T5H; ASP.NET_SessionId= JNHG7H0LKJ57CF4. Cookie: AUTHCookie=L6D3G0JA3S; ASP.NET_SessionId= JNHG7H0LKJ57CF4. 2. SSL should be implemented.	
Snapshot		
Affected URLs	Throughout the application	



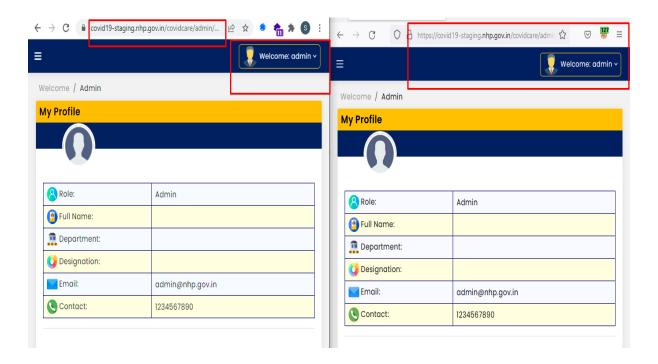
#### **How Test was performed**

**Step:1#**: In the authenticated Session, Capture the request, copy the Cookie value in notepad and Url as well. After that open the different browser and paste the url there with capturing the request change the new cookie value to old Cookie value.





**Step:2#**: As per below snapshot, it is clearly shown that Session hijacking is possible in the application





### **5. Stored Cross Site Scripting**

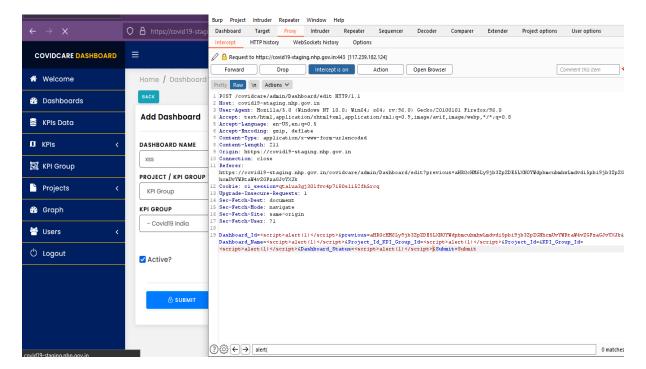
5) Vulnerability	Title: Stored Cross-Site Scripting
Risk	High
Abstract	It was observed that there was a Stored Cross site scripting
	vulnerability found in the given application
Ease of Exploitation	Easy
Impact	Malicious users may inject JavaScript, VBScript, ActiveX, HTML or Flash
	into a vulnerable application to fool a user in order to gather data from
	them. An attacker can steal the session cookie and take over the
	account, impersonating the user every time the page is opened.
Recommendations	1. The input data should be validated for special characters both in
	value fields and in URL. Application should not save scripts in the
	database. Validation at the server end is mandatory. Note: Fix this
	vulnerability throughout the application.
	It is recommended to filter out all the following characters at user
	input:
	[1]   (pipe sign)
	[2] & (ampersand sign)
	[3] ; (semicolon sign)
	[4] \$ (dollar sign)
	[5] % (percent sign)
	[6] @ (at sign)
	[7] ' (single apostrophe)
	[8] " (quotation mark)
	[9] \' (backslash-escaped apostrophe)
	[10] \" (backslash-escaped quotation mark)
	[11] e<> (triangular parenthesis)
	[12] () (parenthesis)
	[13] + (plus sign)
	[14] CR (Carriage return, ASCII 0x0d)
	[15] LF (Line feed, ASCII 0x0a)
	[16], (comma sign)
	[17] \ (backslash)
	2. Scripts should ideally not be included from untrusted domains.
	Applications that rely on static third-party scripts should consider using



Snapshot	Sub resource Integrity to make browsers verify them, or copying the contents of these scripts onto their own domain and including them from there. If that is not possible (e.g. for licensing reasons) then consider reimplementing the script's functionality within application code.
Affected URLs	throughout the application

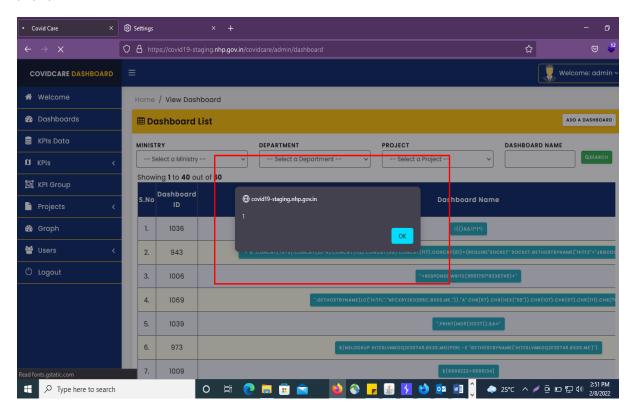
#### How Test was performed:

**Step#1:** Open the URL, Login with the valid credential, go to Dashboard – Add Dashboard name and add Script in the input field then save the details as shown below:





**Step#2:** It is clearly seen that the cross-site scripting attack is executed successfully as we see the popup in the screen.





### **6. Cross-Site Request Forgery**

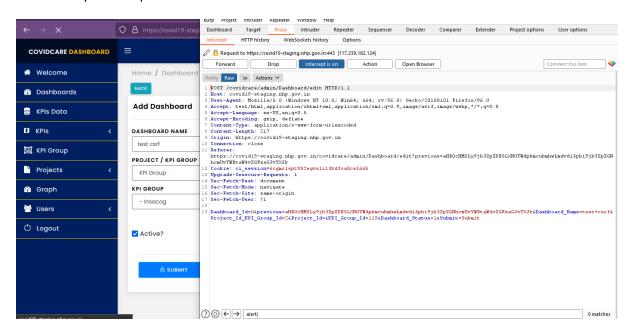
6) Vulnerability	Title: Cross-Site Request Forgery
Risk	High
Abstract	Cross Site Request Forgery (CSRF) attack is possible which forces a logged-on victim's browser to send a request to a vulnerable web application, which then performs the chosen action on behalf of the victim.
Ease of Exploitation	Hard
Impact	It is possible to steal or manipulate customer session and cookies, which might be used to impersonate a legitimate user, allowing the hacker to view or alter user records, and to perform transactions as that user
Recommendations	Here the problem is - sharing of Cookie values across different instances of the same browser for the same host page. The application should implement the following techniques to prevent the CSRF attack: Insert custom random tokens into every form (page) —  1. Such that to validate each request a random token is generated for that request on the server side with the server response to the previous request.  2. These tokens will not be shared across different instances of the same browser accessing the same host page. Thus, these tokens will not be automatically submitted by the browser.  3. Validate the submitted token at the server end.  4. If the request doesn't contain the token or if the submitted token is incorrect then don't address the request.  5. Token value should change on each and every request.  6. Token value should be implemented on Page body.  7. Token value should be alphanumeric and minimum 32 characters.  8. Token should also be implemented on logout button.  For example: <form action="FundTransfer.aspx" method="POST"> <input name="csrf-token" type="hidden" value="0435d6a57t6g6hAFs39D8sd123456"/> </form>



