

Web Application Security Testing of National e-Vidhan Application

Level - 2

Test Url : <https://cms.neva.gov.in/>

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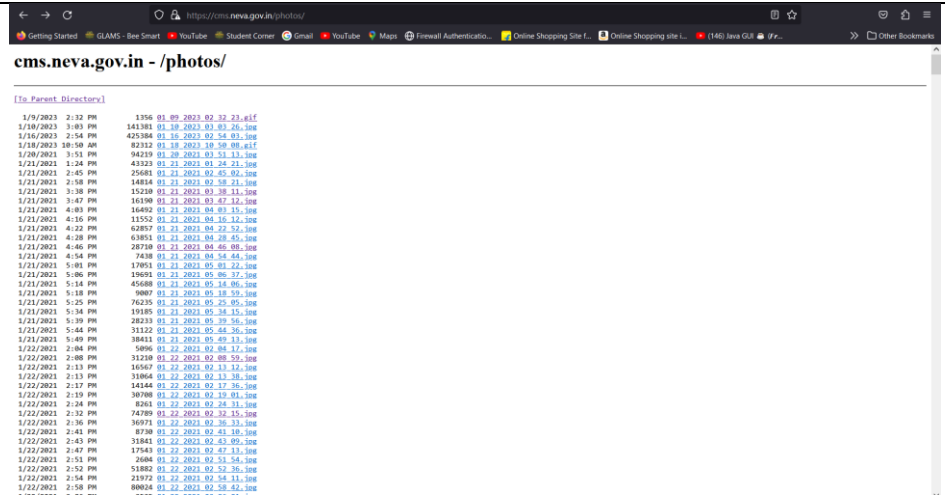
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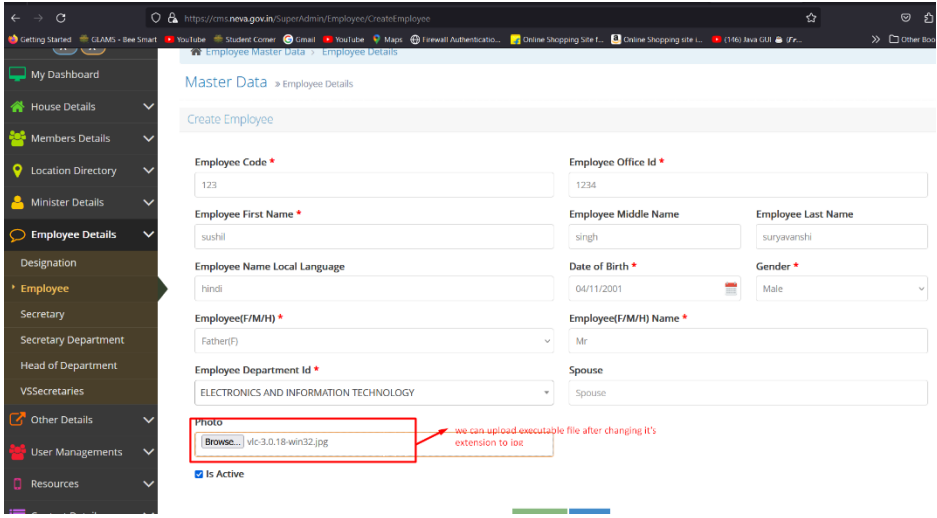
S.No	Vulnerabilities Name	Level -1	Level -2
1.	Directory Traversal		New
2.	Arbitrary File Upload		New
3.	E-tag Information Disclosure	Open	Open
4.	Referrer – Policy not implemented		New
5.	Multiple Browser Login	Open	Open
6.	http security headers are not implemented in the application	Open	Open
7.	Dangerous Http Methods Enabled	Open	Open
8.	Web Server Information Disclosure	Open	Open
9.	Max. Length of Input Field is not defined		New
10.	Password History not maintained		New
11.	Outdated version of jQuery	Open	Open
12.	Vulnerable version of Bootstrap	Open	Open
13.	Path set to default		New

