

ANDROID STATIC ANALYSIS REPORT



• Covid Cert (4.1.0)

File Name:	ch. admin. bag. covid certificate. wallet. apk
Package Name:	ch.admin.bag.covidcertificate.wallet
Scan Date:	May 9, 2022, 4:19 p.m.
App Security Score:	64/100 (LOW RISK)
Grade:	A

FINDINGS SEVERITY

飛 HIGH	▲ WARNING	i INFO	✓ SECURE
0	8	2	2

FILE INFORMATION

File Name: ch.admin.bag.covidcertificate.wallet.apk

Size: 21.34MB

MD5: da36608ce9cdb41a6e5434ecae48d6e7

SHA1: a1985ab7a54a1f33277d1dcdad20fcc400f4635b

SHA256: 8f70095d4ec3ecf4d71923bc21154c4c7d56db0e4eab2f440d5fae777eec2dfe

i APP INFORMATION

App Name: Covid Cert

Package Name: ch.admin.bag.covidcertificate.wallet

Main Activity: ch.admin.bag.covidcertificate.wallet.MainActivity

Target SDK: 31 Min SDK: 23 Max SDK:

Android Version Name: 4.1.0 **Android Version Code:** 4010000

B APP COMPONENTS

Activities: 2 Services: 4 Receivers: 8 Providers: 2

Exported Activities: 0 Exported Services: 1 Exported Receivers: 1 Exported Providers: 0

***** CERTIFICATE INFORMATION

APK is signed v1 signature: True v2 signature: True v3 signature: False

Found 1 unique certificates

Subject: C=CH, ST=Bern, L=Bern, O=Bundesamt für Gesundheit BAG

Signature Algorithm: rsassa_pkcs1v15 Valid From: 2021-05-22 13:24:16+00:00 Valid To: 2120-04-28 13:24:16+00:00

Issuer: C=CH, ST=Bern, L=Bern, O=Bundesamt für Gesundheit BAG

Serial Number: 0x621f4921 Hash Algorithm: sha256

md5: 18462ca0ea5acd2d548616c63f8f8e8b

sha1: c3362985a7747995263b8f6aa33d563468d6f7a6

sha256: 2b68b9f7a84de46853812e4ed4e7d230d503d66f33232027d2af2a8365240f77

PublicKey Algorithm: rsa

Bit Size: 2048

Fingerprint: c17e5b1a282e85d3fae94b2c1a5cb8f1e38fe0e9016333117b48062015e5caca

TITLE	SEVERITY	DESCRIPTION
Signed Application	info	Application is signed with a code signing certificate
Application vulnerable to Janus Vulnerability	warning	Application is signed with v1 signature scheme, making it vulnerable to Janus vulnerability on Android 5.0-8.0, if signed only with v1 signature scheme. Applications running on Android 5.0-7.0 signed with v1, and v2/v3 scheme is also vulnerable.

⋮ APPLICATION PERMISSIONS

PERMISSION	STATUS	INFO	DESCRIPTION
android.permission.INTERNET	normal	full Internet access	Allows an application to create network sockets.
android.permission.CAMERA	dangerous	take pictures and videos	Allows application to take pictures and videos with the camera. This allows the application to collect images that the camera is seeing at any time.
android.permission.ACCESS_NETWORK_STATE	normal	view network status	Allows an application to view the status of all networks.
android.permission.WAKE_LOCK	normal	prevent phone from sleeping	Allows an application to prevent the phone from going to sleep.
android.permission.RECEIVE_BOOT_COMPLETED	normal	automatically start at boot	Allows an application to start itself as soon as the system has finished booting. This can make it take longer to start the phone and allow the application to slow down the overall phone by always running.
android.permission.FOREGROUND_SERVICE	normal		Allows a regular application to use Service.startForeground.

