

Test security and privacy of your mobile application (iOS & Android), detect OWASP Mobile Top 10 and other weaknesses.

Summary of Mobile Application Security Test



APP NAME

COVID19 - Ministerio de Salud

APP ID

ar.gob.coronavirus

APP VERSION

1.0.2

DEVICE TYPE

Android

TEST STARTED

April 17th 2020, 16:05

TEST FINISHED

April 17th 2020, 17:37

OWASP Mobile Top 10

The automated audit revealed the following security flaws and weaknesses that may impact the application:

WARNINGS
7

LOW RISKS
5

MEDIUM RISKS
3

HIGH RISK
0

Zero false-positive SLA and advanced manual testing of application is only available in ImmuniWeb® MobileSuite.

HARDCODED SENSITIVE DATA [M10] [CWE-200] [SAST]

MEDIUM

Description:

The mobile application contains potentially sensitive hardcoded data. An attacker with an access to the mobile application file can easily extract this data from the application and use it in any further attacks.

Details:

There is 'access_token' found in file '[net/openid/appauth/s.java](#)':

```
line 15:    private static final Set<String> h = new HashSet(Arrays.asList(new
String[]{"token_type", "access_token", AccessToken.EXPIRES_IN_KEY, "refresh_token",
"id_token", "scope"}));
```

There is 'access_token' found in file '[net/openid/appauth/f.java](#)':

```
line 21:    private static final Set<String> j = Collections.unmodifiableSet(new
HashSet(Arrays.asList(new String[]{"token_type", ServerProtocol.DIALOG_PARAM_STATE,
"code", "access_token", AccessToken.EXPIRES_IN_KEY, "id_token", "scope"})));
```

There is '[https://expo.io:443/@sergiocirasa/COVID19-Ministerio-de-Salud](#)' found in file '[host/exp/exponent/MainActivity.java](#)':

```
line 31:          return "https://expo.io:443/@sergiocirasa/COVID19-Ministerio-de-Salud";
```

There is '[https://expo.io:443/@sergiocirasa/COVID19-Ministerio-de-Salud](#)' found in file '[host/exp/exponent/generated/AppConstants.java](#)':

```
line 14:      public static String INITIAL_URL =
"https://expo.io:443/@sergiocirasa/COVID19-Ministerio-de-Salud";
```

```
line 22:          arrayList.add(new a("https://expo.io:443/@sergiocirasa/COVID19-Ministerio-de-Salud", "assets://shell-app-manifest.json", "application/json"));
```

CVSSv3 Base Score:

6.5 (AV:L/AC:L/PR:L/UI:N/S:C/C:H/I:N/A:N)

USAGE OF UNENCRYPTED HTTP PROTOCOL [M3] [CWE-319] [SAST]

MEDIUM

Description:

The mobile application uses HTTP protocol to send or receive data. The design of HTTP protocol does not provide any encryption of the transmitted data, which can be easily intercepted if an attacker is located in the same network or has access to data channel of the victim.

Example of insecure code:

```
URLConnection conn = (URLConnection) url.openConnection();
```

Example of secure code:

```
HttpsURLConnection conn = (HttpsURLConnection) url.openConnection();
```

Details:

There is '[\(URLConnection\)](#)' found in file '[net/openid/appauth/v/b.java](#)':

```
line 21:      p.a(UriUtil.HTTPS_SCHEME.equals(uri.getScheme()), (Object) "only https
connections are permitted");
line 22:      HttpURLConnection httpURLConnection = \(URLConnection\) new
URL(uri.toString()).openConnection();
line 23:      httpURLConnection.setConnectTimeout(b);
```

There is '[\(URLConnection\)](#)' found in file '[host/exp/exponent/g.java](#)':

```
line 66:          try {
line 67:              HttpURLConnection httpURLConnection = \(URLConnection\) new
URL(this.a).openConnection();
line 68:              httpURLConnection.setDoInput(true);
```

There is '**(URLConnection)**' found in file '[h/a/a/n/e/d.java](#)':

```
line 56:      public HttpURLConnection a(URL url) {
line 57:          return (URLConnection) url.openConnection();
line 58:      }
```

```
line 60:      public HttpURLConnection a(URL url, Proxy proxy) {
line 61:          return (URLConnection) url.openConnection(proxy);
line 62:      }
```

There is '**(URLConnection)**' found in file '[d/i/a/d0.java](#)':

```
line 45:      public HttpURLConnection a(Uri uri) {
line 46:          HttpURLConnection httpURLConnection = (URLConnection) new
URL(uri.toString()).openConnection();
line 47:          httpURLConnection.setConnectTimeout(15000);
```

There is '**(URLConnection)**' found in file '[d/f/b/d/f/l/g1.java](#)':

```
line 469:      if (openConnection instanceof HttpURLConnection) {
line 470:          HttpURLConnection httpURLConnection = (URLConnection)
openConnection;
line 471:          httpURLConnection.setDefaultUseCaches(false);
```

```
line 488:      httpURLConnection.connect();
line 489:      a(httpURLConnection);
line 490:      int responseCode = httpURLConnection.getResponseCode();
```

There is '**(URLConnection)**' found in file '[d/f/b/b/u0/s.java](#)':

```
line 268:      private HttpURLConnection a(URL url, int i, byte[] bArr, long j, long j2,
boolean z, boolean z2) {
line 269:          HttpURLConnection httpURLConnection = (URLConnection)
url.openConnection();
line 270:          httpURLConnection.setConnectTimeout(this.f);
```

There is '**(URLConnection)**' found in file '[d/h/a/f.java](#)':

```
line 29:      public HttpURLConnection b(String str) {
line 30:          HttpURLConnection httpURLConnection = (URLConnection) new
URL(str).openConnection();
line 31:          httpURLConnection.setConnectTimeout(15000);
```

There is '**URLConnection**' found in file '`com/bumptech/glide/load/m/j.java`':

```
line 38:      public HttpURLConnection a(URL url) {
line 39:          return (URLConnection) url.openConnection();
line 40:      }
```

There is '**URLConnection** url.openConnection()' found in file '`h/a/a/n/e/d.java`':

```
line 56:      public HttpURLConnection a(URL url) {
line 57:          return (URLConnection) url.openConnection();
line 58:      }
```

CVSSv3 Base Score:

6.5 (AV:N/AC:L/PR:N/UI:N/S:U/C:L/I:L/A:N)

Reference:

- <https://developer.android.com/reference/java/net/URLConnection.html>
- <https://developer.android.com/reference/javax/net/ssl/HttpsURLConnection.html>

PREDICTABLE RANDOM NUMBER GENERATOR [M5] [CWE-338] [SAST]

MEDIUM

Description:

The mobile application uses a predictable Random Number Generator (RNG).

Under certain conditions this weakness may jeopardize mobile application data encryption or other protection based on randomization. For example, if encryption tokens are generated inside of the application and an attacker can provide application with a predictable token to validate and then execute a sensitive activity within the application or its backend.

Example of insecure code:

```
Random random = new Random();
byte bytes[] = new byte[20];
random.nextBytes(bytes);
```

Example of secure code:

```
SecureRandom random = new SecureRandom();
byte bytes[] = new byte[20];
random.nextBytes(bytes);
```

Details:

There is '**new Random()**' found in file '`versioned/host/exp/exponent/modules/api/notifications/NotificationsModule.java`':

```
line 283:      }
line 284:          j.a(getReactApplicationContext(), new Random().nextInt(),
hashMap, this.mExponentManifest, new c() {
line 285:              public void onFailure(Exception exception) {
```

```
line 313:      }
line 314:      int nextInt = new Random().nextInt();
line 315:      HashMap toHashMap = readableMap.toHashMap();
```

```

line 333:      HashMap toHashMap = readableMap2.toHashMap();
line 334:      int abs = Math.abs(new Random().nextInt());
line 335:      HashMap toHashMap2 = readableMap.toHashMap();

```

```

line 362:      HashMap toHashMap = readableMap2.toHashMap();
line 363:      int abs = Math.abs(new Random().nextInt());
line 364:      HashMap toHashMap2 = readableMap.toHashMap();

```

There is '**new Random()**' found in file '[d/f/d/a/e/k/n.java](#)':

```

line 255:      public static int b(int i) {
line 256:          Random random = new Random();
line 257:          int red = Color.red(i);

```

There is '**new Random()**' found in file '[d/f/b/d/f/o/oc.java](#)':

```

line 430:      }
line 431:      long nextLong = new Random(System.nanoTime()) ^
this.b.b()).nextLong();
line 432:      int i = this.f + 1;

```

CVSSv3 Base Score:

4.8 (AV:N/AC:H/PR:N/UI:N/S:U/C:L/I:L/A:N)

Reference:

- <https://developer.android.com/reference/java/util/Random.html>
- <https://developer.android.com/reference/java/security/SecureRandom.html>

HARDCODED DATA [M2] [CWE-200] [SAST]

LOW

Description:

The mobile application contains debugging or other technical information that may be extracted and used by an attacker to facilitate further attacks.