High

1. Directory Traversal

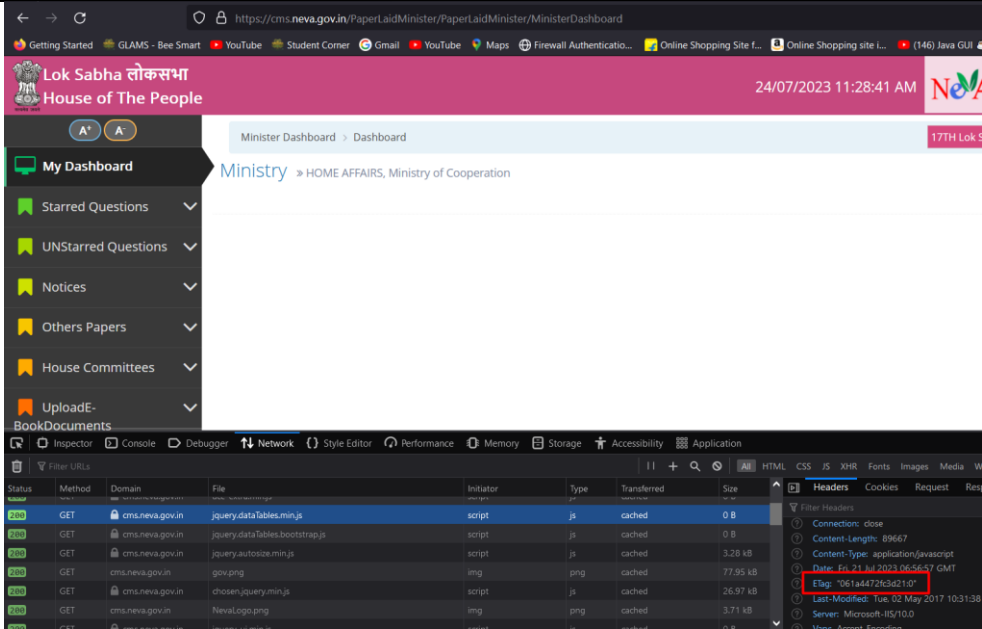
Vulnerability Title: Directory Traversal	
Risk	High
Abstract	It was observed that the attackers is able to access restricted directories and execute commands outside of the web server's root directory
CWE	CWE_35
Ease of Exploitation	Medium
Impact	An attacker can step out of the root directory and access files in other directories. As a result, attackers might view restricted files or execute commands, leading to a full compromise of the Web server.
Recommendations	<p>It is recommended to</p> <ol style="list-style-type: none"> [1] Ensure that the requested file resides in the virtual path of the web server. [2] Make sure that only certain extensions can be opened [3] Remove special characters (Meta-characters) from the user's input. [4] Use 'explicit open' mode for files in Perl CGI Scripts.
Snapshot	
Affected Site	Throughout the Application.

2. Arbitrary File Upload

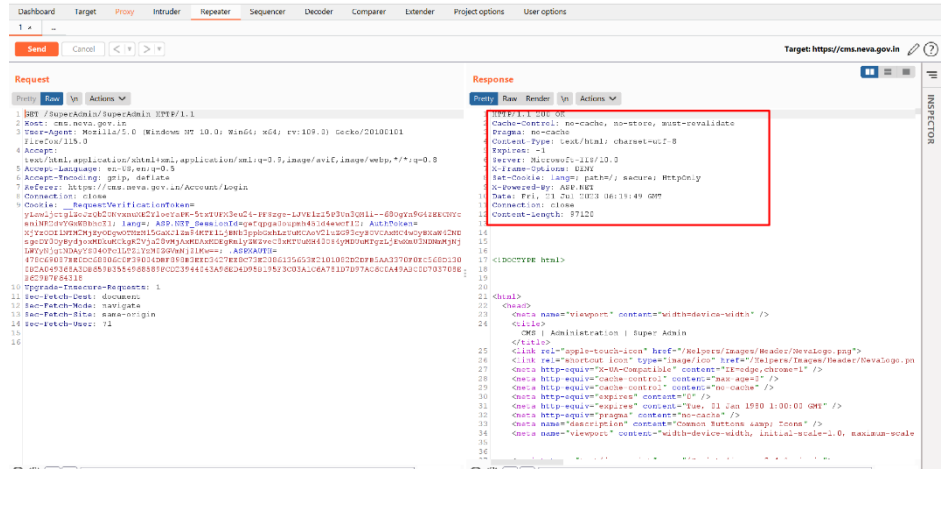
Vulnerability Title: Arbitrary File Upload	
Risk	High
Abstract	It was observed that the page contains functionality to handle file uploads and file management.
CWE	CWE_434
Ease of Exploitation	Easy
Impact	An attacker could use this functionality to upload malicious executable files on the system. To test file upload capabilities.
Recommendations	It is recommended to allow specific file format to upload the file
Snapshot	
Affected Site	Throughout the Application.