M APKID ANALYSIS

FILE	DETAILS			
	FINDINGS	DETAILS		
classes.dex	Anti-VM Code	Build.FINGERPRINT check Build.MANUFACTURER check		
	Compiler r8 without marker (suspicious)			
classes2.dex	FINDINGS	DETAILS		
clusses2.uex	Compiler	r8 without marker (suspicious)		
classes3.dex	FINDINGS	DETAILS		
Classessiack	Compiler	r8 without marker (suspicious)		

BROWSABLE ACTIVITIES

ACTIVITY	INTENT
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ACTIVITY	INTENT
ch.admin.bag.covidcertificate.wallet.MainActivity	Schemes: covidcert://, hcert://, Mime Types: application/pdf,

△ NETWORK SECURITY

NO	SCOPE	SEVERITY	DESCRIPTION
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Q MANIFEST ANALYSIS

NO	ISSUE	SEVERITY	DESCRIPTION
1	App has a Network Security Configuration [android:networkSecurityConfig=@xml/network_security_config]	info	The Network Security Configuration feature lets apps customize their network security settings in a safe, declarative configuration file without modifying app code. These settings can be configured for specific domains and for a specific app.
2	Service (androidx.work.impl.background.systemjob.SystemJobService) is Protected by a permission, but the protection level of the permission should be checked. Permission: android.permission.BIND_JOB_SERVICE [android:exported=true]	warning	A Service is found to be shared with other apps on the device therefore leaving it accessible to any other application on the device. It is protected by a permission which is not defined in the analysed application. As a result, the protection level of the permission should be checked where it is defined. If it is set to normal or dangerous, a malicious application can request and obtain the permission and interact with the component. If it is set to signature, only applications signed with the same certificate can obtain the permission.

NO	ISSUE	SEVERITY	DESCRIPTION
3	Broadcast Receiver (androidx.work.impl.diagnostics.DiagnosticsReceiver) is Protected by a permission, but the protection level of the permission should be checked. Permission: android.permission.DUMP [android:exported=true]	warning	A Broadcast Receiver is found to be shared with other apps on the device therefore leaving it accessible to any other application on the device. It is protected by a permission which is not defined in the analysed application. As a result, the protection level of the permission should be checked where it is defined. If it is set to normal or dangerous, a malicious application can request and obtain the permission and interact with the component. If it is set to signature, only applications signed with the same certificate can obtain the permission.

</> CODE ANALYSIS

NO	ISSUE	SEVERITY	STANDARDS	FILES
1	This App uses SSL certificate pinning to detect or prevent MITM attacks in secure communication channel.	secure	OWASP MASVS: MSTG- NETWORK-4	ch/admin/bag/covidcertificate/common/net/ConfigRepositor y.java ch/admin/bag/covidcertificate/wallet/light/net/CertificateLigh tRepository.java ch/admin/bag/covidcertificate/sdk/android/net/RetrofitFactor y.java ch/admin/bag/covidcertificate/wallet/pdf/net/PdfExportRepo sitory.java ch/admin/bag/covidcertificate/wallet/transfercode/net/Delive ryRepository.java ch/admin/bag/covidcertificate/sdk/android/net/CertificatePin ning.java

NO	ISSUE	SEVERITY	STANDARDS	FILES
2	The App logs information. Sensitive information should never be logged.	info	CWE: CWE-532: Insertion of Sensitive Information into Log File OWASP MASVS: MSTG- STORAGE-3	ch/admin/bag/covidcertificate/sdk/android/verification/CertificateVerificationController\$processTask\$2.java ch/admin/bag/covidcertificate/sdk/android/data/FileStorage.java ch/admin/bag/covidcertificate/sdk/android/verification/CertificateVerificationController\$refreshTrustList\$3.java ch/admin/bag/covidcertificate/common/util/SingleLiveEvent.java ch/admin/bag/covidcertificate/sdk/android/utils/EncryptedSharedPreferencesUtil.java ch/admin/bag/covidcertificate/sdk/android/metadata/ProductMetadataController\$refreshProductsMetadata\$3.java COSE/ASN1.java
3	App creates temp file. Sensitive information should never be written into a temp file.	warning	CWE: CWE-276: Incorrect Default Permissions OWASP Top 10: M2: Insecure Data Storage OWASP MASVS: MSTG- STORAGE-2	ch/admin/bag/covidcertificate/wallet/pdf/export/PdfExportFr agment.java ch/admin/bag/covidcertificate/wallet/pdf/PdfViewModel\$imp ortPdf\$1.java
4	IP Address disclosure	warning	CWE: CWE-200: Information Exposure OWASP MASVS: MSTG-CODE-2	net/i2p/crypto/eddsa/EdDSASecurityProvider.java
5	Files may contain hardcoded sensitive information like usernames, passwords, keys etc.	warning	CWE: CWE-312: Cleartext Storage of Sensitive Information OWASP Top 10: M9: Reverse Engineering OWASP MASVS: MSTG- STORAGE-14	io/jsonwebtoken/JwsHeader.java ch/admin/bag/covidcertificate/wallet/data/CertificateStorage.j ava ch/admin/bag/covidcertificate/wallet/transfercode/net/Delive ryRegistration.java

