



# Web Security Audit Report of DITE.

<https://49.206.243.85:8094/>

30 October 2021

## **AAA Technologies P. Ltd**

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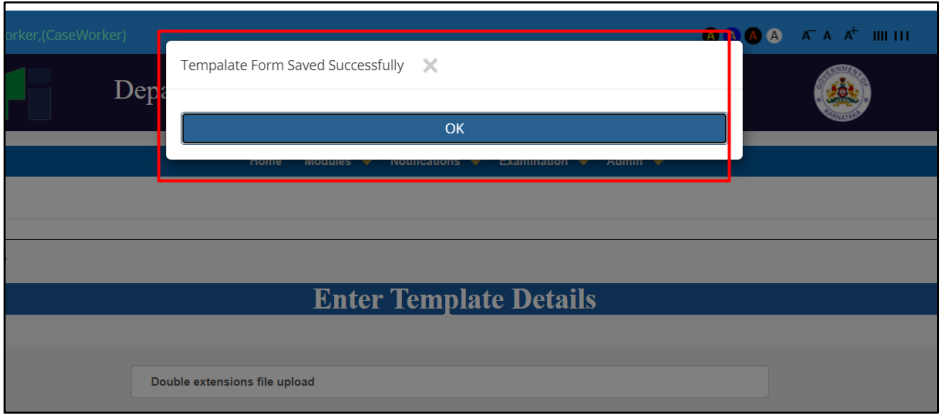
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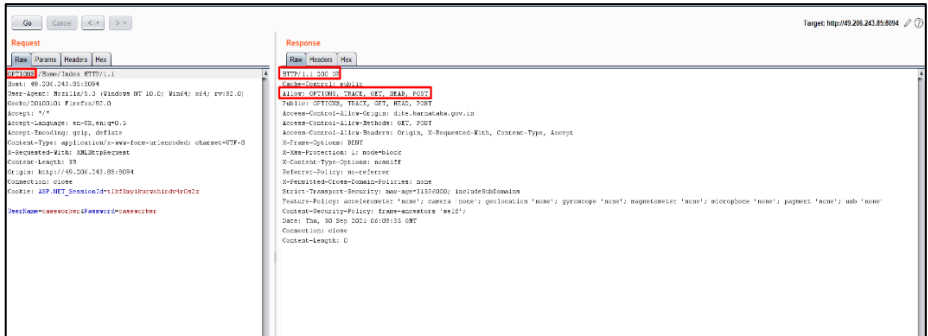
**High**

## 1. Malicious File Upload

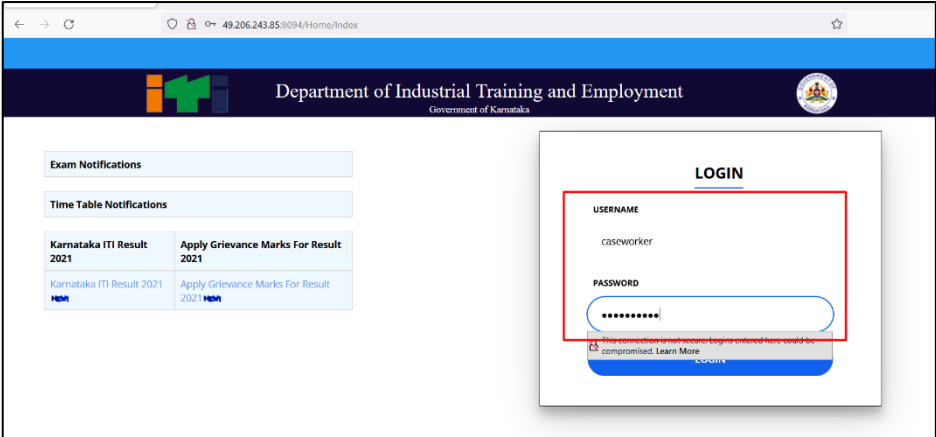
Vulnerability Title: Malicious file upload is allowed in the application	
Risk	High
Abstract	It was observed that malicious file upload is possible in the application
Ease of Exploitation	Easy
Impact	An attacker could use this functionality to upload malicious executable files on the system. To test file upload capabilities.
Recommendations	<p>Following things should be implemented in file upload module:</p> <ol style="list-style-type: none"><li>1 Inspect the content of uploaded files, and enforce a white list of accepted, non-executable content types. Additionally, enforce a blacklist of common executable formats, to hinder hybrid file attacks.</li><li>2 Enforce a white list of accepted, non-executable file extensions.</li><li>3 If uploaded files are downloaded by users, supply an accurate non-generic Content-type header, and also a Content-disposition header which specifies that browsers should handle the file as an attachment.</li><li>4 Enforce a size limit on uploaded files (max 8-10 MB); this can be implemented both within application code and in the web server's configuration.</li><li>5 Reject attempts to upload archive formats such as ZIP.</li><li>6 Multiple file extension like test.pdf.txt.php.jif.jpg should not be allowed for upload.</li><li>7 Proper checks to be put on Content type and MIME type as well.</li></ol>
Snapshot	