Medium

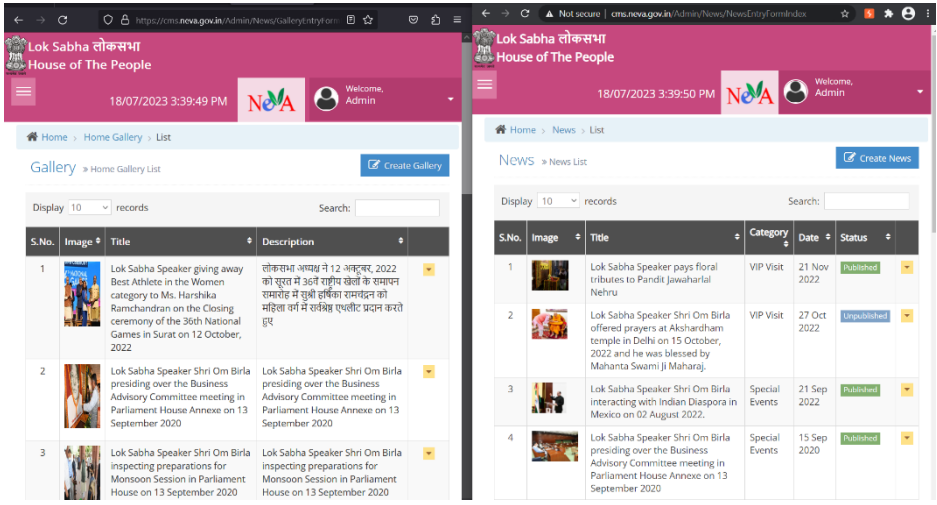
3. E-tag Information Disclosure

Vulnerability Title: E-tag Information Disclosure	
Risk	Medium
Abstract	It was observed that the Server Responds with E-tag Information Disclosure Vulnerability
CVE	-----
Ease of Exploitation	Medium
Impact	An attacker can make use of the Sensitive Information Provided and could proceed with advanced attacks.
Recommendations	It is recommended to Modify the HTTP ETag header of the web server to not include file Inodes in the ETag header calculation
Snapshot	
Compliance Status	Throughout the Application.
Compliance Status	Open

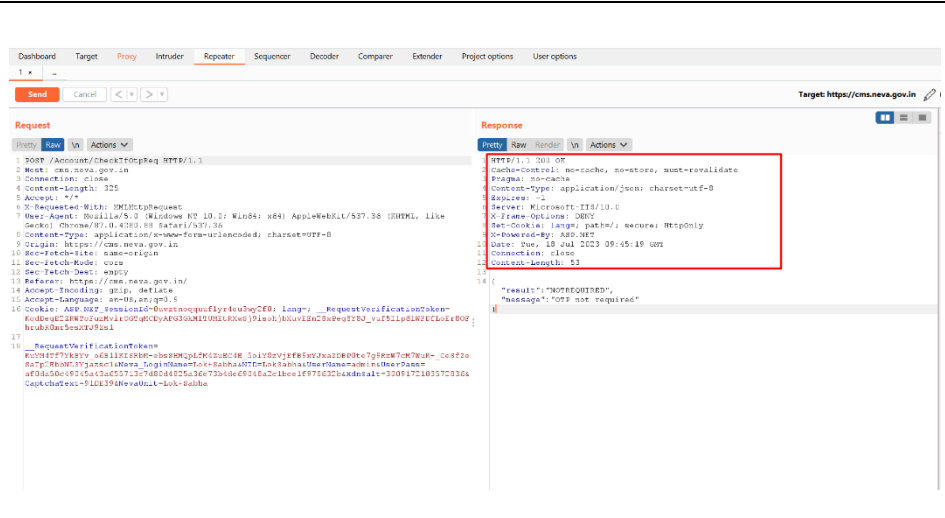
4. Referrer - Policy Not Implemented In The Application