NO	ISSUE	SEVERITY	STANDARDS	FILES
6	This App copies data to clipboard. Sensitive data should not be copied to clipboard as other applications can access it.	info	OWASP MASVS: MSTG- STORAGE-10	ch/admin/bag/covidcertificate/wallet/transfercode/view/Tran sferCodeView.java ch/admin/bag/covidcertificate/wallet/detail/Uvciltem.java
7	The App uses an insecure Random Number Generator.	warning	CWE: CWE-330: Use of Insufficiently Random Values OWASP Top 10: M5: Insufficient Cryptography OWASP MASVS: MSTG-CRYPTO- 6	j\$/util/concurrent/ThreadLocalRandom.java

■ NIAP ANALYSIS v1.3

NO	IDENTIFIER	REQUIREMENT	FEATURE	DESCRIPTION
1	FCS_RBG_EXT.1.1	Security Functional Requirements	Random Bit Generation Services	The application implement DRBG functionality for its cryptographic operations.
2	FCS_STO_EXT.1.1	Security Functional Requirements	Storage of Credentials	The application does not store any credentials to non-volatile memory.
3	FCS_CKM_EXT.1.1	Security Functional Requirements	Cryptographic Key Generation Services	The application implement asymmetric key generation.
4	FDP_DEC_EXT.1.1	Security Functional Requirements	Access to Platform Resources	The application has access to ['camera', 'network connectivity'].
5	FDP_DEC_EXT.1.2	Security Functional Requirements	Access to Platform Resources	The application has access to no sensitive information repositories.

NO	IDENTIFIER	REQUIREMENT	FEATURE	DESCRIPTION
6	FDP_NET_EXT.1.1	Security Functional Requirements	Network Communications	The application has user/application initiated network communications.
7	FDP_DAR_EXT.1.1	Security Functional Requirements	Encryption Of Sensitive Application Data	The application leverage platform-provided functionality to encrypt sensitive data in non-volatile memory.
8	FMT_MEC_EXT.1.1	Security Functional Requirements	Supported Configuration Mechanism	The application invoke the mechanisms recommended by the platform vendor for storing and setting configuration options.
9	FTP_DIT_EXT.1.1	Security Functional Requirements	Protection of Data in Transit	The application does encrypt some transmitted data with HTTPS/TLS/SSH between itself and another trusted IT product.
10	FCS_RBG_EXT.2.1,FCS_RBG_EXT.2.2	Selection-Based Security Functional Requirements	Random Bit Generation from Application	The application perform all deterministic random bit generation (DRBG) services in accordance with NIST Special Publication 800-90A using Hash_DRBG. The deterministic RBG is seeded by an entropy source that accumulates entropy from a platform-based DRBG and a software-based noise source, with a minimum of 256 bits of entropy at least equal to the greatest security strength (according to NIST SP 800-57) of the keys and hashes that it will generate.
11	FCS_CKM.1.1(1)	Selection-Based Security Functional Requirements	Cryptographic Asymmetric Key Generation	The application generate asymmetric cryptographic keys not in accordance with FCS_CKM.1.1(1) using key generation algorithm RSA schemes and cryptographic key sizes of 1024-bit or lower.
12	FCS_CKM.1.1(3),FCS_CKM.1.2(3)	Selection-Based Security Functional Requirements	Password Conditioning	A password/passphrase shall perform [Password-based Key Derivation Functions] in accordance with a specified cryptographic algorithm