	
Affected URLs	throughout the application

## 2. DANGEROUS HTTP METHOD ENABLED

Vulnerability Title: Dangerous HTTP Methods Enabled	
Risk	High
Abstract	It was observed that Http options method is enabled on this web server.
Ease of Exploitation	Easy
Impact	It was observed that using the Options method may expose sensitive information that may help an malicious user to prepare more advanced attacks
Recommendations	It is recommended to disable OPTIONS and TRACE methods on the web server
Snapshot	
Affected Site	Throughout the application

### 3. Password Travel in clear text

Vulnerability Title: password travel in clear text	
Risk	High
Abstract	The password between server and client is passed in clear text. It is possible for a malicious user to sniff into the network and access the application and password.
Ease of Exploitation	Easy
Impact	An attacker may be able to Sniff the password.
Recommendations	<p>It is recommended to implement the hashing technique/algorithm used at login in the application. Password should be encrypted every time while being transmitted over the network. The solution is to implement:</p> <ul style="list-style-type: none"> <li>a) Salted SHA-512 technique in, authentication or login module</li> <li>b) SHA-512 hash technique in, change password and reset password Modules.</li> </ul> <p>The pre-requisite to this is that the backend database stores a SHA-512 hash of the password. (SHA-512hash is a cryptographic technique in which the actual value can never be recovered). Here is how the salted SHA-512technique works:</p> <p>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-512 hash of the password entered by the user. It then concatenates the salt to the hash and re-computes the SHA-512hash. 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-512hash. 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.</p>
Snapshot	



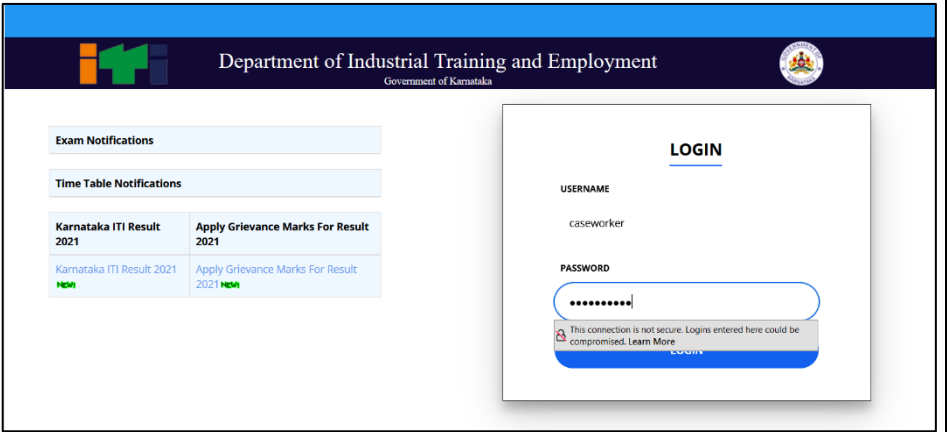
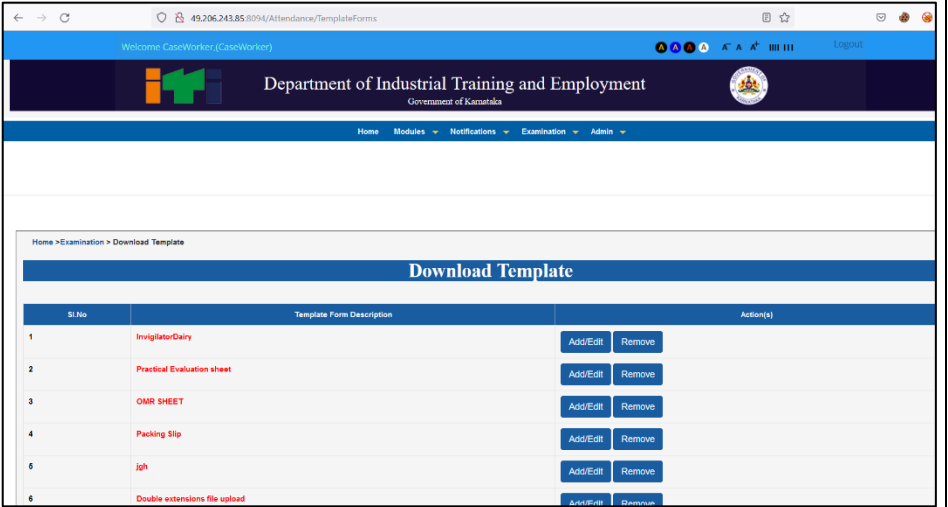
	<div><div>Request to http://49.206.243.85:8094</div><div><div>Forward</div><div>Drop</div><div>Intercept is on</div><div>Action</div></div><div><div>Raw</div><div>Params</div><div>Headers</div><div>Hex</div></div><div><div>POST /Home/Index HTTP/1.1</div><div>Host: 49.206.243.85:8094</div><div>User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:92.0) Gecko/20100101 Firefox/92.0</div><div>Accept: */*</div><div>Accept-Language: en-US,en;q=0.5</div><div>Accept-Encoding: gzip, deflate</div><div>Content-Type: application/x-www-form-urlencoded; charset=UTF-8</div><div>X-Requested-With: XMLHttpRequest</div><div>Content-Length: 39</div><div>Origin: http://49.206.243.85:8094</div><div>Connection: close</div><div>Cookie: ASP.NET_SessionId=tlkf3mylkucwxhirdv4r0s2z</div><div>UserName=caseworker; Password=caseworker</div></div></div>
Affected URLs	49.206.243.85:8094