[http://](#) with value <http://www.example.com> in following files:

- [net/openid/appauth/u/d.java](#):

```

line 12: static final Intent a = new Intent("android.intent.action.VIEW",
Uri.parse("http://www.example.com"));

```

[http://](#) with value <http://settings> in following files:

- [versioned/host/exp/exponent/modules/api/URLHandlerModule.java](#):

```

line 33: return MapBuilder.of("schemes", arrayList, "initialURL", null,
"settingsURL", "http://settings");

```

[http://](#) with value <http://goo.gl/naFqQk> in following files:

- [d/f/b/d/f/l/d.java](#):

```
line 39: e("IllegalStateException getting Ad Id Info. If you would like to
see Audience reports, please ensure that you have added '<meta-data
android:name=\"com.google.android.gms.version\"
android:value=\"@integer/google_play_services_version\" />' to your
application manifest file. See http://goo.gl/naFqQk for details.");
```

<http://> with value <http://goo.gl/8Rd3yj> in following files:

- [d/f/b/d/f/l/l1.java](#):

```
line 22: r0.e("Analytics service at risk of not starting. For more reliable
analytics, add the WAKE_LOCK permission to your manifest. See
http://goo.gl/8Rd3yj for instructions.");
line 75: r5 = "Analytics service at risk of not starting. For more reliable
analytics, add the WAKE_LOCK permission to your manifest. See
http://goo.gl/8Rd3yj for instructions.";
```

- [d/f/b/d/f/l/y.java](#):

```
line 445: e("AnalyticsReceiver is not registered or is disabled. Register
the receiver for reliable dispatching on non-Google Play devices. See
http://goo.gl/8Rd3yj for instructions.");
line 447: f("AnalyticsService is not registered or is disabled. Analytics
service at risk of not starting. See http://goo.gl/8Rd3yj for
instructions.");
line 450: e("CampaignTrackingReceiver is not registered, not exported or is
disabled. Installation campaign tracking is not possible. See
http://goo.gl/8Rd3yj for instructions.");
line 454: f("Missing required android.permission.ACCESS_NETWORK_STATE.
Google Analytics disabled. See http://goo.gl/8Rd3yj for instructions");
line 458: f("Missing required android.permission.INTERNET. Google Analytics
disabled. See http://goo.gl/8Rd3yj for instructions");
line 464: e("AnalyticsService not registered in the app manifest. Hits might
not be delivered reliably. See http://goo.gl/8Rd3yj for instructions.");
line 636: c("Hit delivery not possible. Missing network permissions. See
http://goo.gl/8Rd3yj for instructions");
```

<http://> with value <http://www.google-analytics.com> in following files:

- [d/f/b/d/f/l/v0.java](#):

```
line 45: String str = "http://www.google-analytics.com";
```

<http://> with value <http://www.slf4j.org/codes.html#StaticLoggerBinder> in following files:

- [l/c/c.java](#):

```
line 36: g.a("See http://www.slf4j.org/codes.html#StaticLoggerBinder for
further details.");
```

<http://> with value <http://www.slf4j.org/codes.html#substituteLogger> in following files:

- [l/c/c.java](#):

```
line 68: g.a("See also http://www.slf4j.org/codes.html#substituteLogger");
```

<http://> with value <http://www.slf4j.org/codes.html#unsuccessfulInit> in following files:

- **l/c/c.java:**

```
line 86: throw new IllegalStateException("org.slf4j.LoggerFactory could not
be successfully initialized. See also
http://www.slf4j.org/codes.html#unsuccessfulInit");
```

[http://](#) with value http://www.slf4j.org/codes.html#version_mismatch in following files:

- **l/c/c.java:**

```
line 118: g.a("See http://www.slf4j.org/codes.html#version\_mismatch for
further details.");
```

[http://](#) with value http://www.slf4j.org/codes.html#multiple_bindings in following files:

- **l/c/c.java:**

```
line 162: g.a("See http://www.slf4j.org/codes.html#multiple\_bindings for an
explanation.");
```

[http://](#) with value <http://www.slf4j.org/codes.html#loggerNameMismatch> in following files:

- **l/c/c.java:**

```
line 180: g.a("See http://www.slf4j.org/codes.html#loggerNameMismatch for an
explanation");
```

[https://](#) with value <https://exp.host/@exponent/home/bundle> in following files:

- **host/exp/exponent/d.java:**

```
line 55: arrayList.add(new a("https://exp.host/@exponent/home/bundle",
"assets://kernel.android.bundle", "application/javascript"));
```

[https://](#) with value <https://expo.io:443/@sergiocirasa/COVID19-Ministerio-de-Salud> in following files:

- **host/exp/exponent/MainActivity.java:**

```
line 24: return "https://expo.io:443/@sergiocirasa/COVID19-Ministerio-de-Salud";
```

- **host/exp/exponent/generated/AppConstants.java:**

```
line 12: public static String INITIAL_URL =
"https://expo.io:443/@sergiocirasa/COVID19-Ministerio-de-Salud";
line 19: arrayList.add(new a("https://expo.io:443/@sergiocirasa/COVID19-Ministerio-de-Salud",
"assets://shell-app-manifest.json",
"application/json"));
```

[https://](#) with value https://s3.amazonaws.com/exp-brand-assets/ExponentEmptyManifest_192.png in following files:

- **host/exp/exponent/g.java:**

```

line 241: [CUTTED]JSONObject jsonObject = new JSONObject("{\"ios\":
{ \"supportsTablet\":true, \"bundleIdentifier\":\"host.exp.exponent\"}, \"icon\
\": \"https://s3.amazonaws.com/exp-brand-
assets/ExponentEmptyManifest_192.png\", \"name\": \"expo-
home\", \"slug\": \"expo-home-dev-
0981fb8d2adfa11971da17369e85ced60d124a93\", \"extra\":
{ \"amplitudeApiKey\": \"081e5ec53f869b440b225d5e40ec73f9\"}, \"scheme\": \"exp\
\", \"android\":
{ \"package\": \"host.exp.exponent\"}, \"iconUrl\": \"https://s3.amazonaws.com/e
xp-brand-assets/ExponentEmptyManifest_192.png\", \"locales\":
{}}, \"privacy\": \"unlisted\", \"updates\":
{ \"checkAutomatically\": \"ON_LOAD\", \"fallbackToCacheTimeout\": 0}, \"version\
\": \"36.0.0\", \"platforms\":
[ \"ios\", \"android\"], \"sdkVersion\": \"UNVERSIONED\", \"description\": \"The
Expo client app\", \"orientation\": \"portrait\", \"dependencies\":
[ \"@expo/react-native-action-sheet\", \"@expo/react-native-touchable-native-
feedback-safe\", \"@react-native-community/netinfo\", \"@react-
navigation/web\", \"apollo-boost\", \"apollo-cache-inm[CUTTED]

