# *CVE-2018-12650: Reflected Cross Site Scripting(XSS) in Adrenalin 5.4.0 HRMS Software | ApplicationtEmployeeSearch [issue 2 of 5]*

October 23, 2018



As cyber security professional, I come across many various vulnerabilities from critical

to low and sometimes informational(How to categorize- CVSS v3). Sometime back I was doing as usual my security assessment activity for a Client (Confidential) for their HRMS web application which was 3rd party software whose vendor was "Adrenalin".

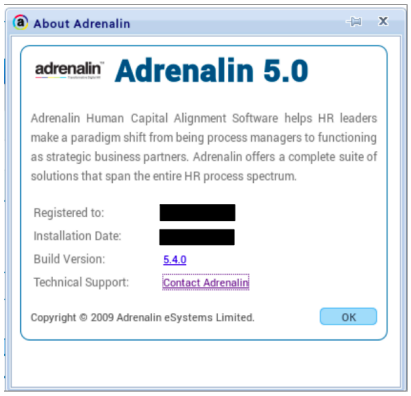
**CVE ID:** CVE-2018-12650

**Vulnerability Name:** Reflected Cross Site Scripting(XSS)

**Product:** Adrenalin HRMS

**Affected Version:** 5.4.0

**Credits: Rishu Ranjan**




## CVE-2018-12650 Details

The Common Vulnerabilities and Exposures (CVE) project has assigned the ID CVE-2018-12650 to this issue provided by MITRE Corporation (MITRE)(As Vendor is not CVE Numbering Authorities (CNAs))

## CVSS Score

CVSS Base Score: 6.1

Vector:

AV:N/AC:L/PR:N/UI:R/S:

C/C:L/I:L/A:N

Impact Subscore:2.7

Exploitability Subscore: 2.8

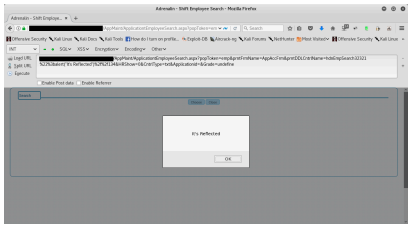
### Current Description

Adrenalin HRMS version 5.4.0 contains a Reflected Cross Site Scripting (XSS) vulnerability in the ApplicationtEmployeeSearch page via 'prntDDLCntrlName' and 'prntFrmName'. The user supplied input containing special characters such as <, >, /, etc. is echoed back in javascript code in HTML response without any output encoding performed. This allows an attacker to input malicious JavaScript which can steal cookie, redirect them to other malicious website,

etc.

| | |
|---|---|
| CVE-ID | CVE-2018-12650 |
| Description | Request Method(s): [+] GET<br>Vulnerable Product: [+] Adrenalin HRMS Software 5.4.0 |
| URL | AppMaint/ApplicationtEmployeeSearch.aspx?popToken=emp&prntFrmName=AppAccFrm&prntDDLCntrlName=hdnEmpSearch32321%22%3balert("It's Reflected")%2f%2f134&HRShow=0&CntrlType=txt&Applicationid=&Grade=undefine |
| Parameter | prntDDLCntrlName<br>prntFrmName |

## POCs



## Impact

In Reflected Cross Site Scripting, the malicious

payload has to be send as a part of URL and user should be tricked to visit that URL. However, it has the same impact as that of a persistent XSS.
XSS can be used to hijack victim's session and thereby gaining complete access to his/her user account. Additionally, it can be used to redirect victim to a malicious website which may contain browser exploits or a phishing page.

### Remediation, Solution

At a basic level XSS works by tricking your application into inserting a <script> tag into your rendered page, or by inserting an On* event into an element.

Developers should use the following prevention steps to avoid introducing XSS into their application.

1. Never put untrusted data into your HTML input, unless you follow the rest of the steps below.
   Untrusted data is any data that may be controlled by an attacker, HTML form inputs, query strings, HTTP headers, even data sourced from a database as an attacker may be able to breach your database even if they cannot breach your application.
2. Before putting untrusted data inside an HTML element ensure it's HTML

encoded. HTML encoding takes characters such as < and changes them into a safe form like <

3. Before putting untrusted data into an HTML attribute ensure it's HTML attribute encoded. HTML attribute encoding is a superset of HTML encoding and encodes additional characters such as " and '.
4. Before putting untrusted data into JavaScript place the data in an HTML element whose contents you retrieve at runtime. If this isn't possible then ensure the data is

JavaScript encoded. JavaScript encoding takes dangerous characters for JavaScript and replaces them with their hex, for example < would be encoded as \u003C.

5. Before putting untrusted data into a URL query string ensure it's URL encoded.

**Reference**

https://cwe.mitre.org/data/definitions/79.html
https://www.owasp.org/index.php/Testing_for_Reflected_Cross_site_scripting_(OTG-INPVAL-001)
https://docs.microsoft.com/en-us/aspnet/core/security/

cross-site-scripting?
view=aspnetcore-2.1
https://cve.mitre.org/cgi-bin/cvename.cgi?
name=CVE-2018-12650

### Update Timelines

22th June,2018- Reflected XSS Vulnerability found in the software.

22th June,2018- Few query asked about the CVE process with same information reported to Mitre without Vendor name and version information.

22th June,2018- Mitre replied with the CVE-ID and asked to inform the vendor about the vulnerability and CVE-ID is generated.

28th June, 2018- The vulnerability report containing all the details was submitted to the Vendor.

28th June,2018- The Vendor Replied and the full report  of the vulnerability sent to the Vendor.

2nd July,2018- The XSS Instance was patched on cloud version of the software.

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# *SS) in Adrenalin 5.4 HRMS Software | ShiftEmployeeSearch [issue 3 of 5]*

December 02, 2018

As cyber security professional, I come across ...

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Part 1 covers 1 - HTTP response header injection 2 - Server-side request forgery (SSRF) - Out-of-band resource load (HTTP) 3 - HTTP PUT method is enabled
-

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