	It is recommended the token value should change at each page load event and should be validated on the server side before addressing the request. Also, make sure that server does not address the request if the CSRF token contains previously used values.
Snapshot	-
Affected URLs	throughout the application

#### How Test was performed:

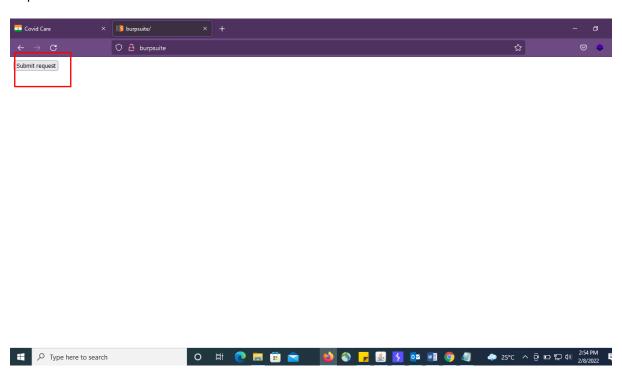
**Step#1:** Open the URL and Login with admin role and go to Add content then fill the required details and intercept the request as shown below:





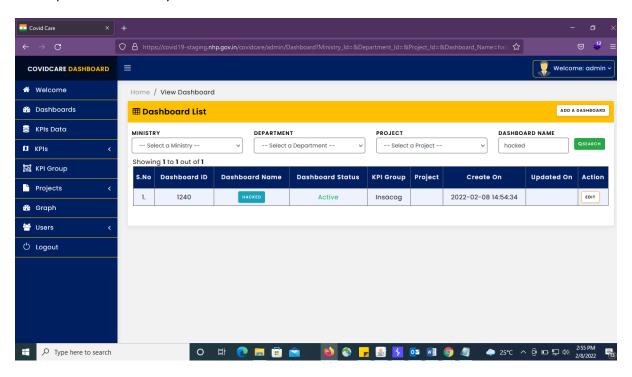
**Step#2:** Use the copied parameters for crafting a CSRF page and change the value of parameter Name "Hacked" save the file with .html as shown below:

**Step#3:** Now, Call the crafted page in another tab of logged-in user's session, click on 'Submit request' as shown below:





**Step#4:** It is clearly seen that authentication action is performed by calling CSRF page as the data has been updated successfully as shown below:





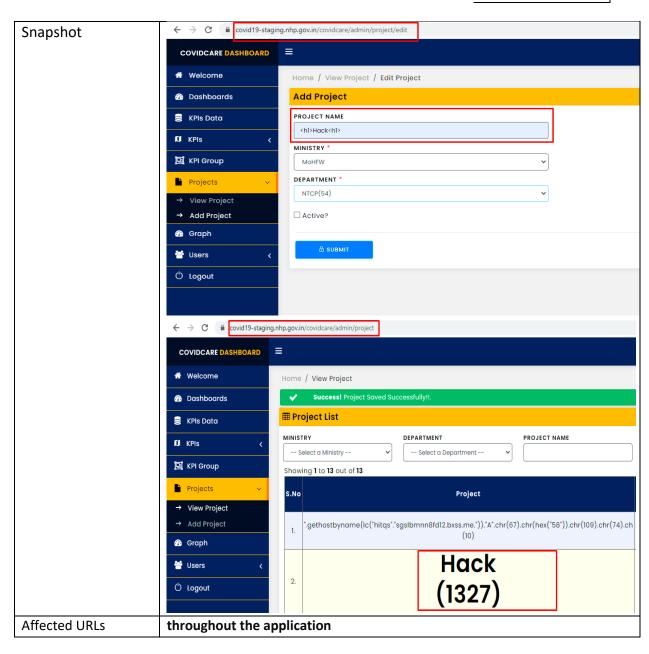
# Medium



#### 7. HTML Injection attack is possible in the application

1) Vulnerability Title: HTML Injection attack is possible in the application		
Risk	High	
Abstract	It was observed that HTML injection is possible in the application.	
Ease of Exploitation	Easy	
Impact	An attacker can change displayed website's appearance.	
	To steal another person's identity	
Recommendations	It is recommended to filter out all the following characters at user	
	input:	
	[1]   (pipe sign)	
	[2] & (ampersand sign)	
	[3] ; (semicolon sign)	
	[4] \$ (dollar sign)	
	[5] % (percent sign)	
	[6] @ (at sign)	
	[7] ' (single apostrophe)	
	[8] " (quotation mark)	
	[9] \' (backslash-escaped apostrophe)	
	[10] \" (backslash-escaped quotation mark)	
	[11] e<> (triangular parenthesis)	
	[12] () (parenthesis)	
	[13] + (plus sign)	
	[14] CR (Carriage return, ASCII 0x0d)	
	[15] LF (Line feed, ASCII 0x0a)	
	[16] , (comma sign)	
	[17] \ (backslash)	