```

[https://](https://d1wp6m56sqw74a.cloudfront.net/%40expo-home-dev%2Fexpo-home-dev-0981fb8d2adfa11971da17369e85ced60d124a93%2F36.0.0%2F8ba679d143fecf6f199849fd70fea69b-36.0.0-android.js) with value <https://d1wp6m56sqw74a.cloudfront.net/%40expo-home-dev%2Fexpo-home-dev-0981fb8d2adfa11971da17369e85ced60d124a93%2F36.0.0%2F8ba679d143fecf6f199849fd70fea69b-36.0.0-android.js> in following files:

- **host/exp/exponent/g.java:**

```

line 241: e\", \"lodash\", \"prop-types\", \"querystring\", \"react\", \"react-
apollo\", \"react-native\", \"react-native-appearance\", \"react-native-fade-
in-image\", \"react-native-gesture-handler\", \"react-native-infinite-scroll-
view\", \"react-native-maps\", \"react-navigation\", \"react-navigation-
material-bottom-tabs\", \"react-navigation-stack\", \"react-navigation-
tabs\", \"react-redux\", \"redux\", \"redux-
thunk\", \"semver\", \"sha1\", \"url\", \"packagerOpts\":
{ \"config\": \"metro.config.js\", \"primaryColor\": \"#cccccc\", \"userInterfac
eStyle\": \"automatic\", \"id\": \"@expo-home-dev/expo-home-dev-
0981fb8d2adfa11971da17369e85ced60d124a93\", \"releaseId\": \"3bdad3b2-72e1-
41dc-a353-4d84b5e86cb1\", \"revisionId\": \"36.0.0-
r.SkCZH4XaS\", \"publishedTime\": \"2019-12-
03T01:06:13.897Z\", \"commitTime\": \"2019-12-
03T01:06:13.934Z\", \"bundleUrl\": \"https://d1wp6m56sqw74a.cloudfront.net/%40
expo-home-dev%2Fexpo-home-dev-
0981fb8d2adfa11971da17369e85ced60d124a93%2F36.0.0%2F8ba679d143fecf6f199849fd
70fea69b-36.0.0-android.js\"[CUTTED]

```

[https://](https://exp.host/--/manifest-public-key) with value <https://exp.host/--/manifest-public-key> in following files:

- **host/exp/exponent/g.java:**

```

line 569: r1 = \"https://exp.host/--/manifest-public-key\";

```

[https://](https://d3lwq5rlu14cro.cloudfront.net/ExponentEmptyManifest_192.png) with value https://d3lwq5rlu14cro.cloudfront.net/ExponentEmptyManifest_192.png in following files:

- **host/exp/exponent/g.java:**

```

line 695: jsonObject.put(str,
\"https://d3lwq5rlu14cro.cloudfront.net/ExponentEmptyManifest_192.png\");

```

[https://](https://d1wp6m56sqw74a.cloudfront.net/%40sergiocirasa%2FCOVID19-Ministerio-de-Salud%2F1.0.2%2F7bdd402cbbc3e6a03bd97ad353ae2783-36.0.0-android.js) with value <https://d1wp6m56sqw74a.cloudfront.net/%40sergiocirasa%2FCOVID19-Ministerio-de-Salud%2F1.0.2%2F7bdd402cbbc3e6a03bd97ad353ae2783-36.0.0-android.js> in following files:

- **host/exp/exponent/generated/AppConstants.java:**

```
line 20: arrayList.add(new
a("https://d1wp6m56sqw74a.cloudfront.net/%40sergiocirasa%2FC0VID19-
Ministerio-de-Salud%2F1.0.2%2F7bdd402cbbc3e6a03bd97ad353ae2783-36.0.0-
android.js", "assets://shell-app.bundle", "application/javascript"));
```

[https://](https://d1wp6m56sqw74a.cloudfront.net/~assets/) with value <https://d1wp6m56sqw74a.cloudfront.net/~assets/> in following files:

- **host/exp/exponent/q/f.java:**

```
line 52: if
(request.url().toString().startsWith("https://d1wp6m56sqw74a.cloudfront.net/
~assets/")) {
```

[https://](https://exp.host/--api/v2/push/updateDeviceToken) with value <https://exp.host/--api/v2/push/updateDeviceToken> in following files:

- **host/exp/exponent/notifications/e.java:**

```
line 87: this.b.b().a(i.a("https://exp.host/-
-/api/v2/push/updateDeviceToken").header(HttpHeaders.CONTENT_TYPE,
"application/json").post(RequestBody.create(MediaType.parse("application/jso
n; charset=utf-8"), JSONObject.toString())).build(), new a(c));
```

[https://](https://inthecheesefactory.com/blog/how-to-install-google-services-on-genymotion/en) with value <https://inthecheesefactory.com/blog/how-to-install-google-services-on-genymotion/en> in following files:

- **host/exp/exponent/notifications/e.java:**

```
line 101: a("Are you running in Genymotion? Follow this guide
https://inthecheesefactory.com/blog/how-to-install-google-services-on-
genymotion/en to install Google Play Services");
```

[https://](https://docs.expo.io/versions/latest/guides/using-fcm) with value <https://docs.expo.io/versions/latest/guides/using-fcm> in following files:

- **host/exp/exponent/notifications/j.java:**

```
line 80: stringBuilder.append(" Expo support for GCM is deprecated. Follow
this guide to set up FCM for your standalone app:
https://docs.expo.io/versions/latest/guides/using-fcm");
```

[https://](https://exp.host/--api/v2/push/getExpoPushToken) with value <https://exp.host/--api/v2/push/getExpoPushToken> in following files:

- **host/exp/exponent/notifications/j.java:**

```
line 94: this.e.b().a(i.a("https://exp.host/-
-/api/v2/push/getExpoPushToken").header(HttpHeaders.CONTENT_TYPE,
"application/json").post(RequestBody.create(MediaType.parse("application/jso
n; charset=utf-8"), JSONObject.toString())).build(), new a());
```

[https://](https://www.googleapis.com/auth/fitness.activity.read) with value <https://www.googleapis.com/auth/fitness.activity.read> in following files:

- **versioned/host/exp/exponent/modules/api/PedometerModule.java:**

```
line 62: aVar.a(new
Scope("https://www.googleapis.com/auth/fitness.activity.read"));
```

- **expo/modules/google/signin/GoogleSignInModule.java:**

```
line 193: hashMap3.put("FITNESS_ACTIVITY_READ",
"https://www.googleapis.com/auth/fitness.activity.read");
```

- [d/f/b/d/d/c.java](#):

```
line 40: Scope scope = new
Scope("https://www.googleapis.com/auth/fitness.activity.read");
```

- [d/f/b/d/d/k.java](#):

```
line 10: Scope scope2 = scope.equals(new
Scope("https://www.googleapis.com/auth/fitness.activity.read")) ? new
Scope("https://www.googleapis.com/auth/fitness.activity.write") :
scope.equals(new
Scope("https://www.googleapis.com/auth/fitness.location.read")) ? new
Scope("https://www.googleapis.com/auth/fitness.location.write") :
scope.equals(new Scope("https://www.googleapis.com/auth/fitness.body.read"))
? new Scope("https://www.googleapis.com/auth/fitness.body.write") :
scope.equals(new
Scope("https://www.googleapis.com/auth/fitness.nutrition.read")) ? new
Scope("https://www.googleapis.com/auth/fitness.nutrition.write") :
scope.equals(new
Scope("https://www.googleapis.com/auth/fitness.blood_pressure.read")) ? new
Scope("https://www.googleapis.com/auth/fitness.blood_pressure.write") :
scope.equals(new
Scope("https://www.googleapis.com/auth/fitness.blood_glucose.read")) ? new
Scope("https://www.googleapis.com/auth/fitness.blood_glucose.write") :
scope.equals(new
Scope("https://www.googleapis.com/auth/fitness.oxygen_saturation.read")) ?
new Scope("https://www.googleapis.com/auth/fitness.oxygen_saturation.write")
: scope.equals(new
Scope("https://www.googleapis.com/auth/fitness.body_temperature.read")) ?
new Scope("https://www.googleapis.com/auth/fitness.body_temperature.write")
: scope.equals(new
Scope("https://www.googleapis.com/auth/fitness.reproductive_health.read")) ?
new
Scope("https://www.googleapis.com/auth/fitness.reproductive_health.write") :
scope;
```