NO	IDENTIFIER	REQUIREMENT	FEATURE	DESCRIPTION
13	FCS_COP.1.1(1)	Selection-Based Security Functional Requirements	Cryptographic Operation - Encryption/Decryption	The application perform encryption/decryption not in accordance with FCS_COP.1.1(1), AES-ECB mode is being used.
14	FCS_COP.1.1(2)	Selection-Based Security Functional Requirements	Cryptographic Operation - Hashing	The application perform cryptographic hashing services in accordance with a specified cryptographic algorithm SHA-1/SHA-256/SHA-384/SHA-512 and message digest sizes 160/256/384/512 bits.
15	FCS_COP.1.1(3)	Selection-Based Security Functional Requirements	Cryptographic Operation - Signing	The application perform cryptographic signature services (generation and verification) in accordance with a specified cryptographic algorithm RSA schemes using cryptographic key sizes of 2048-bit or greater.
16	FCS_HTTPS_EXT.1.2	Selection-Based Security Functional Requirements	HTTPS Protocol	The application implement HTTPS using TLS.
17	FCS_HTTPS_EXT.1.3	Selection-Based Security Functional Requirements	HTTPS Protocol	The application notify the user and not establish the connection or request application authorization to establish the connection if the peer certificate is deemed invalid.
18	FIA_X509_EXT.1.1	Selection-Based Security Functional Requirements	X.509 Certificate Validation	The application invoked platform-provided functionality to validate certificates in accordance with the following rules: ['The application validate a certificate path by ensuring the presence of the basicConstraints extension and that the CA flag is set to TRUE for all CA certificates', 'The application validate the revocation status of the certificate using the Online Certificate Status Protocol (OCSP) as specified in RFC 2560 or a Certificate Revocation List (CRL) as specified in RFC 5759 or an OCSP TLS Status Request Extension (i.e., OCSP stapling) as specified in RFC 6066'].

NO	IDENTIFIER	REQUIREMENT	FEATURE	DESCRIPTION
19	FIA_X509_EXT.1.2	Selection-Based Security Functional Requirements	X.509 Certificate Validation	The application treat a certificate as a CA certificate only if the basicConstraints extension is present and the CA flag is set to TRUE.
20	FIA_X509_EXT.2.1	Selection-Based Security Functional Requirements	X.509 Certificate Authentication	The application use X.509v3 certificates as defined by RFC 5280 to support authentication for HTTPS , TLS.
21	FIA_X509_EXT.2.2	Selection-Based Security Functional Requirements	X.509 Certificate Authentication	When the application cannot establish a connection to determine the validity of a certificate, the application allow the administrator to choose whether to accept the certificate in these cases or accept the certificate, or not accept the certificate.
22	FCS_CKM.1.1(2)	Optional Security Functional Requirements	Cryptographic Symmetric Key Generation	The application shall generate symmetric cryptographic keys using a Random Bit Generator as specified in FCS_RBG_EXT.1 and specified cryptographic key sizes 128 bit or 256 bit.

Q DOMAIN MALWARE CHECK

DOMAIN	STATUS	GEOLOCATION
www.cc-a.bit.admin.ch	ok	IP: 108.156.22.10 Country: United States of America Region: Washington City: Redmond Latitude: 47.682899 Longitude: -122.120903 View: Google Map

DOMAIN	STATUS	GEOLOCATION
www.gl.ch	ok	IP: 193.135.58.32 Country: Switzerland Region: Thurgau City: Frauenfeld Latitude: 47.558159 Longitude: 8.898540 View: Google Map
javax.xml.xmlconstants	ok	No Geolocation information available.
www.lu.ch	ok	IP: 194.40.144.142 Country: Switzerland Region: Luzern City: Luzern Latitude: 47.050480 Longitude: 8.306350 View: Google Map
covid19-vac-check.ch	ok	IP: 185.48.147.44 Country: Switzerland Region: Vaud City: Bussigny Latitude: 46.551102 Longitude: 6.555970 View: Google Map
vd.ch	ok	IP: 145.232.192.197 Country: Switzerland Region: Vaud City: Lausanne Latitude: 46.515999 Longitude: 6.632820 View: Google Map

DOMAIN	STATUS	GEOLOCATION
bag-coronavirus.ch	ok	IP: 34.65.60.252 Country: Switzerland Region: Zurich City: Zurich Latitude: 47.366669 Longitude: 8.550000 View: Google Map
tools.ietf.org	ok	IP: 64.170.98.42 Country: United States of America Region: New York City: New York City Latitude: 40.714272 Longitude: -74.005966 View: Google Map
www.ar.ch	ok	IP: 185.17.69.20 Country: Switzerland Region: Luzern City: Luzern Latitude: 47.050480 Longitude: 8.306350 View: Google Map
www.jura.ch	ok	IP: 193.246.28.145 Country: Switzerland Region: Jura City: Delemont Latitude: 47.364929 Longitude: 7.344530 View: Google Map