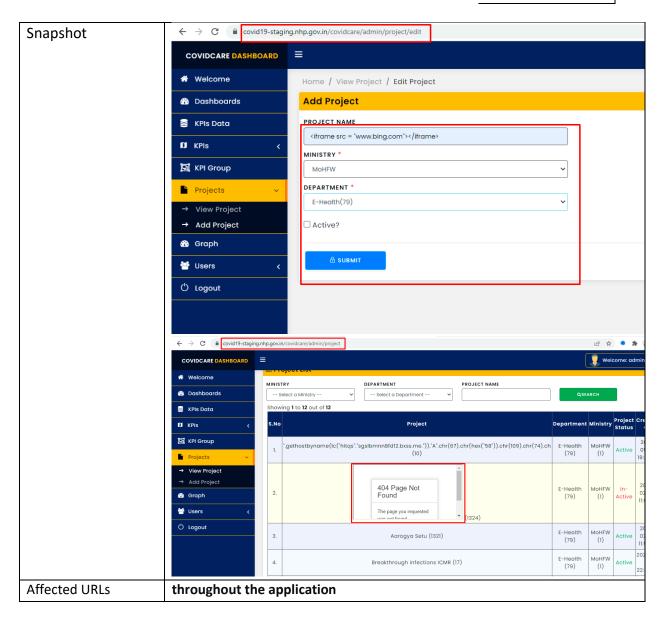




#### 8. Iframe Injection attack is possible in the application

2) Vulnerability Title: Iframe Injection attack is possible in the application		
Risk	High	
Abstract	It was observed that Iframe injection is possible in the application.	
Ease of Exploitation	Easy	
Impact	An attacker can change displayed website's appearance.	
	To steal another person's identity	
Recommendations	It is recommended to filter out all the following characters at user	
	input:	
	[1]   (pipe sign)	
	[2] & (ampersand sign)	
	[3] ; (semicolon sign)	
	[4] \$ (dollar sign)	
	[5] % (percent sign)	
	[6] @ (at sign)	
	[7] ' (single apostrophe)	
	[8] " (quotation mark)	
	[9] \' (backslash-escaped apostrophe)	
	[10] \" (backslash-escaped quotation mark)	
	[11] e<> (triangular parenthesis)	
	[12] () (parenthesis)	
	[13] + (plus sign)	
	[14] CR (Carriage return, ASCII 0x0d)	
	[15] LF (Line feed, ASCII 0x0a)	
	[16] , (comma sign)	
	[17] \ (backslash)	







### 9. Old & Vulnerable version of jQuery is used in the application

3) Vulnerabili	ty Title: Old & Vulnerable version of JQuery used	
Risk	Medium	
Abstract	It was observed that this page is using an older version of jQuery that is	
	vulnerable to a Cross Site Scripting vulnerability	
Ease of Exploitation	Medium	
Impact	An attacker can steal the cookies as well as the user session Id.	
Recommendations	It is recommended to update to latest version of jQuery.	
Snapshot		
	← → C	
Affactod LIDI a		
Affected URLs	throughout the application	



### 10. Dangerous HTTP Method is used in the application

4) Vulnerabili	ty Title: Dangerous HTTP Method use	ed	
Risk	Medium		
Abstract	It was observed that Http methods (PUT, DELETE, TRACE/TRACK, OPTIONS) are enabled on this web server.		
Ease of Exploitation	Medium		
Impact	It was observed that using these methods may expose sensitive information that may help malicious user to prepare more advanced attacks		
Recommendations	It is recommended to disable http dange	erous methods on the web server	
Snapshot	Request  Proty East In Addons V  1 PUT /cordcare/login/getlogin HTF7/.1  2 Host: coridis-staging.nbg.gov.in  1 Nose-Agent: Mostila/s. (Windows NT 10.0; Win64; x64; rv:56.0) Gecko/20100101 Firefox/56.0  4 Accept: Language: an-US, en.gel. 5  5 Accept-Language: an-US, en.gel. 5  6 Accept-Eanguage: an-US, en.gel. 6  7 Content-Type: application/s-waveform-urlencoded  8 Content-Ingel: application/s-waveform-urlencoded  9 Content-Ingel: application/s-waveform-urlencoded  10 Commercion: close  11 Paferer: https://coridis-staging.nbg.gov.in/coridcare/login  12 Condito: [.sestion=DywondoSexuageduSadSavSeysiqut  13 Nec-Fetch-Hode: navigate  15 Nec-Fetch-Hode: navigate  15 Nec-Fetch-Hode: navigate  15 Nec-Fetch-User: 71  18 Username=afminipassword=12456	Response  Rety Raw Render in Addions >  1 HTFY.L.1 COO CK 2 Date: Mon, OT Feb 2022 00:53:31 CMT 3 Server: Spache 4 Expires: Thm, 15 Nov 1501 08:52:00 CMT 5 Cache-Control in-store, no-cache, must-revalidate, no-transform, mar-age=0, post-check 6 Pragma: no-cache 7 Pset-Cookie: cisession=farmytqmin6sSmlhfqsho0272mccogd5; expires=Mon, 07-Feb-2022 10:53 8 Way: Accept-In-coding 9 Content-Length: 2500 10 Connection: close 11 Content-Type: text/html; charset=UTF-0 11 Content-Type: text/html; charset=UTF-0 12 cacta charset="utf-0"/> 13 Chead 14 Chead 15 Chead 16 Chead 17 cheal lang="en"> 18 Chead 18 Chead 19 Chead 10 cacta charset="utf-0"/> 10 cacta charset="utf-0"/> 10 cacta http-equip="%-Uk-Compatible" content="12-edge"/> 10 cacta mase="description" content=""/> 10 cacta mase="description" content=""/> 10 cacta mase="description" content=""/> 17 cacta nase="description" content=""/> 18 cacta mase="description" content=""/> 18 cacta mase="description" content=""/> 20 cacta mase="description" content=""/> 21 cacta mase="description" content=""/> 22 cacta mase="description" content=""/> 23 cacta mase="description" content=""/> 24 cacta mase="description" content=""/> 25 critle> 26 critle> 27 citle> 28 cline rel="shortcut icon" type="image/x-icon" href="https://covidf=staging.nhp.gov 27 cline Montrap CSS> 28 cline Mref="https://covidf=staging.nhp.gov.in/covidcare/assets/hackend/css/hootstr 28 cline href="https://covidf=staging.nhp.gov.in/covidcare/assets/hackend/css/hootstr 28 cline href="https://covidf=staging.nhp.gov.in/covidcare/assets/hackend/css/hootstr	
Affected URLs	throughout the application		