[https://](#) with value [https://exp.host/status](#) in following files:

- [g/a/a/b.java](#):

```
line 373: this.e.b().a(new Builder().url("https://exp.host/status").build(),
new a(this));
```

[https://](#) with value [https://www.googleapis.com/auth/plus.me](#) in following files:

- [expo/modules/google/signin/GoogleSignInModule.java](#):

```
line 183: hashMap3.put("PLUS_ME",
"https://www.googleapis.com/auth/plus.me");
```

[https://](#) with value [https://www.googleapis.com/auth/games](#) in following files:

- [expo/modules/google/signin/GoogleSignInModule.java](#):

```
line 185: hashMap3.put(str, "https://www.googleapis.com/auth/games");
line 186: hashMap3.put("GAMES_LITE",
"https://www.googleapis.com/auth/games_lite");
```

<https://> with value https://www.googleapis.com/auth/games_lite in following files:

- [expo/modules/google/signin/GoogleSignInModule.java](#):

```
line 186: hashMap3.put("GAMES_LITE",
"https://www.googleapis.com/auth/games_lite");
```

<https://> with value <https://www.googleapis.com/auth/datastoremobile> in following files:

- [expo/modules/google/signin/GoogleSignInModule.java](#):

```
line 187: hashMap3.put("CLOUD_SAVE",
"https://www.googleapis.com/auth/datastoremobile");
```

<https://> with value <https://www.googleapis.com/auth/appstate> in following files:

- [expo/modules/google/signin/GoogleSignInModule.java](#):

```
line 188: hashMap3.put("APP_STATE",
"https://www.googleapis.com/auth/appstate");
```

<https://> with value <https://www.googleapis.com/auth/drive.file> in following files:

- [expo/modules/google/signin/GoogleSignInModule.java](#):

```
line 189: hashMap3.put("DRIVE_FILE",
"https://www.googleapis.com/auth/drive.file");
```

<https://> with value <https://www.googleapis.com/auth/drive.appdata> in following files:

- [expo/modules/google/signin/GoogleSignInModule.java](#):

```
line 190: hashMap3.put("DRIVE_APPFOLDER",
"https://www.googleapis.com/auth/drive.appdata");
```

<https://> with value <https://www.googleapis.com/auth/drive> in following files:

- [expo/modules/google/signin/GoogleSignInModule.java](#):

```
line 189: hashMap3.put("DRIVE_FILE",
"https://www.googleapis.com/auth/drive.file");
line 190: hashMap3.put("DRIVE_APPFOLDER",
"https://www.googleapis.com/auth/drive.appdata");
line 191: hashMap3.put("DRIVE_FULL",
"https://www.googleapis.com/auth/drive");
line 192: hashMap3.put("DRIVE_APPS",
"https://www.googleapis.com/auth/drive.apps");
```

<https://> with value <https://www.googleapis.com/auth/drive.apps> in following files:

- [expo/modules/google/signin/GoogleSignInModule.java](#):

```
line 192: hashMap3.put("DRIVE_APPS",
"https://www.googleapis.com/auth/drive.apps");
```

<https://> with value <https://www.googleapis.com/auth/fitness.activity.write> in following files:

- **expo/modules/google/signin/GoogleSignInModule.java:**

```
line 194: hashMap3.put("FITNESS_ACTIVITY_READ_WRITE",
"https://www.googleapis.com/auth/fitness.activity.write");
```

- **d/f/b/d/d/c.java:**

```
line 41: scope = new
Scope("https://www.googleapis.com/auth/fitness.activity.write");
```

[https://](#) with value <https://www.googleapis.com/auth/fitness.location.read> in following files:

- **expo/modules/google/signin/GoogleSignInModule.java:**

```
line 195: hashMap3.put("FITNESS_LOCATION_READ",
"https://www.googleapis.com/auth/fitness.location.read");
```

- **d/f/b/d/d/c.java:**

```
line 42: scope = new
Scope("https://www.googleapis.com/auth/fitness.location.read");
```

[https://](#) with value <https://www.googleapis.com/auth/fitness.location.write> in following files:

- **expo/modules/google/signin/GoogleSignInModule.java:**

```
line 196: hashMap3.put("FITNESS_LOCATION_READ_WRITE",
"https://www.googleapis.com/auth/fitness.location.write");
```

- **d/f/b/d/d/c.java:**

```
line 43: scope = new
Scope("https://www.googleapis.com/auth/fitness.location.write");
```

[https://](#) with value <https://www.googleapis.com/auth/fitness.body.read> in following files:

- **expo/modules/google/signin/GoogleSignInModule.java:**

```
line 197: hashMap3.put("FITNESS_BODY_READ",
"https://www.googleapis.com/auth/fitness.body.read");
```

- **d/f/b/d/d/c.java:**

```
line 44: scope = new
Scope("https://www.googleapis.com/auth/fitness.body.read");
```

[https://](#) with value <https://www.googleapis.com/auth/fitness.body.write> in following files:

- **expo/modules/google/signin/GoogleSignInModule.java:**

```
line 198: hashMap3.put("FITNESS_BODY_READ_WRITE",
"https://www.googleapis.com/auth/fitness.body.write");
```

- **d/f/b/d/d/c.java:**

```
line 45: scope = new
Scope("https://www.googleapis.com/auth/fitness.body.write");
```

<https://> with value <https://www.googleapis.com/auth/fitness.nutrition.read> in following files:

- [expo/modules/google/signin/GoogleSignInModule.java](#):

```
line 199: hashMap3.put("FITNESS_NUTRITION_READ",
"https://www.googleapis.com/auth/fitness.nutrition.read");
```

- [d/f/b/d/d/c.java](#):

```
line 46: scope = new
Scope("https://www.googleapis.com/auth/fitness.nutrition.read");
```

<https://> with value <https://www.googleapis.com/auth/fitness.nutrition.write> in following files:

- [expo/modules/google/signin/GoogleSignInModule.java](#):

```
line 200: hashMap3.put("FITNESS_NUTRITION_READ_WRITE",
"https://www.googleapis.com/auth/fitness.nutrition.write");
```

- [d/f/b/d/d/c.java](#):

```
line 47: scope = new
Scope("https://www.googleapis.com/auth/fitness.nutrition.write");
```

<https://> with value https://www.googleapis.com/auth/fitness.blood_pressure.read in following files:

- [expo/modules/google/signin/GoogleSignInModule.java](#):

```
line 201: hashMap3.put("FITNESS_BLOOD_PRESSURE_READ",
"https://www.googleapis.com/auth/fitness.blood_pressure.read");
```

<https://> with value https://www.googleapis.com/auth/fitness.blood_pressure.write in following files:

- [expo/modules/google/signin/GoogleSignInModule.java](#):

```
line 202: hashMap3.put("FITNESS_BLOOD_PRESSURE_READ_WRITE",
"https://www.googleapis.com/auth/fitness.blood_pressure.write");
```

<https://> with value https://www.googleapis.com/auth/fitness.blood_glucose.read in following files:

- [expo/modules/google/signin/GoogleSignInModule.java](#):

```
line 203: hashMap3.put("FITNESS_BLOOD_GLUCOSE_READ",
"https://www.googleapis.com/auth/fitness.blood_glucose.read");
```

<https://> with value https://www.googleapis.com/auth/fitness.blood_glucose.write in following files:

- [expo/modules/google/signin/GoogleSignInModule.java](#):

```
line 204: hashMap3.put("FITNESS_BLOOD_GLUCOSE_READ_WRITE",
"https://www.googleapis.com/auth/fitness.blood_glucose.write");
```

<https://> with value https://www.googleapis.com/auth/fitness.oxygen_saturation.read in following files:

- [expo/modules/google/signin/GoogleSignInModule.java](#):

```
line 205: hashMap3.put("FITNESS_OXYGEN_SATURATION_READ",
"https://www.googleapis.com/auth/fitness.oxygen_saturation.read");
```

<https://> with value https://www.googleapis.com/auth/fitness.oxygen_saturation.write in following files:

- [expo/modules/google/signin/GoogleSignInModule.java](#):

```
line 206: hashMap3.put("FITNESS_OXYGEN_SATURATION_READ_WRITE",
"https://www.googleapis.com/auth/fitness.oxygen_saturation.write");
```

<https://> with value https://www.googleapis.com/auth/fitness.body_temperature.read in following files:

- [expo/modules/google/signin/GoogleSignInModule.java](#):

```
line 207: hashMap3.put("FITNESS_BODY_TEMPERATURE_READ",
"https://www.googleapis.com/auth/fitness.body_temperature.read");
```

<https://> with value https://www.googleapis.com/auth/fitness.body_temperature.write in following files:

- [expo/modules/google/signin/GoogleSignInModule.java](#):

```
line 208: hashMap3.put("FITNESS_BODY_TEMPERATURE_READ_WRITE",
"https://www.googleapis.com/auth/fitness.body_temperature.write");
```

<https://> with value https://www.googleapis.com/auth/fitness.reproductive_health.read in following files:

- [expo/modules/google/signin/GoogleSignInModule.java](#):

```
line 209: hashMap3.put("FITNESS_REPRODUCTIVE_HEALTH_READ",
"https://www.googleapis.com/auth/fitness.reproductive_health.read");
```

<https://> with value https://www.googleapis.com/auth/fitness.reproductive_health.write in following files:

- [expo/modules/google/signin/GoogleSignInModule.java](#):

```
line 210: hashMap3.put("FITNESS_REPRODUCTIVE_HEALTH_READ_WRITE",
"https://www.googleapis.com/auth/fitness.reproductive_health.write");
```

<https://> with value <https://expo.io> in following files:

- [expo/modules/webbrowser/CustomTabsActivitiesHelper.java](#):

```
line 18: private static final String DUMMY_URL = "https://expo.io";
```

<https://> with value <https://e.crashlytics.com/spi/v2/events> in following files:

- [h/a/a/a/n/g/l.java](#):

```

line 44: return new b(jsonObject.optString("url",
"https://e.crashlytics.com/spi/v2/events"),
jsonObject.optInt("flush_interval_secs", 600),
jsonObject.optInt("max_byte_size_per_file", 8000),
jsonObject.optInt("max_file_count_per_send", 1),
jsonObject.optInt("max_pending_send_file_count", 100),
jsonObject.optBoolean("forward_to_google_analytics", false),
jsonObject.optBoolean("include_purchase_events_in_forwarded_events", false),
jsonObject.optBoolean("track_custom_events", true),
jsonObject.optBoolean("track_predefined_events", true),
jsonObject.optInt("sampling_rate", 1),
jsonObject.optBoolean("flush_on_background", true));

```

<https://> with value <https://goo.gl/J1sWQy> in following files:

- [d/f/b/d/f/o/oc.java](#):

```

line 149: Log.v(this.a, "Deferring to Google Analytics for Firebase for
event data collection. https://goo.gl/J1sWQy");

```

<https://> with value <https://app-measurement.com/a> in following files:

- [d/f/b/d/f/o/a9.java](#):

```

line 77: I = b2Var.a("measurement.upload.url", "https://app-
measurement.com/a");

```

<https://> with value <https://ssl.google-analytics.com> in following files:

- [d/f/b/d/f/l/v0.java](#):

```

line 47: str = "https://ssl.google-analytics.com";

```

<https://> with value <https://google.github.io/ExoPlayer/faqs.html#what-do-player-is-accessed-on-the-wrong-thread-warnings-mean> in following files:

- [d/f/b/b/g0.java](#):

```

line 258: n.b("SimpleExoPlayer", "Player is accessed on the wrong thread.
See https://google.github.io/ExoPlayer/faqs.html#what-do-player-is-accessed-
on-the-wrong-thread-warnings-mean", this.C ? null : new
IllegalStateException());

```

<https://> with value <https://mobile-service.segment.com/v1/attribution> in following files:

- [d/h/a/f.java](#):

```

line 18: HttpURLConnection b = b("https://mobile-
service.segment.com/v1/attribution");

```

<https://> with value <https://cdn-settings.segment.com/v1/projects/> in following files:

- [d/h/a/f.java](#):

```

line 35: stringBuilder.append("https://cdn-
settings.segment.com/v1/projects/");

```

<https://> with value <https://api.segment.io/v1/import> in following files:

- [d/h/a/f.java](#):


```
line 41: HttpURLConnection b = b("https://api.segment.io/v1/import");
```

[https://](#) with value [https://api.amplitude.com/diagnostic](#) in following files:

- [com/amplitude/api/Diagnostics.java](#):

```
line 18: public static final String DIAGNOSTIC_EVENT_ENDPOINT =
"https://api.amplitude.com/diagnostic";
```

[https://](#) with value [https://api.amplitude.com/](#) in following files:

- [com/amplitude/api/Constants.java](#):

```
line 37: public static final String EVENT_LOG_URL =
"https://api.amplitude.com/";
```

[asset://](#) with value [asset:///](#) in following files:

- [expo/modules/filesystem/FileSystemModule.java](#):

```
line 592: hashMap.put("bundleDirectory", "asset:///");
```

CVSSv3 Base Score:

3.3 (AV:L/AC:L/PR:L/UI:N/S:U/C:L/I:N/A:N)

ENABLED APPLICATION BACKUP [M2] [CWE-921] [SAST]

LOW

Description:

The mobile application uses external backup functionality (default Android backup mechanism) that may store inside sensitive data from the application. In certain conditions, this may lead to information disclosure (e.g. when a backup server or your Gmail account is compromised).

Example of insecure code:

```
android:allowBackup="true"
```

Example of secure code:

```
android:allowBackup="false"
```

Details:

There is '**android:allowBackup="true"**' found in file '[android/AndroidManifest.xml](#)':

```
line 32: <application android:allowBackup="true"
android:appComponentFactory="androidx.core.app.CoreComponentFactory"
android:icon="@mipmap/ic_launcher" android:label="@string/app_name"
android:largeHeap="true" android:name="host.exp.exponent.MainApplication"
android:supportsRtl="true" android:usesCleartextTraffic="true">
```

CVSSv3 Base Score:

3.3 (AV:L/AC:L/PR:L/UI:N/S:U/C:L/I:N/A:N)

Reference:

- <https://developer.android.com/guide/topics/manifest/application-element.html>
- <http://resources.infosecinstitute.com/android-hacking-security-part-15-hacking-android-apps-using-backup-techniques/>

MISSING TAPJACKING PROTECTION [M1] [CWE-451] [SAST]

LOW

Description:

The mobile application does not have a tapjacking protection required to mitigate tapjacking attacks.

By default, Android OS permits a mobile application to display its user interface over the user interface of another application installed and run on the device. When user touches the screen, application may pass the touch event to another application below its user interface layer that the user does not see, serving like a proxy to pass unintended touch activities. This attack is quite similar to clickjacking but for mobile devices. In order to be successfully exploited, a malicious application shall be already installed on the mobile phone of the victim. An example of exploitation would be a malware app that tricks user to unwittingly tap on a payment button (or any other functionality) of a sensitive application when playing a game or doing other innocent activity in the malicious application screen.