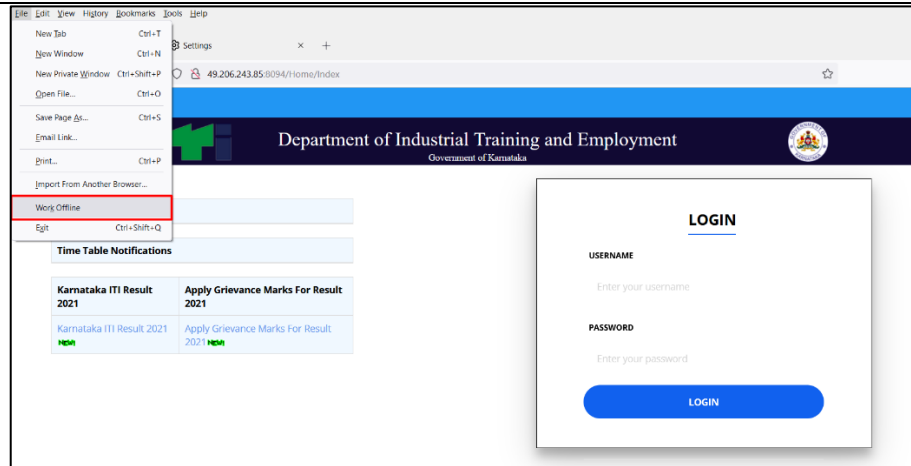
**Medium**

#### 4. Audit Trail Not Implemented Properly

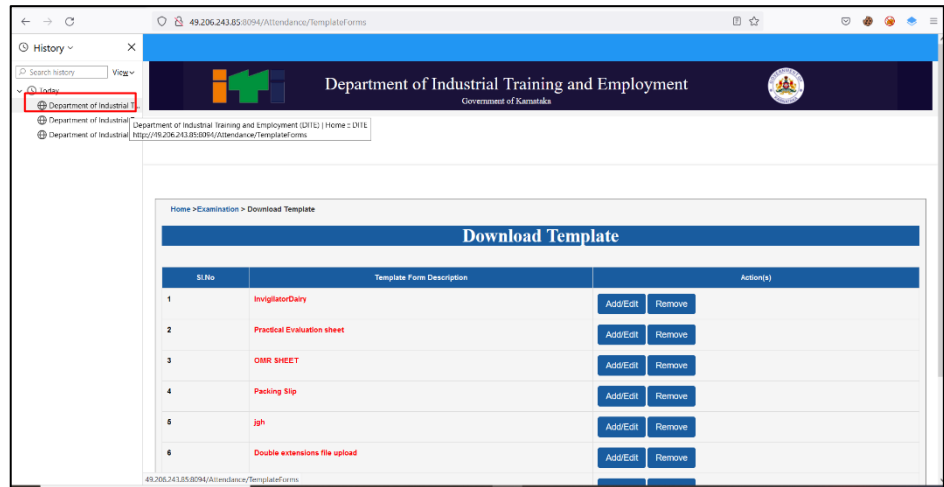
Vulnerability Title: Audit Trail is not implemented in properly	
Risk	Medium
Abstract	The application does not maintain the logout action and status of user activity where all user activities have to be logged.
Ease of Exploitation	Easy
Impact	In-case a malicious user tries to attack the application; the application will not be able to trace the attacker
Recommendations	<p>An Audit trail should be incorporated in the application admin module, where all user activities have to be logged. Following points should be considered:</p> <ul style="list-style-type: none"><li>• Audits are to be generated at the time of resource access and by the same routines accessing the resource</li><li>• 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.</li><li>• These IP, date, time, session details, user details (NO password), referrer, process id to be logged in application logs.</li><li>• To create audit</li><li>• 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.</li><li>• Log entries are to be hashed/ signed so that changes to audit log can be detected.</li><li>• Audit trails to answer the following</li><li>• Logging of Authentication Process. Success and failed attempts.</li><li>• Logging Authentication details and changes.</li><li>• Software error and failures logged.</li><li>• Should not be possible to retrieve confidential authentication information from these logs (including passwords)</li><li>• Is it possible to uniquely identify both client host and user from these logs?</li><li>• 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?</li></ul>
Snapshot	N/A
Affected URLs	throughout the application