Vulnerability Title: Referrer - Policy Not Implemented	
Risk	Medium
Abstract	It was observed that no Referrer-Policy header implemented .
CWE	CWE - 200
Ease of Exploitation	Medium
Impact	Referrer header is a request header that indicates the site which the traffic originated from . If there is no adequate prevention in place, the URL itself , and even sensitive information contained in the URL will be leaked to the cross – site .
Recommendations	It is recommended to implement a Referrer-Policy by using Referrer-Policy response header or by declaring it in meta tags.
Snapshot	 <p>The screenshot shows a network request and response in Burp Suite. The request is from a Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:109.0) Gecko/20100101 Firefox/119.0 browser. The response is from https://cms.neva.gov.in and includes headers such as Cache-Control, Pragma, Expires, Server, X-Frame-Options, X-Content-Type-Options, X-XSS-Protection, and Content-Type. Notably, the Referrer-Policy header is missing, which is highlighted by a red box in the image.</p>
Affected Site	Throughout the application

5. Multiple Browser Login

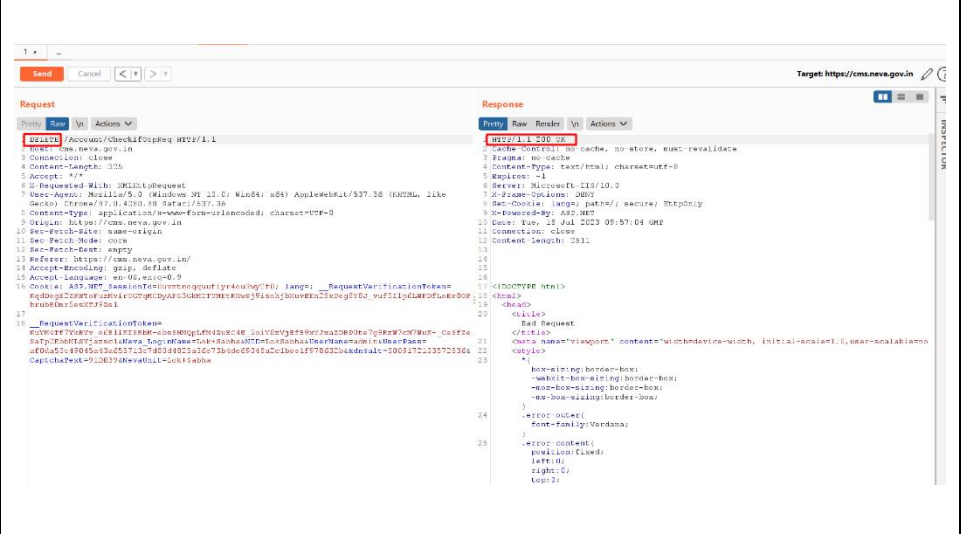
Vulnerability Title: Multiple Browser Login of Admin at the same	
Risk	Medium
Abstract	It is observed that the same user can login into via multiple browsers.
CVE	-----
Ease of Exploitation	Medium
Impact	The attacker can use the same login ID for exploitation even if the ID is active.
Recommendations	It is recommended to restrict multiple browser login for admin at the same time.
Snapshot	 <p>The snapshot shows two browser windows side-by-side, both displaying the Lok Sabha website's admin interface. The left window shows the 'Home Gallery' page, and the right window shows the 'NEWS' page. Both pages indicate the user is logged in as 'Admin' and show a list of news items with columns for S.No., Image, Title, Description, Category, Date, and Status.</p>
Affected Site	Throughout the application
Compliance Status	Open