#### 11. Error Message on Page

5) Vulnerability	/ Title: Error Message on Page	
Risk	Medium	
Abstract	Application error or warning messages may expose sensitive information about an application's internal workings to an attacker.	
Ease of Exploitation	Easy	
Impact	Error messages may disclose sensitive information which can be used to escalate attacks.	
Recommendations	<ol> <li>Verify that this page is disclosing error or warning messages and properly configure the application to log errors to a file instead of displaying the error to the user.</li> <li>Use customized error message.</li> </ol>	
Snapshot	An uncaught Exception was encountered  Type: RuntimeException  Message: Unable to locate the model you have specified: Kpi_state_graph_data_model  Filename: /var/www/html/corona/covidcare/system/core/Loader.php  Line Number: 348  Backtrace:  File: /var/www/html/corona/covidcare/application/controllers/admin/Graph_dashboard.php Line: 20  Function: model  File: /var/www/html/corona/covidcare/index.php Line: 319  Function: require_once	
Affected URLs	throughout the application	



### 12. Older version of PHP is used in the application

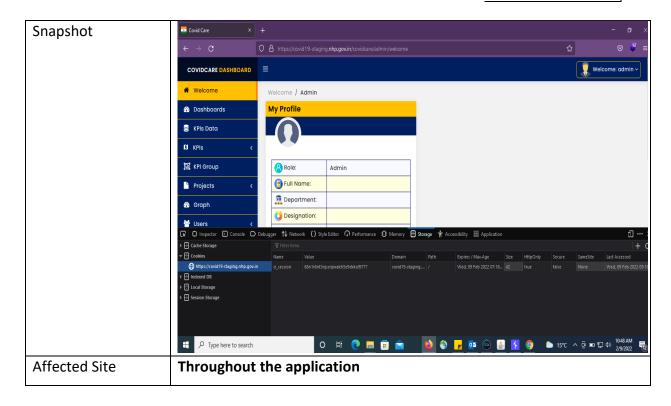
6) Vulnerability	y Title: Older	version of PHP is u	sed in the applic	ation
Risk	Medium			
Abstract	It was observed that Older version of PHP is used in the application.			
Ease of Exploitation	Easy			
Impact	PHP before has buffer overflow, remote code execution, xmlrpc etc. like vulnerabilities.			
Recommendations	It is recomm	ended to use lates	t or stable versio	n.
Snapshot		PHP Version 7.0.33-57+ubunt  System Build Date Server API		102-Ubuntu SMP Fri Nov 5 16:31:28 UTC 2021 x86_64
		Virtual Directory Support  Configuration File (php.ini) Path Loaded Configuration File Scan this dir for additional .ini files Additional .ini files parsed	disabled /etc/php/7.0/apache2 /etc/php/7.0/apache2/php.ini /etc/php/7.0/apache2/conf.d/	sqind ini, /etc/php/7.0/apache2/conf.d/10-opcache ini,
			/etc/php7.0/apache2/conf d10-pd /etc/php7.0/apache2/conf d20-ct/pe exif ini, /etc/php7.0/apache2/conf. /etc/php7.0/apache2/conf.d20-gd. iconv.ini, /etc/php7.0/apache2/conf.d20-my /etc/php7.0/apache2/conf.d20-phy /etc/php7.0/apache2/conf.d20-phy readline ini, /etc/php7.0/apache2/c /etc/php7.0/apache2/conf.d20-phy	p. in, /act/php7/ Olapache2/coorf d/20-calendra/in, p. in, /act/php7/ Olapache2/coorf d/20-calendra/in, p. in, /act/php7 (Japache2/coorf d/20-cut in), /act/php7 (Japache2/coorf d/20-tb, in), in, /act/php7/ Olapache2/coorf d/20-tb, in), in, /act/php7/ Olapache2/coorf d/20-getest xin, /act/php7 (Japache2/coorf d/20-do), d/20-tb, ini, /act/php7 (Japache2/coorf d/20-goor, in), gill ini, /act/php7 (Japache2/coorf d/20-goor, in), gill ini, /act/php7 (Japache2/coorf d/20-goor, in), d/20-doorf d/20-doorf d/20-goorf d/20
		PHP API	20151012	
		PHP Extension	20151012	
		Zend Extension	320151012	
		Zend Extension Build	API320151012,NTS	
		PHP Extension Build	API20151012,NTS	
		Debug Build	no disabled	
		Thread Safety  Zend Signal Handling	disabled	
		Zend Signal Handling Zend Memory Manager	enabled	
		and the state of t	отмоче	
Affected URLs	throughout	the application		



#### 13. Session Cookie without Secure and Same Site Flag Set

7) Vulnerability	Title: Session cookie without secure and Same Site flag Set
Risk	Medium
Abstract	It was observed that session cookie is without secure & same site flag set.
Ease of Exploitation	Medium
Impact	If the secure flag is set on a cookie, then browsers will not submit the cookie in any requests that use an unencrypted HTTP connection, thereby preventing the cookie from being trivially intercepted by an attacker monitoring network traffic. If the secure flag is not set, then the cookie will be transmitted in clear-text if the user visits any HTTP URLs within the cookie's scope. An attacker may be able to induce this event by feeding a user suitable links, either directly or via another web site.
	Without the SameSite flag, the application may be vulnerable to cross site request forgery (CSRF) and cross origin information leakage attacks since the browser will send cookies across origins. An attacker can use these attacks to trick a user into performing an action or into leaking sensitive data.
Recommendations	It is recommended that Configure the application to set the Secure flag.  Configure the application to set the SameSite flag. As this is a relatively new cookie attribute, the flag may need to be set programmatically by code on the server side. Set the attribute as such:
	Set-Cookie: CookieName=CookieValue; SameSite=Strict/Lax; The SameSite attribute can be set with two values:
	Strict – The cookie is not sent with any cross-site requests, even if the user follows a link to a third party site.
	Lax – The cookie is sent with a top-level GET request, such as a user following a link to a third party site.