## 5. Page access Through Cache History

Vulnerability Title: Page access through cache history	
Risk	Medium
Abstract	It is possible to view the authenticated page from cache option of the browser.
Ease of Exploitation	Easy
Impact	An attacker can gain knowledge if discrepancies between the two pages the backup and original and can aid in more sophisticated attacks.
Recommendations	It is recommended to remove the Backup Pages from the Web Application
Snapshot	<p><b>Step 1:</b> Open URL and login with credentials and browse all the authenticated pages and then logout from the application as shown below:</p>  <p><b>Step 2:</b> Enter in the web application as shown below:</p>  <p><b>Step 3:</b> Now open the browser and enable the Work offline mode as shown below:</p>



Step 4: From the browser's history, access the authenticated page one by one. It is clearly seen that the authenticated page is visible as shown below:

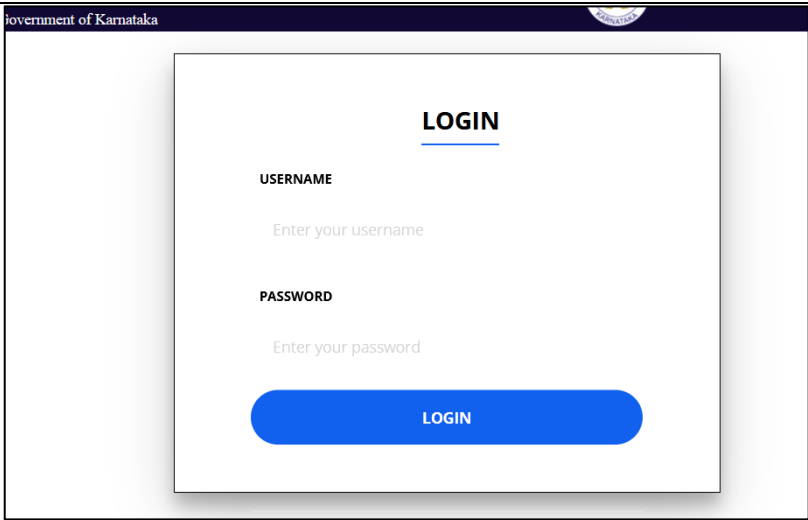


Affected URLs

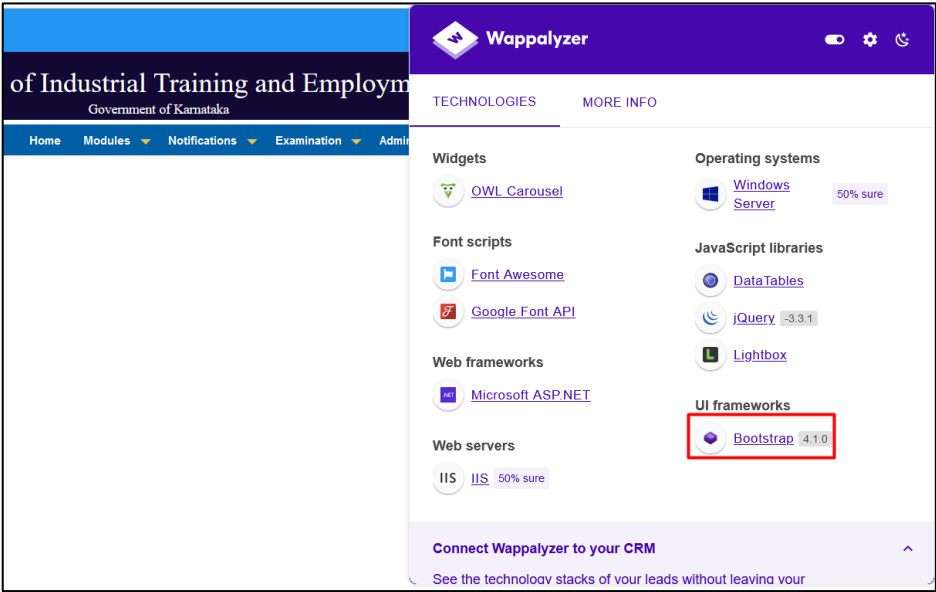
throughout the application

## 6. Password Recovery Option Missing

Vulnerability Title: Password Recovery Option is not working	
Risk	Medium
Abstract	It was observed that Password Recovery Option is not working in the application
Ease of Exploitation	Medium
Impact	User cannot change the password if the password is compromised.
Recommendations	<p>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.</p> <p>It is recommended that Forgot password should be enabled with the users email address. There are following conditions should be met in the forget password function:</p> <ol style="list-style-type: none"><li>1. Reset link should be sent to the user registered email address instead of password directly.