DOMAIN	STATUS	GEOLOCATION
www.cc.bit.admin.ch	ok	IP: 108.156.22.89 Country: United States of America Region: Washington City: Redmond Latitude: 47.682899 Longitude: -122.120903 View: Google Map
www.sz.ch	ok	IP: 193.135.58.23 Country: Switzerland Region: Thurgau City: Frauenfeld Latitude: 47.558159 Longitude: 8.898540 View: Google Map
www.ge.ch	ok	IP: 160.53.252.106 Country: Switzerland Region: Geneve City: Geneva Latitude: 46.202221 Longitude: 6.145690 View: Google Map
gesundheit.tg.ch	ok	IP: 161.78.13.64 Country: Switzerland Region: Thurgau City: Frauenfeld Latitude: 47.558159 Longitude: 8.898540 View: Google Map

DOMAIN	STATUS	GEOLOCATION
www.zh.ch	ok	IP: 194.247.8.174 Country: Switzerland Region: Zurich City: Aussersihl Latitude: 47.377522 Longitude: 8.521270 View: Google Map
itunes.apple.com	ok	IP: 23.207.204.24 Country: United States of America Region: Texas City: Katy Latitude: 29.785789 Longitude: -95.824402 View: Google Map
www.gsi.be.ch	ok	IP: 159.144.56.20 Country: Switzerland Region: Bern City: Bern Latitude: 46.948090 Longitude: 7.447440 View: Google Map
ofsp-coronavirus.ch	ok	IP: 34.65.60.252 Country: Switzerland Region: Zurich City: Zurich Latitude: 47.366669 Longitude: 8.550000 View: Google Map

DOMAIN	STATUS	GEOLOCATION
www.baselland.ch	ok	IP: 193.47.168.16 Country: Switzerland Region: Basel-Landschaft City: Liestal Latitude: 47.484550 Longitude: 7.734460 View: Google Map
covidcertificate-form-a.admin.ch	ok	IP: 162.23.147.236 Country: Switzerland Region: Bern City: Bern Latitude: 46.948090 Longitude: 7.447440 View: Google Map
www.be.ch	ok	IP: 159.144.56.20 Country: Switzerland Region: Bern City: Bern Latitude: 46.948090 Longitude: 7.447440 View: Google Map
ufsp-coronavirus.ch	ok	IP: 34.65.60.252 Country: Switzerland Region: Zurich City: Zurich Latitude: 47.366669 Longitude: 8.550000 View: Google Map

DOMAIN	STATUS	GEOLOCATION
www.corona-impfung-zug.ch	ok	IP: 3.69.136.55 Country: Germany Region: Hessen City: Frankfurt am Main Latitude: 50.115520 Longitude: 8.684170 View: Google Map
sh.ch	ok	IP: 178.250.24.196 Country: Switzerland Region: Zurich City: Zurich Latitude: 47.366669 Longitude: 8.550000 View: Google Map
www.ai.ch	ok	IP: 159.100.250.129 Country: Switzerland Region: Vaud City: Lausanne Latitude: 46.515999 Longitude: 6.632820 View: Google Map
www.coronaimpfzentrumbasel.ch	ok	IP: 54.171.154.141 Country: Ireland Region: Dublin City: Dublin Latitude: 53.343990 Longitude: -6.267190 View: Google Map

DOMAIN	STATUS	GEOLOCATION
foph-coronavirus.ch	ok	IP: 34.65.60.252 Country: Switzerland Region: Zurich City: Zurich Latitude: 47.366669 Longitude: 8.550000 View: Google Map
covidcertificate-app.bit.admin.ch	ok	IP: 162.23.132.114 Country: Switzerland Region: Bern City: Bern Latitude: 46.948090 Longitude: 7.447440 View: Google Map
www.bl.ch	ok	IP: 193.47.168.16 Country: Switzerland Region: Basel-Landschaft City: Liestal Latitude: 47.484550 Longitude: 7.734460 View: Google Map
www.ow.ch	ok	IP: 195.65.10.20 Country: Switzerland Region: Zurich City: Zurich Latitude: 47.366669 Longitude: 8.550000 View: Google Map