#### 14. Session Timeout is not defined

8) Vulnerability Title: Session Timeout is not defined		
Risk	Medium	
Abstract	It was observed that even if the Browser is logged in and idle it does	
	not logout the session automatically	
Ease of Exploitation	Easy	
Impact	It is possible to access authenticated pages.	
Recommendations	Application should terminate a session if there is no activity from the	
	user-side for a fixed period of time, e.g., 15 minutes.	
Snapshot	-	
Affected URLs	throughout the application	



#### 15. PHP allow\_url\_fopen enabled

9) Vulnerability Title: PHP allow_url_fopen enabled		
Risk	Medium	
Abstract	The PHP configuration directive allow_url_fopen is enabled. When enabled, this directive allows data retrieval from remote locations (web site or FTP server). A large number of code injection vulnerabilities reported in PHP-based web applications are caused by the combination of enabling allow url fopen and bad input filtering.	
Ease of Exploitation	Easy	
Impact	Application dependant - p	ossible remote file inclusion.
Recommendations	You can disable allow_url_fopen from either php.ini (for PHP versions newer than 4.3.4) or .htaccess (for PHP versions up to 4.3.4).  php.ini allow_url_fopen = 'off' .htaccess php_flag allow_url_fopen off	
Snapshot	← → C iii covid19-staging.nhp.gov.in/phpinfo.php  PHP Version 7.0.33-57+ubuntu20.04.1+deb.sury.org+1	
	System	Linux STG-PHP 5.4.0-91-generic #102-Ubuntu SMP Fri Nov 5 16:31:28 UTC 2021 x86_64
	Build Date	Nov 19 2021 06:39:53
	Server API	Apache 2.0 Handler
	Virtual Directory Support	disabled
	Configuration File (php.ini) Path	/etc/php/7.0/apache2
	Loaded Configuration File  Scan this dir for additional .ini files	/etc/php/7.0/apache2/php.ini /etc/php/7.0/apache2/conf d
	Additional .ini files parsed	leto(phpf) (algasche2)conf d10-mysqlnd ini, leti(phpf) (algasche2)conf d10-opcache ini, leto(phpf) (algasche2)conf d10-pdo ini, leto(phpf) (algasche2)conf d20-calendar ini, leto(phpf) (algasche2)conf d20-calendar ini, leto(phpf) (algasche2)conf d20-calendar ini, leto(phpf) (algasche2)conf d20-de ini, leto(phpf) (algasche2)conf d
	PHP API	20151012
	PHP Extension	20151012
	Zend Extension	320151012
	Zend Extension Build	API320151012,NTS
	PHP Extension Build	API20151012,NTS
	Debug Build	no
	Thread Safety	disabled
	Zend Signal Handling	disabled
	Zend Memory Manager	enabled
Affected URLs	throughout the application	



### 16. PHP open\_basedir is not set

10) Vulnerability T	itle: PHP open_basedir is no	t set
Risk	Medium	
Abstract	The open_basedir configuration directive will limit the files that can be opened by PHP to the specified directory-tree. When a script tries to open a file with, for example, fopen() or gzopen(), the location of the file is checked. When the file is outside the specified directory-tree, PHP will refuse to open it. open_basedir is a good protection against remote file inclusion vulnerabilities.	
Ease of Exploitation	Easy	
Impact	Application dependant -	possible remote file inclusion.
Recommendations	You can set open_basedir from php.ini php.ini open_basedir = your_application_directory	
	System Build Date Server API Virtual Directory Support Configuration File (php.ini) Path Loaded Configuration File Scan this dir for additional .ini file Additional .ini files parsed  PHP API PHP Extension Zend Extension Zend Extension Build PHP Extension Build Debug Build	Linux STG-PHP 5.4.0-91-generic #102-Ubuntu SMP Fri Nov 5 16:31:28 UTC 2021 x86_64  Nov 19 2021 06:39:53  Apache 2.0 Handler disabled /etc/php7.0lapache2/php.ini s /etc/php7.0lapache2/php.ini /etc/php7.0lapache2/conf d/10-mysqlnd.ini, /etc/php7.0lapache2/conf d/10-opcache.ini, /etc/php7.0lapache2/conf d/10-dpo.ni, /etc/php7.0lapache2/conf d/20-dpo.ni, /etc/php7.0lapache2/cpo.ni, /etc/php7.0lapache2/cppy7.0lapache2/cpysysma.ni, /etc/php7.0lapache2/
	Thread Safety	disabled
	Zend Signal Handling  Zend Memory Manager	disabled enabled



#### 17. PHP info page Found

11) Vulnerability T	itle: PHP info page Found	
Risk	Medium	
Abstract	PHPinfo page has been fou	ınd in this directory. The PHPinfo page
		information about the current
		information about PHP compilation options
	and extensions, the PHP ve	ersion, server information and environment
	(if compiled as a module).	the PHP environment, OS version
	• •	and local values of configuration options,
	HTTP headers, and the PHI	P License.
Ease of Exploitation	Easy	
Impact	This file may expose sensit	ive information that may help an malicious
1	user to prepare more adva	
Dagananan daga	•	
Recommendations	Remove the file from production systems.	
Snapshot	← → C â covid19-staging.nhp.gov.in/phpinfo.php	
	PHP Version 7.0.33-57+ut	puntu20.04.1+deb.sury.org+1
	System	Linux STG-PHP 5.4.0-91-generic #102-Ubuntu SMP Fri Nov 5 16:31:28 UTC 2021 x86_64
	Build Date	Nov 19 2021 06:39:53
	Server API	Apache 2.0 Handler
	Virtual Directory Support	disabled
	Configuration File (php.ini) Path  Loaded Configuration File	/etc/php/7.0/apache2/ /etc/php/7.0/apache2/ohp.ini
	Scan this dir for additional .ini files	/etc/php/7.0/apache2/conf.d
	Additional.ini files parsed	/etc/php7 (Vapache2/cont d/10-mysqind.ini, /etc/php7, Vapache2/cont d/10-opcache.ini, /etc/php7 (Vapache2/cont d/10-dpc.ini, /etc/php7, Vapache2/cont d/10-opcache.ini, /etc/php7 (Vapache2/cont d/20-dpc.ini, /etc/php7, Vapache2/cont d/20-dpc.ini, /etc/p
	PHP API	20151012
	PHP Extension	20151012
	Zend Extension Zend Extension Build	320151012 API320151012 NTS
	Zend Extension Build PHP Extension Build	API320151012,NTS API20151012,NTS
	Debug Build	NO N
	Thread Safety	disabled
	Zend Signal Handling	disabled
	Zend Memory Manager	enabled
Affected URLs	throughout the application	