</li><li>2. Reset Password link should get expired in 24 hours.</li><li>3. Reset Password link should not be reused again, once the link is used for reset password.</li><li>4. In the Reset Password page, Mandatory fields i.e. New password, Confirm Password and CAPTCHA field must present and should be validated at the client end. Server end validations are also mandatory. 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.</li></ol>
Snapshot	

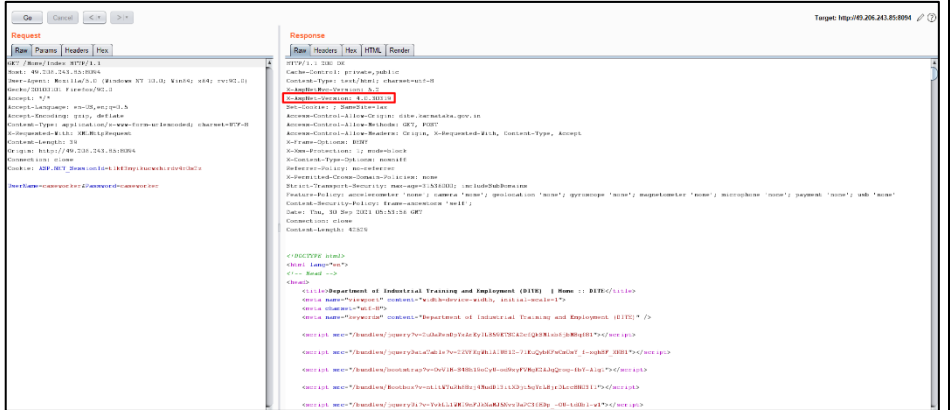
	
Affected Site	Login page

## 7. Vulnerable Version of Bootstrap

Vulnerability Title: Vulnerable version of bootstrap is used in the application	
Risk	Medium
Abstract	Vulnerable version of bootstrap is used in the application.
Ease of Exploitation	Easy
Impact	Vulnerable version of bootstrap (4.1.0) is used in the application. Affected versions of this package are vulnerable to Cross-site Scripting (XSS) via the tooltip, collapse and scroll spy plugins.
Recommendations	It is recommended that application should use latest/Stable version of bootstrap.
Snapshot	 <p>The screenshot shows the Wappalyzer interface displaying the technology stack of a website. The stack includes various technologies such as OWL Carousel, Font Awesome, Google Font API, Microsoft ASP.NET, IIS, Windows Server, DataTables, jQuery, Lightbox, and Bootstrap 4.1.0. Bootstrap 4.1.0 is highlighted with a red box, indicating it is the vulnerable version.</p>
Affected URLs	throughout the application