6. HTTP Security Headers Are Not Implemented In The Application

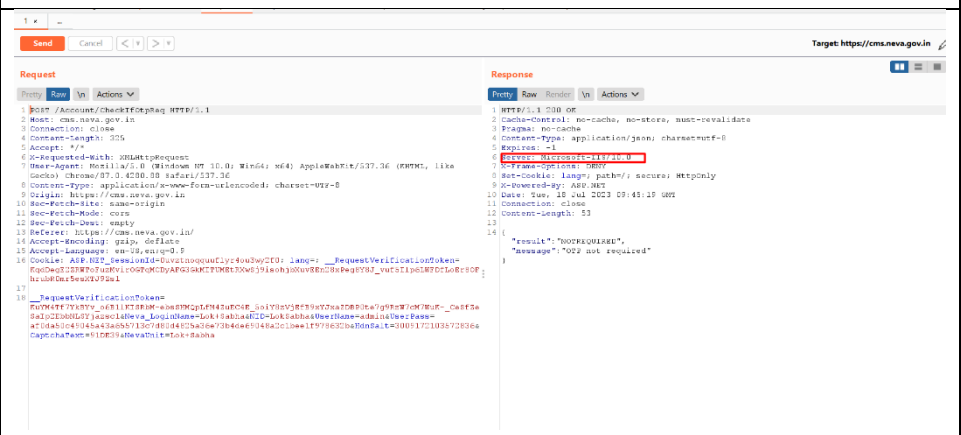
Vulnerability Title: http security headers are not implemented	
Risk	Low
Abstract	It was observed that the http security headers security such as X-XSS protection, Content Security Policy, Strict Transport security policy are not implemented.
Ease of Exploitation	Easy
Impact	If security headers are not implemented in the application then it may help an attacker to exploit existing vulnerabilities in application logic and result in lack of defense in depth approach to prevent security attacks.
Recommendations	<ul style="list-style-type: none"> It is recommended to implement the following HTTP headers: • • X-Frame-Options: DENY/SAMEORIGIN • X-XSS-Protection: 1; mode=block [2] • X-Content-Type-Options: nosniff • Content-Type: text/html; charset=utf-8 • Strict-Transport-Security: max-age=31536000; includeSubDomains; preload • Content-security-policy:script-src'self'
Snapshot	 <p>The screenshot shows a Burp Suite interface with a request and response view. The request is a POST to /Account/CheckForgotReg HTTP/1.1. The response headers are:</p> <pre> HTTP/1.1 200 OK Cache-Control: no-cache, no-store, must-revalidate Pragma: no-cache Content-Type: application/json; charset=utf-8 Expires: -1 Server: Microsoft-IIS/10.0 X-Frame-Options: DENY Set-Cookie: lang=; path=/; secure; HttpOnly X-Powered-By: ASP.NET Date: Tue, 18 Jul 2023 09:45:19 GMT Connection: close Content-Length: 53 {"result": "NOTREQUIRED", "message": "OTP not required"} </pre>
Affected URL's	throughout the application
Compliance Status	Open

Low

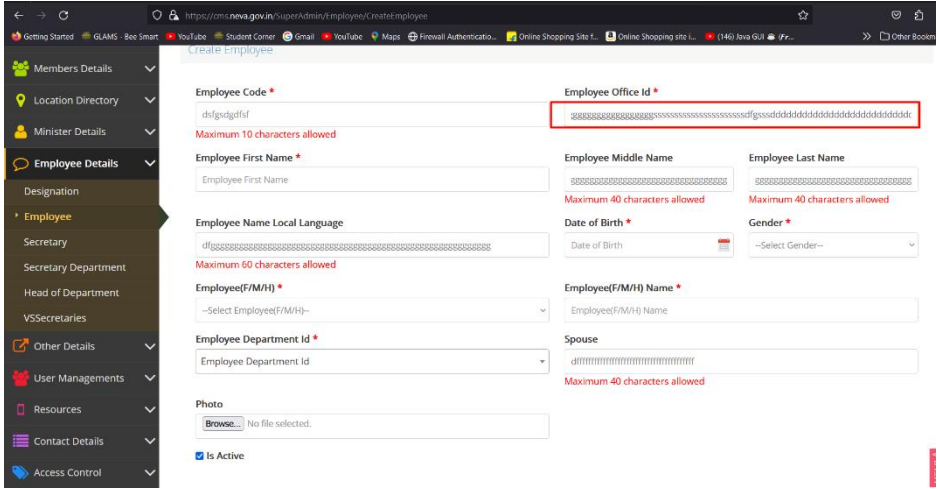
7. Dangerous Http Methods Enabled

Vulnerability Title: Dangerous HTTP Methods Enabled	
Risk	Low
Abstract	It was observed that Http (DELETE) method is enabled on this web server.
Ease of Exploitation	Easy
Impact	It was observed that using the DELETE method may expose sensitive information that may help a malicious user to prepare more advanced attacks
Recommendations	It is recommended to disable http dangerous methods on the web server
Snapshot	 <p>The screenshot shows a web browser's developer tools with the 'Network' tab selected. A request is highlighted, and its details are shown on the right. The request is a DELETE method to the URL https://cms.neva.gov.in/DELETE/1-230-08. The response is a 200 OK status with a Content-Type of text/html. The response body contains HTML code for a page with a title 'CMS NEVA' and a body containing a form with fields for 'username' and 'password'.</p>
Affected Site	Throughout the application
Compliance Status	Open