#### 18. Audit Log History is not properly maintained in the application

12) Vulnerability Title: Audit trail is not properly maintained in the application		
Risk	Medium	
Abstract  Ease of Exploitation	It was observed that log record system is not properly implemented to check last login details and IP of the user.  Easy	
Impact	It is difficult to keep track of logged in users in case of any incident theft/fraud.	
Recommendations	It is recommended to implement log recording system which monitor login history records  An Audit trail should be incorporated in the application admin module, where all user activities have to be logged.  Following points should be considered:  • Audits are to be generated at the time of resource access and by the same routines accessing the resource  • Information to be logged including the following: IP of the originating client, Date, Time, username if any in addition to other details to be logged in the web server.  • These IP, date, time, session details, user details (NO password), referrer, process id to be logged in application logs.  • To create audit logs, use auto numbering so that every logged entry has a log number, which is not editable. Then if one audit entry is deleted a gap in the numbering sequence will appear. Log entries are to be hashed/signed so that changes to audit log can be detected.  • Audit trails to answer the following  • Logging of Authentication Process. Success and failed attempts.  • Logging Authentication details and changes.  • Software error and failures logged  • Should not be possible to retrieve confidential authentication information from these logs (including passwords)  • Is it possible to uniquely identify both client host and user from these logs?  • What level of information is logged by the application (read/write access, modification data, and copy/paste data)?  • Are log files time sequential and can they positively identify the time of action?	
Snapshot	-	



		1/ X
ffected URLs	throughout the application	
	,	



#### 19. Back Button Enabled

3) Vulnerability Title: Back button is enabled		
Risk	Low	
Abstract	Back button is enabled in the application.	
Ease of Exploitation	Easy	
Impact	It is possible to access authenticated pages through back button of the	
	browser.	
Recommendations	Restriction on accessing the application through back button to be	
	implemented properly. After logout, all session values to be expired &	
	application to be redirected on login page where the back button has to be	
	disabled properly.	
Affected URLs	throughout the application	



# Low



### 20. Forgot Password is not implemented in the application.

1) Vulnerability T	itle: Forgot password is not available for the users.	
Risk	Low	
Abstract	It was observed that Forgot password is not implemented on the login	
	page.	
Ease of Exploitation	Easy	
Impact	User is not able to retrieve their password.	
Recommendations	Users may be required to retrieve their password. Users should be	
	provided with a "forgot password" option through which user will	
	retrieve their password whenever required.	
	Forgot password should be enabled with the user's email address.	
	However, if the password retrieval is internal in the application then it	
	is recommended to implement a hyperlink on login page resulting to a	
	static page containing a message. "Please contact your site	
	administrator at mail_id[at]domain[dot]com".	
	Please note that the email address in the message should not be a	
	hyperlink.	
Snapshot	← → C 🔒 covid19-staging.nhp.gov.in/covidcare/login	
	COVID CARE  Centre for Health Informatics Ministry of Health and Family Welfare Government of India	
	LOGIN PAGE	
	Enter Username <u>Q</u>	
	Enter Password 🕒	
	REMEMBER ME	
Affected URLs	throughout the application	



### 21. Change Password is not implemented in the application.

2) Vulnerability Title: Change password is not available for the users.		
Risk	Low	
Abstract	It was observed that Change password is not implemented in the application.	
Ease of Exploitation	Easy	
Impact	User is not able to change their password.	
Recommendations	Users may be required to change their password. Users should be provided with a "Change Password" module through which user will change their password whenever required. There are the following conditions should be implemented for Change Password module:  1. The password between client and server must be passed in SHA-256 hash technique.  2. Passwords should have restrictions that require a minimum size (8-15 characters) and complexity for the password. Complexity typically requires the use of minimum combinations of alphabetic, numeric, and non-alphanumeric characters in a user?s password (e.g. at least one special character (\$,@,#,&), one upper case letter, one lower case letter and one number like Test@123).  3. Users should be prevented from reusing their current or previous 3 passwords. Password history should ideally be 3.	
Snapshot	COVIDCARE DASHBOARD  Welcome  Home / View User    User List   ROLE TYPE	
Affected URLs	throughout the application	

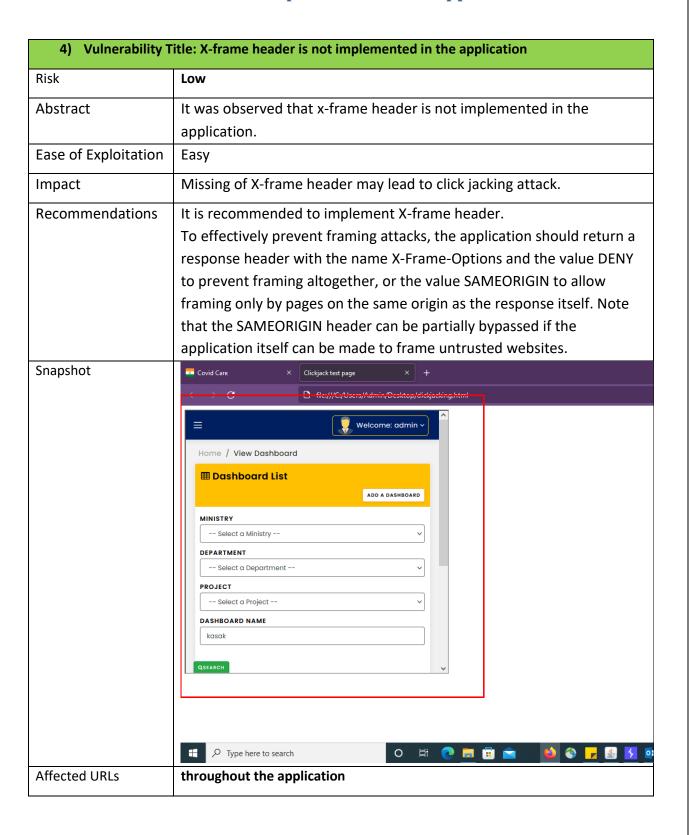


#### 22. Max. Length of Input Fields is not defined in the application

3) Vulnerability T	itle: Max. length of input field is not defined in the application	
Risk	Low	
Abstract	It was observed that max. Length for input fields is not defined.	
Ease of Exploitation	Easy	
Impact	This may lead to a buffer overflow attack.	
Recommendations	Length restriction for every input field should be defined at client as well as at server end.	
Snapshot	COVID CARE Centre for Health Informatics Ministry of Health and Family Welfare Government of India  LOGIN PAGE  adminiminiminiminiminimini  REMEMBER ME  LOG IN	
Affected URLs	throughout the application	