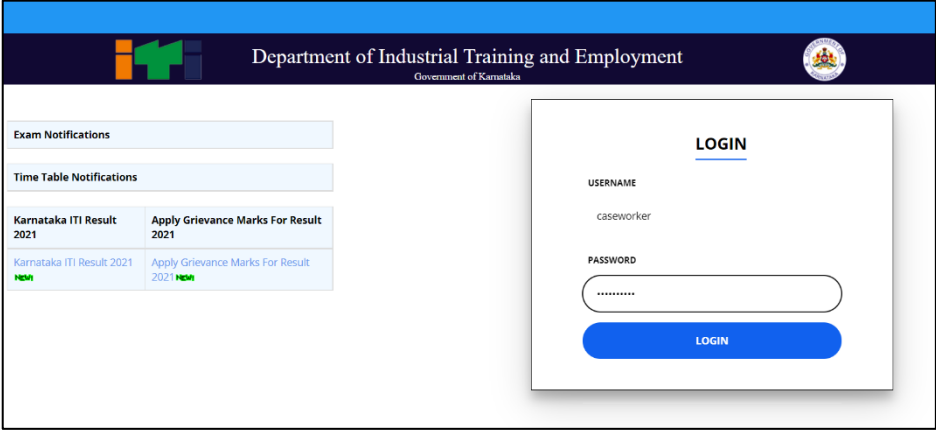

## 8. Vulnerable Version of ASP.Net

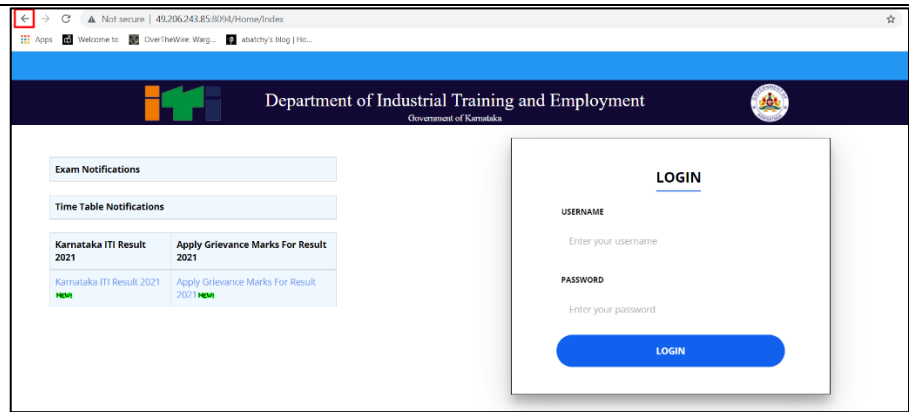
Vulnerability Title: Vulnerable version of ASP.Net is used in the application	
Risk	Medium
Abstract	Old Version of Asp.net is used in the application.
Ease of Exploitation	Easy
Impact	The strong name (SN) implementation in Microsoft .NET Framework 4.0.30319 relies on Cross-site scripting (XSS) vulnerability in ASP.NET in Microsoft .NET Framework allows remote attackers to inject arbitrary web script or HTML via a crafted value, aka ".NET Elevation of Privilege Vulnerability."
Recommendations	It is recommended that application should use latest/Stable version of ASP.
Snapshot	
Affected URLs	Throughout the application

**Low**

## 9. Back Button Enabled

### 1) Vulnerability Title: Back Button Enabled

Risk	<b>Low</b>
Abstract	It was observed that back button is enabled
CVE	-----
Ease of Exploitation	Easy
Impact	The back button on the browser display pages that the user visited recently.
Recommendations	It is recommended to disable back button on website.
Snapshot	<p>Step 1 : Login in the web application</p>  <p>Step 2 : Enter in the Web application</p>  <p>Step 3 : logout the web application</p>



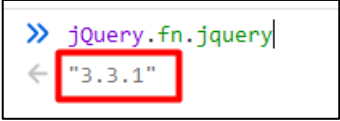
Step 4 : After click the back button we enter in the website