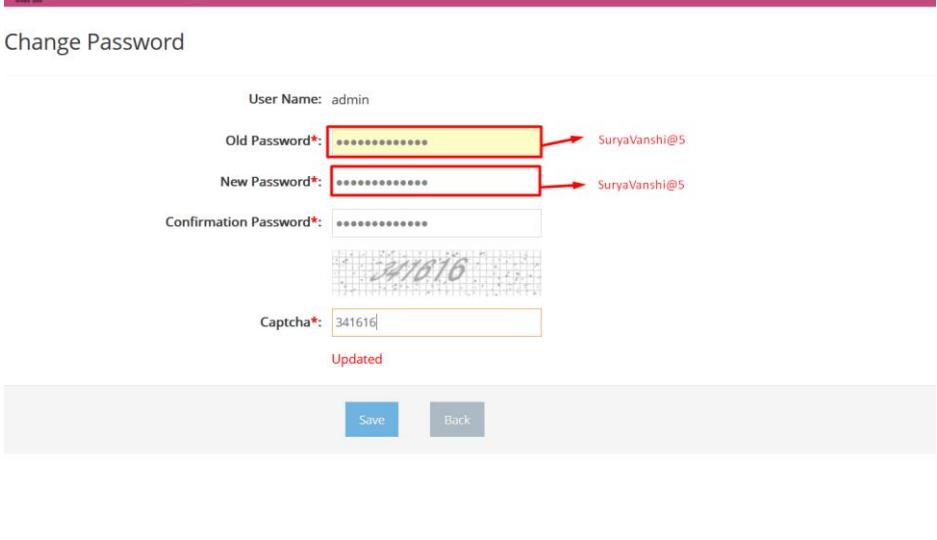

8. Web Server Information Disclosure

Vulnerability Title: Web Server Information Disclosure	
Risk	Low
Abstract	Banner grabbing (application is displaying Server version version which may help attacker to learn more about his target) is possible in the application.
Ease of Exploitation	Easy
Impact	Application is displaying Server version which may help attacker to learn more about his target.
Recommendations	Server version should not be displayed to the end user.
Snapshot	 <p>The screenshot shows a network request and response in a browser's developer tools. The request is a POST to /Account/CheckForFlag on https://cms.neva.gov.in. The response headers show 'Server: Apache/2.4.18 (Ubuntu)' which is highlighted in red. The response body contains a JSON object with 'result': 'NOOPERATE' and 'message': '002 not required'.</p>
Affected Site	Throughout the application
Compliance Status	Open

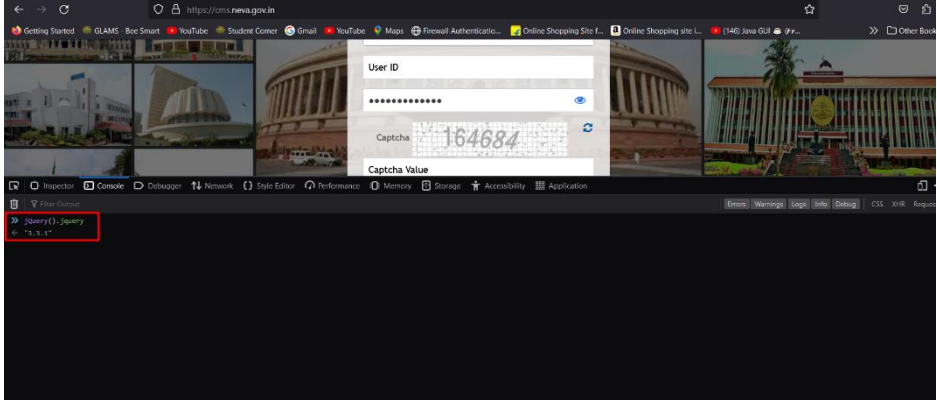
9. Max. Length Of Input Fields Is Not Defined In The Application