Example of secure code:

```
public class MyActivity extends Activity {
    protected void onCreate(Bundle bundle) {
        super.onCreate(bundle);

        final Button myButton = (Button)findViewById(R.id.button_id);
        myButton.setFilterTouchesWhenObscured(true);

        myButton.setOnClickListener(new View.OnClickListener() {
            // Perform action on click
        })
    }
}

<Button
    android:layout_height="wrap_content"
    android:layout_width="wrap_content"
    android:text="@string/self_destruct"
    android:onClick="selfDestruct"
    android:filterTouchesWhenObscured="true" />
```

Details:

There is **android:filterTouchesWhenObscured="true"** missing in files:

- [android/res/layout-v22/abc_alert_dialog_button_bar_material.xml](#)
- [android/res/layout-watch/abc_alert_dialog_button_bar_material.xml](#)
- [android/res/layout-watch/abc_alert_dialog_title_material.xml](#)
- [android/res/layout/notification_shell_app.xml](#)
- [android/res/layout/abc_list_menu_item_checkbox.xml](#)
- [android/res/layout/error_activity_new.xml](#)
- [android/res/layout/design_layout_snackbar_include.xml](#)
- [android/res/layout/reactandroid_redbox_item_frame.xml](#)
- [android/res/layout/amu_webview.xml](#)
- [android/res/layout/com_facebook_smart_device_dialog_fragment.xml](#)
- [android/res/layout/abc_alert_dialog_button_bar_material.xml](#)
- [android/res/layout/error_console_list_item.xml](#)
- [android/res/layout/abc_activity_chooser_view_list_item.xml](#)
- [android/res/layout/crop_image_activity.xml](#)
- [android/res/layout/notification_template_big_media.xml](#)
- [android/res/layout/design_layout_tab_icon.xml](#)
- [android/res/layout/abc_screen_content_include.xml](#)

- android/res/layout/error_fragment.xml
- android/res/layout/abc_activity_chooser_view.xml
- android/res/layout/abc_select_dialog_material.xml
- android/res/layout/abc_action_bar_title_item.xml
- android/res/layout/messenger_button_send_white_round.xml
- android/res/layout/abc_screen_toolbar.xml
- android/res/layout/abc_dialog_title_material.xml
- android/res/layout/abc_search_view.xml
- android/res/layout/abc_search_dropdown_item_icons_2line.xml
- android/res/layout/abc_action_menu_item_layout.xml
- android/res/layout/design_bottom_sheet_dialog.xml
- android/res/layout/com_facebook_activity_layout.xml
- android/res/layout/design_bottom_navigation_item.xml
- android/res/layout/abc_action_bar_up_container.xml
- android/res/layout/notification_template_icon_group.xml
- android/res/layout/abc_list_menu_item_layout.xml
- android/res/layout/oauth_webview_activity.xml
- android/res/layout/design_navigation_item_separator.xml
- android/res/layout/exo_player_view.xml
- android/res/layout/com_facebook_tooltip_bubble.xml
- android/res/layout/notification_media_cancel_action.xml
- android/res/layout/exo_track_selection_dialog.xml
- android/res/layout/notification_action_tombstone.xml
- android/res/layout/expo_media_controller.xml
- android/res/layout/crop_image_view.xml
- android/res/layout/messenger_button_send_blue_small.xml
- android/res/layout/abc_action_menu_layout.xml
- android/res/layout/messenger_button_send_blue_large.xml
- android/res/layout/amu_info_window.xml
- android/res/layout/notification_template_part_time.xml
- android/res/layout/notification_action.xml
- android/res/layout/texture_view.xml
- android/res/layout/abc_list_menu_item_radio.xml
- android/res/layout/mtrl_layout_snackbar_include.xml
- android/res/layout/exo_list_divider.xml
- android/res/layout/reactandroid_redbox_view.xml
- android/res/layout/custom_dialog.xml
- android/res/layout/abc_screen_simple_overlay_action_mode.xml
- android/res/layout/wallet_test_layout.xml
- android/res/layout/abc_popup_menu_item_layout.xml
- android/res/layout/design_menu_item_action_area.xml
- android/res/layout/select_dialog_singlechoice_material.xml
- android/res/layout/browser_actions_context_menu_page.xml
- android/res/layout/error_console_fragment.xml
- android/res/layout/select_dialog_item_material.xml
- android/res/layout/loading_view.xml
- android/res/layout/browser_actions_context_menu_row.xml
- android/res/layout/design_navigation_menu.xml
- android/res/layout/messenger_button_send_white_small.xml
- android/res/layout/surface_view.xml
- android/res/layout/messenger_button_send_white_large.xml
- android/res/layout/support_simple_spinner_dropdown_item.xml
- android/res/layout/notification_media_action.xml
- android/res/layout/notification_template_media.xml
- android/res/layout/abc_alert_dialog_material.xml
- android/res/layout/design_navigation_item.xml
- android/res/layout/abc_tooltip.xml
- android/res/layout/abc_action_mode_bar.xml

- android/res/layout/info_activity.xml
- android/res/layout/exo_simple_player_view.xml
- android/res/layout/exo_player_control_view.xml
- android/res/layout/exo_playback_control_view.xml
- android/res/layout/design_navigation_item_header.xml
- android/res/layout/notification_template_lines_media.xml
- android/res/layout/design_layout_snackbar.xml
- android/res/layout/notification_template_big_media_narrow_custom.xml
- android/res/layout/abc_action_mode_close_item_material.xml
- android/res/layout/design_navigation_item_subheader.xml
- android/res/layout/abc_list_menu_item_icon.xml
- android/res/layout/reactandroid_dev_loading_view.xml
- android/res/layout/abc_expanded_menu_layout.xml
- android/res/layout/notification_template_media_custom.xml
- android/res/layout/abc_cascading_menu_item_layout.xml
- android/res/layout/amu_text_bubble.xml
- android/res/layout/notification.xml
- android/res/layout/design_text_input_password_icon.xml
- android/res/layout/mtrl_layout_snackbar.xml
- android/res/layout/messenger_button_send_blue_round.xml
- android/res/layout/com_facebook_login_fragment.xml
- android/res/layout/design_navigation_menu_item.xml
- android/res/layout/notification_template_custom_big.xml
- android/res/layout/reactandroid_redbox_item_title.xml
- android/res/layout/abc_popup_menu_header_item_layout.xml
- android/res/layout/abc_alert_dialog_title_material.xml
- android/res/layout/notification_template_big_media_custom.xml
- android/res/layout/notification_template_big_media_narrow.xml
- android/res/layout/com_facebook_device_auth_dialog_fragment.xml
- android/res/layout/notification_template_part_chronometer.xml
- android/res/layout/reactandroid_fps_view.xml
- android/res/layout/abc_screen_simple.xml
- android/res/layout/select_dialog_multichoice_material.xml
- android/res/layout/design_layout_tab_text.xml
- android/res/layout-sw600dp/design_layout_snackbar.xml
- android/res/layout-sw600dp/mtrl_layout_snackbar.xml
- android/res/layout-v26/abc_screen_toolbar.xml

There is '**extends RelativeLayout**' found in file 'host/exp/exponent/i.java':

```
line 22: /* compiled from: LoadingView */
line 23: public class i extends RelativeLayout {
line 24:     private static final String k = i.class.getSimpleName();
```

There is '**extends ImageButton**' found in file 'host/exp/exponent/views/ExponentImageButton.java':

```
line 9:
line 10: public class ExponentImageButton extends ImageButton {
line 11:
```

There is '**extends ImageButton**' found in file '[androidx/appcompat/widget/m.java](#)':

```
line 15: /* compiled from: AppCompatActivity */
line 16: public class m extends ImageButton implements u, l {
line 17:     private final e a;
```

There is '**extends FrameLayout**' found in file '[androidx/core/widget/NestedScrollView.java](#)':

```
line 45:
line 46: public class NestedScrollView extends FrameLayout implements o, k, t {
line 47:     private static final a A = new a();
```

There is '**extends FrameLayout**' found in file '[androidx/appcompat/widget/ContentFrameLayout.java](#)':

```
line 9:
line 10: public class ContentFrameLayout extends FrameLayout {
line 11:     private TypedValue a;
```

There is '**extends FrameLayout**' found in file '[androidx/appcompat/widget/ActionBarContainer.java](#)':

```
line 20:
line 21: public class ActionBarContainer extends FrameLayout {
line 22:     private boolean a;
```