DOMAIN	STATUS	GEOLOCATION
www.bit.admin.ch	ok	IP: 162.23.129.87 Country: Switzerland Region: Bern City: Bern Latitude: 46.948090 Longitude: 7.447440 View: Google Map
reopen.europa.eu	ok	IP: 139.191.221.32 Country: Italy Region: Lombardia City: Milan Latitude: 45.464272 Longitude: 9.189510 View: Google Map
youtu.be	ok	IP: 142.250.74.142 Country: United States of America Region: California City: Mountain View Latitude: 37.405991 Longitude: -122.078514 View: Google Map
www.ur.ch	ok	IP: 195.65.10.20 Country: Switzerland Region: Zurich City: Zurich Latitude: 47.366669 Longitude: 8.550000 View: Google Map

DOMAIN	STATUS	GEOLOCATION
www.fr.ch	ok	IP: 52.29.81.245 Country: Germany Region: Hessen City: Frankfurt am Main Latitude: 50.115520 Longitude: 8.684170 View: Google Map
www.bag.admin.ch	ok	IP: 108.156.22.71 Country: United States of America Region: Washington City: Redmond Latitude: 47.682899 Longitude: -122.120903 View: Google Map
apache.org	ok	IP: 151.101.2.132 Country: United States of America Region: California City: San Francisco Latitude: 37.775700 Longitude: -122.395203 View: Google Map
www.vs.ch	ok	IP: 193.247.117.21 Country: Switzerland Region: Valais City: Sion Latitude: 46.229080 Longitude: 7.359420 View: Google Map

DOMAIN	STATUS	GEOLOCATION
covid19.impf-check.ch	ok	IP: 185.48.147.42 Country: Switzerland Region: Vaud City: Bussigny Latitude: 46.551102 Longitude: 6.555970 View: Google Map
www.ag.ch	ok	IP: 193.47.122.80 Country: Switzerland Region: Aargau City: Aarau Latitude: 47.392540 Longitude: 8.044220 View: Google Map
www.nw.ch	ok	IP: 195.65.10.26 Country: Switzerland Region: Zurich City: Zurich Latitude: 47.366669 Longitude: 8.550000 View: Google Map
www.cc-d.bit.admin.ch	ok	IP: 108.156.22.56 Country: United States of America Region: Washington City: Redmond Latitude: 47.682899 Longitude: -122.120903 View: Google Map

DOMAIN	STATUS	GEOLOCATION
www.ti.ch	ok	IP: 193.246.181.24 Country: Switzerland Region: Ticino City: Bellinzona Latitude: 46.192780 Longitude: 9.017030 View: Google Map
www.gr.ch	ok	IP: 193.247.16.45 Country: Switzerland Region: Graubunden City: Chur Latitude: 46.849861 Longitude: 9.532870 View: Google Map
github.com	ok	IP: 140.82.121.4 Country: United States of America Region: California City: San Francisco Latitude: 37.775700 Longitude: -122.395203 View: Google Map
www.ne.ch	ok	IP: 148.196.30.27 Country: Switzerland Region: Neuchatel City: Neuchatel Latitude: 46.991791 Longitude: 6.931000 View: Google Map

DOMAIN	STATUS	GEOLOCATION
www.sg.ch	ok	IP: 193.238.142.3 Country: Switzerland Region: Sankt Gallen City: Wil Latitude: 47.461521 Longitude: 9.045520 View: Google Map
so.ch	ok	IP: 193.135.80.188 Country: Switzerland Region: Solothurn City: Solothurn Latitude: 47.207909 Longitude: 7.537140 View: Google Map

HARDCODED SECRETS

POSSIBLE SECRETS
"language_key" : "en"
"wallet_add_certificate" : "Add"
"language_key" : "de"
"wallet_add_certificate" : "Hinzufügen"
"wallet_certificate" : "Covid-Zertifikat"

POSSIBLE SECRETS
"language_key" : "fr"
"wallet_add_certificate" : "Ajouter"
"language_key" : "it"
"wallet_add_certificate" : "Aggiungere"
"language_key" : "rm"
"wallet_add_certificate" : "Agiuntar"

Report Generated by - MobSF v3.5.1 Beta

Mobile Security Framework (MobSF) is an automated, all-in-one mobile application (Android/iOS/Windows) pen-testing, malware analysis and security assessment framework capable of performing static and dynamic analysis.

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