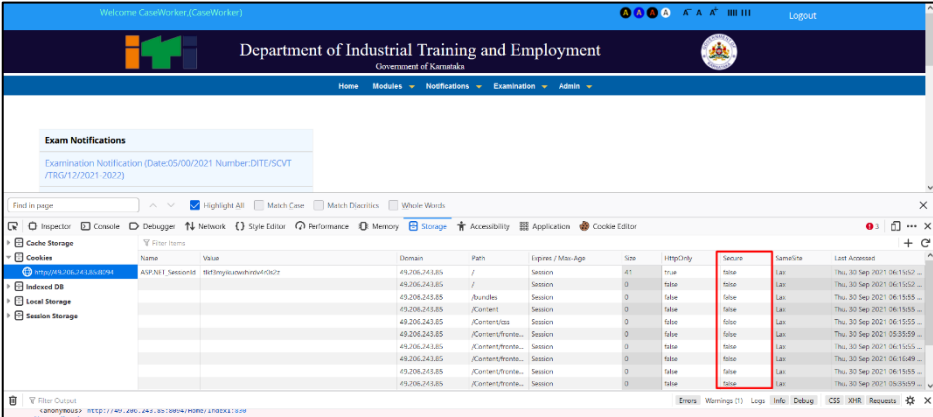
Affected Site

Throughout the application

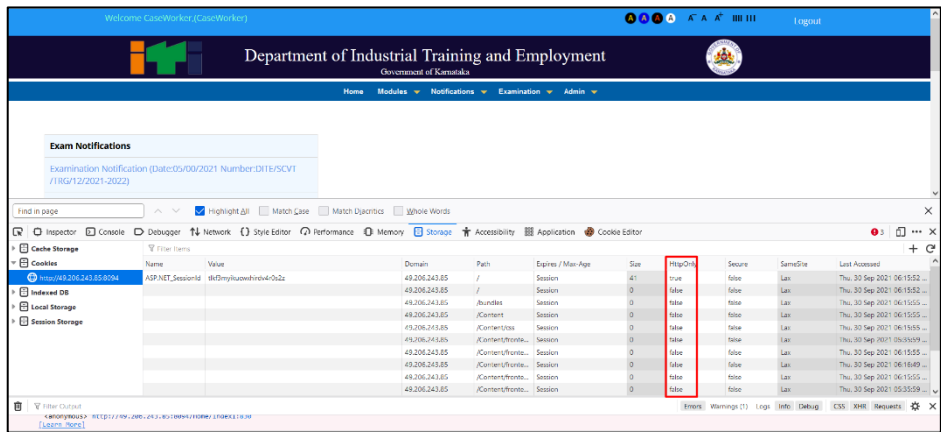
## 10. Vulnerable Version of jQuery

Vulnerability Title: Vulnerable version of jQuery is used in the application	
Risk	Low
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	
Affected URLs	throughout the application

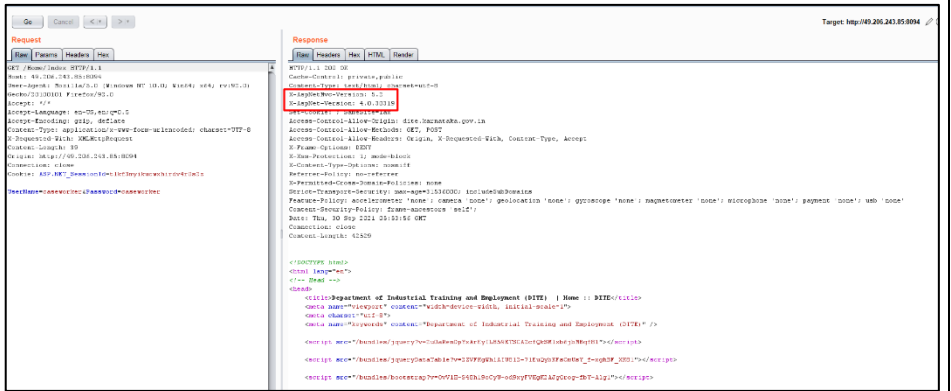
## 11. Session Cookie without Secure Flag

Vulnerability Title: Session Cookie without Secure Flag	
Risk	Low
Abstract	It was observed that Session Cookie did not have Secure Flag Set.
Ease of Exploitation	Easy
Impact	This session cookie does not have the Secure flag set. When a cookie is set with the Secure flag, it instructs the browser that the cookie can only be accessed over secure SSL channels. This is an important security protection for session cookies.
Recommendations	It is recommended to set the Secure flag for this cookie.
Snapshot	<div></div>
Affected Site	Throughout the application

## 12. Session Cookie Without HTTP Only Flag

Vulnerability Title: Session Cookie without HTTP Only Flag	
Risk	Low
Abstract	It was observed that Session Cookie did not have HTTP Only Flag Set.
Ease of Exploitation	Easy
Impact	This session cookie does not have the HTTP Only flag set. When a cookie is set with the HTTP Only flag, it instructs the browser that the cookie can only be accessed by the server and not by client-side scripts. This is an important security protection for session cookies.
Recommendations	It is recommended to set the HTTP Only flag for this cookie.
Snapshot	 <p>The screenshot shows the 'Cookie Editor' tab in a browser's developer tools. It lists several cookies, including 'ASP.NET_SessionId'. The 'HttpOnly' column for this cookie is highlighted with a red box, showing it is set to 'false'. Other cookies listed include 'DomainPath', 'Path', 'Expires / Max-Age', 'Size', 'Secure', 'SameSite', and 'Last Accessed'.</p>
Affected Site	Throughout the application