There is '**extends FrameLayout**' found in file '[androidx/appcompat/widget/FitWindowsFrameLayout.java](#)':

```
line 8:
line 9: public class FitWindowsFrameLayout extends FrameLayout implements f0 {
line 10:     private a a;
```

There is '**extends FrameLayout**' found in file '[androidx/appcompat/view/menu/k.java](#)':

```
line 83: /* compiled from: MenuItemWrapperICS */
line 84: static class c extends FrameLayout implements b.a.o.c {
line 85:     final CollapsibleActionView a;
```

There is '**extends FrameLayout**' found in file '[androidx/cardview/widget/CardView.java](#)':

```
line 18:
line 19: public class CardView extends FrameLayout {
line 20:     private static final int[] h = new int[]{16842801};
```

There is '**extends FrameLayout**' found in file '[expo/modules/ads/admob/AdMobBannerView.java](#)':

```
line 16:
line 17: public class AdMobBannerView extends FrameLayout {
line 18:     private Bundle mAdditionalRequestParams;
```

There is '**extends FrameLayout**' found in file '[expo/modules/ads/admob/PublisherBannerView.java](#)':

```

line 14:
line 15: public class PublisherBannerView extends FrameLayout implements a {
line 16:     private Bundle mAdditionalRequestParams;

```

There is '**extends FrameLayout**' found in file '[expo/modules/av/video/MediaController.java](#)':

```

line 29:
line 30: public class MediaController extends FrameLayout {
line 31:     private static final int FADE_OUT = 1;

```

There is '**extends FrameLayout**' found in file '[expo/modules/av/video/VideoView.java](#)':

```

line 25: @SuppressWarnings({"ViewConstructor"})
line 26: public class VideoView extends FrameLayout implements AudioEventHandler,
FullscreenVideoPlayerPresentationChangeListener, FullscreenPresenter {
line 27:     private final AVManagerInterface mAVModule;

```

There is '**extends FrameLayout**' found in file '[expo/modules/av/video/VideoViewWrapper.java](#)':

```

line 9: @SuppressWarnings({"ViewConstructor"})
line 10: public class VideoViewWrapper extends FrameLayout {
line 11:     private final Runnable mLayoutRunnable = new Runnable() {

```

There is '**extends FrameLayout**' found in file '[d/f/b/a/e.java](#)':

```

line 25: /* compiled from: CameraView */
line 26: public class e extends FrameLayout {
line 27:     static final /* synthetic */ boolean $assertionsDisabled = false;

```

There is '**extends FrameLayout**' found in file '[d/f/b/e/l/b.java](#)':

```

line 9: /* compiled from: CircularRevealFrameLayout */
line 10: public class b extends FrameLayout implements d {
line 11:     private final c a;

```

There is '**extends FrameLayout**' found in file '[com/theartofdev/edmodo/cropper/CropImageView.java](#)':

```

line 31:
line 32: public class CropImageView extends FrameLayout {
line 33:     private e A;

```

There is '**extends ViewGroup**' found in file '[androidx/viewpager/widget/ViewPager.java](#)':

```

line 46:
line 47: public class ViewPager extends ViewGroup {
line 48:     private static final int CLOSE_ENOUGH = 2;

```

There is '**extends ViewGroup**' found in file '[androidx/recyclerview/widget/I.java](#)':

```

line 49: /* compiled from: RecyclerView */
line 50: public class l extends ViewGroup implements b.g.m.t, b.g.m.j {
line 51:     static final boolean ALLOW_SIZE_IN_UNSPECIFIED_SPEC = (VERSION.SDK_INT >=
23);

```

There is 'extends ViewGroup' found in file '[androidx/appcompat/widget/ActionBarOverlayLayout.java](#)':

```

line 29:
line 30: public class ActionBarOverlayLayout extends ViewGroup implements b0, p, n, o {
line 31:     static final int[] B = new int[]{b.a.a.actionBarSize, 16842841};

```

There is 'extends ViewGroup' found in file '[androidx/appcompat/widget/Toolbar.java](#)':

```

line 36:
line 37: public class Toolbar extends ViewGroup {
line 38:     private ColorStateList A;

```

There is 'extends ViewGroup' found in file '[androidx/appcompat/widget/h0.java](#)':

```

line 19: /* compiled from: LinearLayoutCompat */
line 20: public class h0 extends ViewGroup {
line 21:     private boolean a;

```

There is 'extends ViewGroup' found in file '[androidx/appcompat/widget/a.java](#)':

```

line 19: /* compiled from: AbsActionBarView */
line 20: abstract class a extends ViewGroup {
line 21:     protected final a a;

```

There is 'extends ViewGroup' found in file '[androidx/coordinatorlayout/widget/CoordinatorLayout.java](#)':

```

line 45:
line 46: public class CoordinatorLayout extends ViewGroup implements n {
line 47:     static final String t;

```

There is 'extends ViewGroup' found in file

'[versioned/host/exp/exponent/modules/api/screens/ScreenStackHeaderConfig.java](#)':

```

line 13:
line 14: public class ScreenStackHeaderConfig extends ViewGroup {
line 15:     private OnClickListener mBackClickListener = new OnClickListener() {

```

There is 'extends ViewGroup' found in file '[versioned/host/exp/exponent/modules/api/screens/Screen.java](#)':

```

line 15:
line 16: public class Screen extends ViewGroup implements ReactPointerEventsView {
line 17:     private static OnAttachStateChangeListener sShowSoftKeyboardOnAttach = new
OnAttachStateChangeListener() {

```

There is 'extends ViewGroup' found in file '[versioned/host/exp/exponent/modules/api/screens/ScreenContainer.java](#)':

```

line 15:
line 16: public class ScreenContainer<T extends ScreenFragment> extends ViewGroup {
line 17:     private final Set<ScreenFragment> mActiveScreenFragments = new HashSet();

```

There is '**extends ViewGroup**' found in file

'[versioned/host/exp/exponent/modules/api/components/sharedelement/RNSharedElementTransition.java](#)':

```

line 18:
line 19: public class RNSharedElementTransition extends ViewGroup {
line 20:     private static Rect EMPTY_RECT = new Rect();

```

There is '**extends ViewGroup**' found in file

'[versioned/host/exp/exponent/modules/api/components/gesturehandler/react/RNGestureHandlerButtonViewManager.java](#)':

```

line 17:
line 18: public class RNGestureHandlerButtonViewManager extends
line 19:     ViewGroupManager<ButtonViewGroup> {
line 20:     static class ButtonViewGroup extends ViewGroup {
line 21:         static TypedValue sResolveOutValue = new TypedValue();

```

There is '**extends ViewGroup**' found in file '[expo/modules/ads/facebook/NativeAdView.java](#)':

```

line 14:
line 15: public class NativeAdView extends ViewGroup {
line 16:     private a mEventEmitter;

```

There is '**extends ViewGroup**' found in file '[expo/modules/barcodescanner/BarCodeScannerView.java](#)':

```

line 13:
line 14: public class BarCodeScannerView extends ViewGroup {
line 15:     private int mActualDeviceOrientation = -1;

```

There is '**extends ViewGroup**' found in file '[b/r/a/c.java](#)':

```

line 26: /* compiled from: SwipeRefreshLayout */
line 27: public class c extends ViewGroup implements p, l {
line 28:     private static final int ALPHA_ANIMATION_DURATION = 300;

```

There is '**extends ViewGroup**' found in file '[b/s/l0.java](#)':

```

line 18:     /* compiled from: ViewOverlayApi14 */
line 19:     static class a extends ViewGroup {
line 20:         ViewGroup a;

```

There is '**extends ViewGroup**' found in file '[b/j/a/a.java](#)':

```

line 36: /* compiled from: DrawerLayout */
line 37: public class a extends ViewGroup {
line 38:     private static final boolean ALLOW_EDGE_LOCK = false;

```

There is '**extends LinearLayout**' found in file '[androidx/browser/browseractions/BrowserActionsFallbackMenuView.java](#)':

```
line 8:
line 9: public class BrowserActionsFallbackMenuView extends LinearLayout {
line 10:     private final int a =
getResources().getDimensionPixelOffset(a.browser_actions_context_menu_min_padding);
```