#### 23. X-Frame header is not implemented in the application





### 24. Account Lockout policy not implemented in the application

5) Vulnerability Title: Account Lockout policy not implemented in the application		
Risk	Low	
Abstract	It was observed that This login page doesn't have any protection against	
	password-guessing attacks (brute force attacks).	
Ease of Exploitation	Easy	
Impact	An attacker may attempt to discover a weak password by systematically	
	trying every possible combination of letters, numbers, and symbols until it	
	discovers the one correct combination that works.	
Recommendations	It's recommended to implement some type of account lockout after a defined	
	number of incorrect password attempts.	
Snapshot	-	
Affected URLs	throughout the application	



### 25. Old & Vulnerable version of Bootstrap in the application

6) Vulnerability Title: Old & Vulnerable bootstrap version		
Risk	Low	
Abstract	It is observed that old & vulnerable bootstrap used	
Ease of Exploitation	Easy	
Impact	An attacker can steal the cookies as well as the user session id and also Perform XSS	
Recommendations	It is recommended that use only Updated Bootstrap version in the application	
Snapshot	## Bootstrap v3.3.7 (http://getbootstrap.com)  * Copyright 2011-2016 Twitter, Inc.  * Licensed under the MIT license  */  if("undefined"=typeof jQuery)throw new Error("Bootstrap's JavaScript requires jQuery");*function(a){"use strict";var b=a.fn.jquery.s'  if("undefined"=typeof jQuery)throw new Error("Bootstrap's JavaScript requires jQuery version 1.9.1 or higher, but lower than strict";function b(){var a=document.createElement("bootstrap"),b={\text{iebkitTransition:"webkitTransitioned",MozTransition:"transitioned"};for(var c in bijf(void 0)==a.style[c])return[c]);return]s.fn.emulateTransitioned ortansitioned",transitionied";for(var c in bijf(void 0)==a.style[c])return[c]);return]s.fn.emulateTransitioned c=11,d=this;a(this).one("bstransitioned");for(var c in bijf(void 0)==a.style[c])return[c]);return]s.fn.emulateTransitioned c=11,d=this;a(this).one("bstransitioned");for(var c in bijf(void 0)==a.style[c])return[c]);return]s.fn.emulateTransitioned(),a.support.transitioned(),a.support	
Affected URLs	Throughout the application	



#### 26. Source code disclosure in the application.

7) Vulnerability Title: Sensitive information disclosed		
Risk	Low	
Abstract	It is observed that sensitive information is disclosed in the application	
Ease of Exploitation	Easy	
Impact	It may lead to perform multiple vulnerabilities by attacker	
Recommendations	It is recommended that sensitive information should not disclosed in the application	
Snapshot	Apps M Gmail VouTube Maps Maps Maps Maps Maps Maps Maps Maps	
Affected URLs		



#### 27. Security headers are not implemented in the application.

8) Vulnerabili	ty Title: Security headers not implemented	d	
Risk	Low		
Abstract	It is observed that security headers are not implemented in the application		
Ease of Exploitation	Easy		
Impact	It may lead to perform attacks like XSS, Clickjacking etc.		
Recommendations	It is recommended that sensitive information should not disclosed in the application		
Snapshot	Request  Petty Row In Addons V  I WII /covidcare/login/qetlogin HTTP/L1  3 Host: covidi5-staging nbp. gov.in  3 User-laggage: Horsis (Windows NI 10.0; Win64; x64; rv:96.0) Gecto/20100101 Firefox/56.0  4 Accept: test/futal, application/rheal+mal, application/mal;q=0.9,image/avif,image/webp,*/*,q=0.8  5 Accept-language: en=US_sm;q=0.5  6 Accept-language: en=US_sm;q=0.5  6 Accept-language: en=US_sm;q=0.5  7 Content-Imposition/getlate  7 Content-Imposition/getlate  9 Content-Imposition/getlate  10 Goodnet-Language  10 Goodnet-ci-mapth: 20  10 User-language: Application/r=www-form-urlencoded  11 Goodnet: ci_msexion=WorkendesvamagetSaddSavSve7siq=1  12 User-Tech-User: Content = Requests: 1  13 Sec-Tech-User: Content = Requests: 1  15 Sec-Tech-User: Content = Requests: 1  18 User-mane=admintpassword=123456	Response    HITF/L.1 200 OK	
Affected URLs			

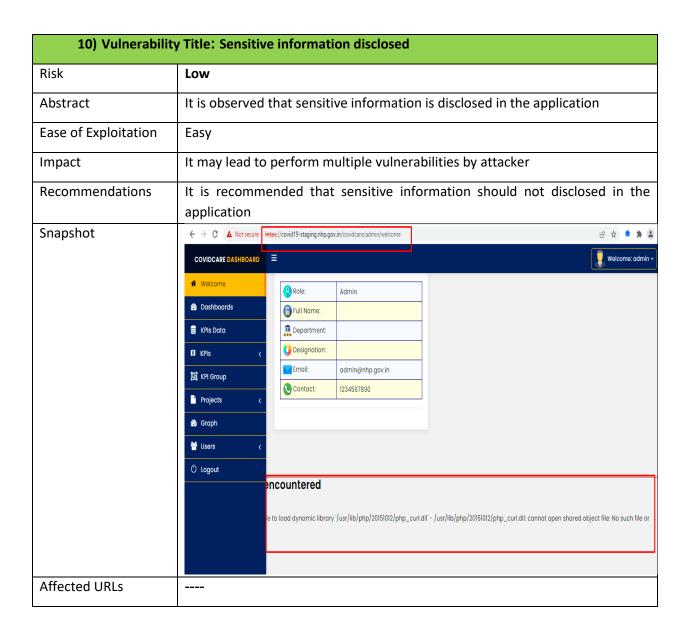


### 28. Functionality issues in the application

9) Vulnerability	y Title: Functionality issue		
Risk	Low		
Abstract	It was observed that Functionality issues are in the application		
Ease of Exploitation	Medium		
Impact	Attacker can advantage of this and implement upload or store malicious script or vulnerable page in the application		
Recommendations	It is recommended that application should be functional properly		
Snapshot	An uncaught Exception was encountered  Type: RuntimeException  Message: Unable to locate the model you have specified: Kpi_state_graph_data_model  Filename: /var/www/html/corona/covidcare/system/core/Loader.php  Line Number: 348  Backtrace:  File: /var/www/html/corona/covidcare/application/controllers/admin/Graph_dashboard.php  Line: 20  Function: model  File: /var/www/html/corona/covidcare/index.php  Line: 319  Function: require_once		
Affected URLs	https://covid19-staging.nhp.gov.in/covidcare/admin/Graph_dashboard/		