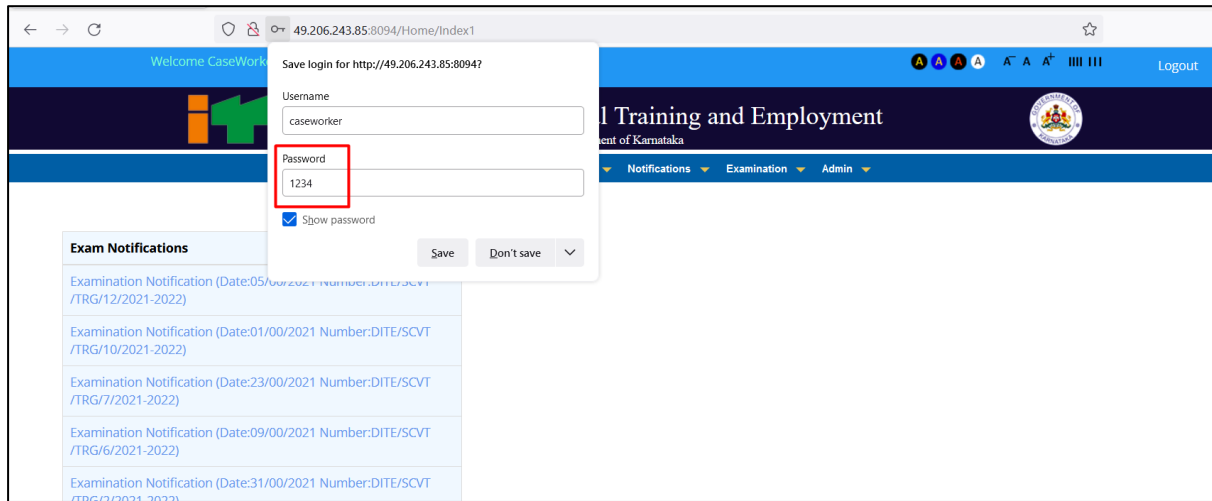
## 13. Webserver Informational Disclosure

Vulnerability Title: Web Server Information Disclosure	
Risk	Informational
Abstract	Banner grabbing (application is displaying Server version and ASP.NET 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 and ASP.NET version which may help attacker to learn more about his target.
Recommendations	Server and ASP.NET version should not be displayed to the end user.
Snapshot	
Affected URLs	Throughout the application




**INFORMATIONAL**

## 1.Security Misconfiguration



## 2. Captcha Not Implemented

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### LOGIN

USERNAME

PASSWORD

LOGIN

### 3. UI Unstable

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Home Modules Notifications Examination Admin

Exam Notifications

Examination Notification (Date:05/00/2021  
Number:DITE/SCVT/TRG/12/2021-2022)

Examination Notification (Date:01/00/2021  
Number:DITE/SCVT/TRG/10/2021-2022)

Examination Notification (Date:23/00/2021  
Number:DITE/SCVT/TRG/7/2021-2022)

Examination Notification (Date:09/00/2021  
Number:DITE/SCVT/TRG/6/2021-2022)

Examination Notification (Date:31/00/2021  
Number:DITE/SCVT/TRG/2/2021-2022)

Examination Notification (Date:31/00/2021  
Number:DITE/SCVT/TRG/1/2021-2022)

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2021

Result 2021

Karnataka ITI Result  
2021 **NEW**

Apply Grievance Marks For  
Result 2021 **NEW**

## 4. Functionality Issue

Apps Welcome to OverTheWire: Warg... abatchy's blog | Ho... Reading list

Home > Examination > Modify Exam Attendance Details

### Modify Exam Attendance Details

Division \*

Search Trainee RollNo, Dtls

kio

Search Trainee

Edit Trainee Details



Sl.No	Day	Exam Date	Start Time	End Time	Subject	Block.No	Invigilator	Scanned Copy	Invigilator Editable Copy
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Back Save

← → ↻ Not secure | 49.206.243.85:8094/Attendance/AttendanceDet# ☆

Apps Welcome to OverTheWire: Warg... abatchy's blog | Ho... Logout

Welcome CaseWorker (CaseWorker)

 **Department of Industrial Training and Employment**   
Government of Karnataka

Home Modules Notifications Examination Admin

Content Owned and Maintained by  
Designed & De

Affiliation  
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Inspection  
Buildings  
Court Cases  
Admin Section  
HRD  
Planning  
Inventory Management  
Purchase and Procurement  
Accounts  
Employment Exchange Integration

Vocational  
Technical  
Finance-CSG, Govt. of Karnataka

ment of Karnataka

## 5. Change Password Not Implemented