Vulnerability Title: 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	 <p>The screenshot shows a web browser window with the URL https://ms.neva.gov.in/SuperAdmin/employee/CreateEmployee. The page title is "Create Employee". The form contains several input fields:</p> <ul style="list-style-type: none"> Employee Code *: Contains "drlgldgdf", with a red error message "Maximum 10 characters allowed". Employee Office Id *: Contains a long string of characters, highlighted with a red box. Employee First Name *: Contains "Employee First Name". Employee Middle Name: Contains "Employee Middle Name", with a red error message "Maximum 40 characters allowed". Employee Last Name: Contains "Employee Last Name", with a red error message "Maximum 40 characters allowed". Employee Name Local Language: Contains "Employee Name Local Language", with a red error message "Maximum 60 characters allowed". Date of Birth *: Contains "Date of Birth". Gender *: Contains "--Select Gender--". Employee(F/M/H) *: Contains "--Select Employee(F/M/H)--". Employee(F/M/H) Name *: Contains "Employee(F/M/H) Name". Employee Department Id *: Contains "Employee Department Id". Spouse: Contains "Spouse", with a red error message "Maximum 40 characters allowed". Photo: Contains "Browse..." and "No file selected." Is Active: A checked checkbox.
Affected URLs	throughout the application

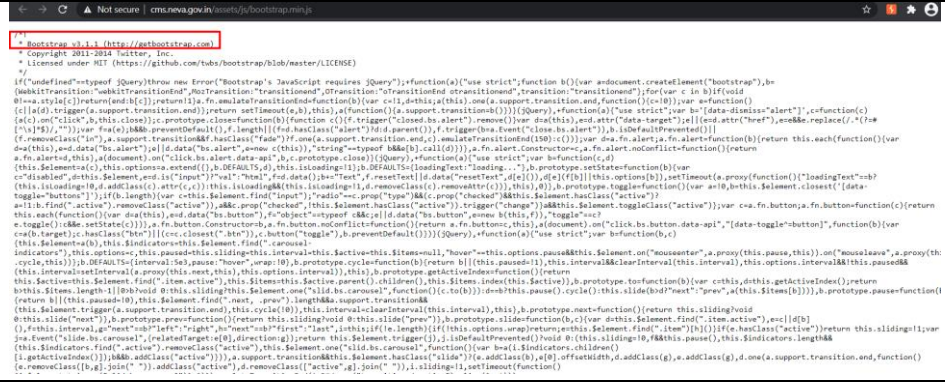
10. Password History Is Not Maintained

Vulnerability Title: Password history is not maintained	
Risk	Low
Abstract	It was observed that While changing password, there is no check on password history. This allows the user to change the password to his previous password.
Ease of Exploitation	Easy
Impact	Password reuse can threaten security by giving attackers a greater opportunity in using old passwords.
Recommendations	Users should be prevented from reusing their current or previous 3 passwords. Password history should ideally be 3.
Snapshot	 <p>Change Password</p> <p>User Name: admin</p> <p>Old Password*: <input type="password" value="SuryaVanshi@5"/> → SuryaVanshi@5</p> <p>New Password*: <input type="password" value="SuryaVanshi@5"/> → SuryaVanshi@5</p> <p>Confirmation Password*: <input type="password" value=""/></p> <p></p> <p>Captcha*: <input type="text" value="341616"/></p> <p>Updated</p> <p><input type="button" value="Save"/> <input type="button" value="Back"/></p>
Affected URLs	throughout the application

11.Outdated Version Of JQuery

Vulnerability Title: Outdated version of jQuery is used in the application	
Risk	Low
Abstract	It was observed that this page is using an older version of jQuery .
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	
Affected URLs	throughout the application
Compliance Status	Open

12. Vulnerable Version Of Bootstrap

Vulnerability Title: Vulnerable version of Bootstrap is used in the application	
Risk	Low
Abstract	It was observed that the application is using an older version of Bootstrap i.e 3.1.1 .
Ease of Exploitation	Medium
Impact	Older version of Bootstrap may not fully support newer web technologies , CSS features, or browser versions . This can lead to inconsistencies in rendering and functionality across different browsers and devices. Compatibility issues may result in a suboptimal user experience and require additional effort to address and fix .
Recommendations	It is recommended to update to latest version of Bootstrap.
Snapshot	
Affected URLs	throughout the application
Compliance Status	Open