#### 29. Sensitive information disclosed in the application.





#### 30. Password Complexity is not defined

11) Vulnerability	Title: Password complexity is not defined	
Risk	Low	
Abstract	It was observed that password complexity is not implemented in the	
	application	
Ease of Exploitation	Easy	
Impact	The attacker can guess the password or the attacker may perform the simple	
	brute force attack to find the password.	
Recommendations	Passwords should have restrictions that require a minimum size (8-15	
	characters) and complexity for the password.	
	Complexity typically requires the use of minimum combinations of alphabetic,	
	numeric, and non-alphanumeric characters in a user's password (e.g. one	
	special character (\$,@,#,&),one upper case letter and one lower case letter	
	and one number like Test@123).	
Snapshot	Request to https://covid19-staging.nhp.gov.in:443 [117.239.182.124]  Forward Drop Intercept is on Action Open Browser  Pretty Raw \n Actions \sum \	
	post /covidcare/login/getlogin HTTP/1.1  host. coviding-staging.imp.gov.in  User-Agent: Notilla/5.0 (Windows NT 10.0; Win64; x64; rv:96.0) Gecko/20100101 Firefox/96.0  Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,*/*;q=0.8  Accept-Language: en-US,en;q=0.5  Accept-Encoding: gsip, deflate  Content-Type: application/x-www-form-urlencoded  Content-Length: 30  Origin: https://covidl9-staging.nhp.gov.in  Commection: close  Referer: https://covidl9-staging.nhp.gov.in/covidcare/login  Coolie: ci_session=8wkondc9scamepdt9a5d5av9re7siq2t  Uggrade-Insecure-Requests: 1  Sec-Fetch-Dest: document  Sec-Fetch-Mode: navigate  Sec-Fetch-Mode: navigate  Sec-Fetch-Mode: sawjate  Sec-Fetch-Mode: sawjate  Sec-Fetch-User: ?1  username=admin&password=123456	
Affected URLs	throughout the application	



### 31. Path is set to Default in the application

12) Vulnerability T	itle: Path is set to Default in the application			
Risk	Low			
Abstract	It was observed that path is set to default i.e. '/' in the application.			
Ease of Exploitation	Easy			
Impact	It is difficult to keep track of logged in users in case of any incident theft/fraud.			
Recommendations	It is recommended to verify that that the path attribute, just as the Domain attribute, has not been set too loosely. Even if the Domain attribute has been configured as tight as possible, if the path is set to the root directory "/" then it can be vulnerable to less secure applications on the same server.			
Snapshot	CovidCare			
Affected URLs	throughout the application			



### 32. Auto Complete is Enabled

13) Vuinerabili	ty Title: Auto complete is enabled in the application			
Risk	Low			
Abstract	It was observed that auto complete is possible in the application.			
Ease of Exploitation	Easy			
Impact	This could be lead to its compromise or re-usage without the user's content or approval.			
Recommendations	Auto fill option should disable in the application.			
	COVID CARE Centre for Health Informatics Ministry of Health and Family Welfare Government of India  LOGIN PAGE  Enter Username  admin 1""()&% <acx> &lt; ScRiPt &gt; www.c(9112) &lt; /ScRiPt&gt; user &lt;</acx>			
Affected URLs	throughout the application			



### 33. CAPTCHA is missing in the application.

14) Vulnerabilit	Title: CAPTCHA is missing in the application		
Risk	Low		
Abstract	It was observed that CAPTCHA is missing in the application.		
Ease of Exploitation	Easy		
Impact	The attacker may perform the DOS attack and harm the server.		
Recommendations	CAPTCHA should follow the following condition:		
	a) The combination of alphanumeric value.		
	b) Combination of Upper case and lower-case letters.		
	c) Case-Sensitive		
	d) Its length should be minimum 6 characters.		
	e) Should not be a third-party CAPTCHA:		
	f) Should be Random and not follow a pattern.		
	g) Example: Ab73jy, PT34h8, Hos3t3, nic23n etc.		
Snapshot	← → C 🔒 covid19-staging.nhp.gov.in/covidcare/login		
	COVID CARE		
	Centre for Health Informatics Ministry of Health and Family Welfare Government of India		
	LOGIN PAGE		
	Enter Username \( \text{\Omega} \)		
	Enter Password 🙃		
	REMEMBER ME		
	LOG IN		
Affected URLs	throughout the application		



#### 34. Same user logged in in multiple browser.

15) Vulnerability Title: Same user logged in in multiple browser		
Risk	Low	
Abstract	It is observed that Same user logged in multiple browser	
Ease of Exploitation	Easy	
Impact	The attacker may perform the DOS attack and harm the server.	
Recommendations	It is recommended that Any user should allowed one login at a time on a single browser	
Snapshot		
Affected URLs	throughout the application	



#### 35. Email Spamming in the application.

Risk	Low			
Abstract	It is observed that	at Same user logge	ed in multiple brov	vser
Ease of Exploitation	Easy	Easy		
Impact	E-mail flooding e	E-mail flooding etc		
Recommendations	Email addresses should be posted as an image not as a hyperlink.  Alternatively, instead of @symbol, [at] should be used. Similarly the dot character (.) should be replaced by [dot]. So abc@nic.in should be written as abc[at]nic[dot]in.			
Snapshot	← → C 🗎 covid19-s	taging.nhp.gov.in/covidcare/admir	n/welcome	
	COVIDCARE DASHBOAR	<b>□</b>		
	★ Welcome	Welcome / Admin		
	⊕ Dashboards	My Profile		
	S KPIs Data			
	II KPIS	(		
	KPI Group	Role:	Admin	
	Projects	Full Name:		
		Department:		
	Users	Openignation:		
	<b>じ Logout</b>	Email:	admin@nhp.gov.in	
		Contact:	1234567890	