There is '**extends LinearLayout**' found in file '[androidx/appcompat/widget/ButtonBarLayout.java](#)':

```
line 15:
line 16: public class ButtonBarLayout extends LinearLayout {
line 17:     private boolean a;
```

There is '**extends LinearLayout**' found in file '[androidx/appcompat/widget/ActivityChooserView\\$InnerLayout.java](#)':

```
line 6:
line 7: public class ActivityChooserView$InnerLayout extends LinearLayout {
line 8:     private static final int[] a = new int[]{16842964};
```

There is '**extends LinearLayout**' found in file '[androidx/appcompat/widget/FitWindowsLinearLayout.java](#)':

```
line 8:
line 9: public class FitWindowsLinearLayout extends LinearLayout implements f0 {
line 10:     private a a;
```

There is '**extends LinearLayout**' found in file '[androidx/appcompat/view/menu/ListMenuItemView.java](#)':

```
line 25:
line 26: public class ListMenuItemView extends LinearLayout implements a,
SelectionBoundsAdjuster {
line 27:     private j a;
```

There is '**extends LinearLayout**' found in file '[expo/modules/ads/facebook/AdOptionsWrapperView.java](#)':

```
line 12:
line 13: public class AdOptionsWrapperView extends LinearLayout {
line 14:     private WeakReference<AdOptionsView> mAdOptionsViewWeakReference = new
WeakReference(null);
```

There is '**extends LinearLayout**' found in file '[expo/modules/ads/facebook/BannerView.java](#)':

```
line 18: @SuppressWarnings("ViewConstructor")
line 19: public class BannerView extends LinearLayout implements AdListener, k {
line 20:     private a mEventEmitter;
```

There is '**extends ListView**' found in file '[androidx/appcompat/app/AlertController.java](#)':

```
line 94:
line 95:     public static class RecyclerView extends ListView {
line 96:         private final int a;
```

There is '**extends ListView**' found in file '[androidx/appcompat/widget/e0.java](#)':


```

line 20: /* compiled from: DropDownListView */
line 21: class e0 extends ListView {
line 22:     private final Rect a = new Rect();

```

There is '**extends ListView**' found in file '['androidx/appcompat/view/menu/ExpandedMenuView.java'](#):

```

line 12:
line 13: public final class ExpandedMenuView extends ListView implements b, o,
OnItemClickListener {
line 14:     private static final int[] c = new int[]{16842964, 16843049};

```

There is '**extends ToggleButton**' found in file '['androidx/appcompat/widget/a0.java'](#):

```

line 7: /* compiled from: AppCompatActivityToggleButton */
line 8: public class a0 extends ToggleButton {
line 9:     private final x a;

```

There is '**extends MultiAutoCompleteTextView**' found in file '['androidx/appcompat/widget/o.java'](#):

```

line 14: /* compiled from: AppCompatActivityMultiAutoCompleteTextView */
line 15: public class o extends MultiAutoCompleteTextView implements u {
line 16:     private static final int[] c = new int[]{16843126};

```

There is '**extends Spinner**' found in file '['androidx/appcompat/widget/v.java'](#):

```

line 39: /* compiled from: AppCompatActivitySpinner */
line 40: public class v extends Spinner implements u {
line 41:     private static final int[] ATTRS_ANDROID_SPINNERMODE = new int[]
{16843505};

```

There is '**extends AppCompatActivityImageView**' found in file '['androidx/appcompat/widget/c.java'](#):

```

line 129: /* compiled from: ActionMenuPresenter */
line 130: private class d extends AppCompatActivityImageView implements
androidx.appcompat.widget.ActionMenuView.a {
line 131:

```

There is '**extends AppCompatActivityImageView**' found in file '['d/a/a/n.java'](#):

```

line 24: /* compiled from: LottieAnimationView */
line 25: public class n extends AppCompatActivityImageView {
line 26:     public static final b m = b.Weak;

```

There is '**extends CheckedTextView**' found in file '[androidx/appcompat/widget/h.java](#)':

```
line 13: /* compiled from: AppCompatActivityCheckedTextView */
line 14: public class h extends CheckedTextView {
line 15:     private static final int[] b = new int[]{16843016};
```

There is '**extends ImageView**' found in file '[androidx/appcompat/widget/AppCompatActivityImageView.java](#)':

```
line 13:
line 14: public class AppCompatActivityImageView extends ImageView implements u, l {
line 15:     private final e a;
```

There is '**extends ImageView**' found in file '[b/r/a/a.java](#)':

```
line 17: /* compiled from: CircleImageView */
line 18: class a extends ImageView {
line 19:     private AnimationListener a;
```

There is '**extends AutoCompleteTextView**' found in file '[androidx/appcompat/widget/d.java](#)':

```
line 17: /* compiled from: AppCompatActivityAutoCompleteTextView */
line 18: public class d extends AutoCompleteTextView implements u {
line 19:     private static final int[] c = new int[]{16843126};
```

There is '**extends CompoundButton**' found in file '[androidx/appcompat/widget/q0.java](#)':

```
line 34: /* compiled from: SwitchCompat */
line 35: public class q0 extends CompoundButton {
line 36:     private static final String ACCESSIBILITY_EVENT_CLASS_NAME =
"android.widget.Switch";
```

There is '**extends View**' found in file '[androidx/appcompat/widget/ViewStubCompat.java](#)':

```
line 15:
line 16: public final class ViewStubCompat extends View {
line 17:     private int a;
```

There is '**extends View**' found in file '[versioned/host/exp/exponent/modules/api/screens/LifecycleHelper.java](#)':

```
line 37:
line 38:     public <T extends View & g> void register(T t) {
line 39:         t.addOnLayoutChangeListener(this.mRegisterOnLayoutChange);
```

```
line 41:
line 42:     public <T extends View & g> void unregister(T t) {
line 43:         e eVar = (e) this.mViewToLifecycleMap.get(t);
```

There is '**extends View**' found in file '[versioned/host/exp/exponent/modules/api/components/LinearGradientView.java](#)':

```
line 14:
line 15: public class LinearGradientView extends View {
line 16:     private float[] mBorderRadii = new float[]{0.0f, 0.0f, 0.0f, 0.0f, 0.0f,
0.0f, 0.0f, 0.0f};
```

There is '**extends View**' found in file

['versioned/host/exp/exponent/modules/api/components/sharedelement/RNSharedElementView.java'](#):

```
line 8:
line 9: class RNSharedElementView extends View {
line 10:     private static String LOG_TAG = "RNSharedElementView";
```

There is '**extends View**' found in file '[com/theartofdev/edmodo/cropper/CropOverlayView.java](#)':

```
line 22:
line 23: public class CropOverlayView extends View {
line 24:     private final Rect A;
```

There is '**extends View**' found in file '[b/s/h.java](#)':

```
line 14: /* compiled from: GhostViewApi14 */
line 15: class h extends View implements j {
line 16:     final View a;
```

There is '**extends RatingBar**' found in file '[androidx/appcompat/widget/s.java](#)':

```
line 10: /* compiled from: AppCompatActivityRatingBar */
line 11: public class s extends RatingBar {
line 12:     private final q a;
```

There is '**extends Button**' found in file '[androidx/appcompat/widget/f.java](#)':

```
line 19: /* compiled from: AppCompatActivityButton */
line 20: public class f extends Button implements u, b {
line 21:     private final e a;
```

There is '**extends CheckBox**' found in file '[androidx/appcompat/widget/g.java](#)':

```
line 13: /* compiled from: AppCompatActivityCheckBox */
line 14: public class g extends CheckBox implements j, u {
line 15:     private final e mBackgroundTintHelper;
```

There is '**extends RadioButton**' found in file '[androidx/appcompat/widget/r.java](#)':

```
line 13: /* compiled from: AppCompatActivity */
line 14: public class r extends RadioButton implements j, u {
line 15:     private final i a;
```

There is '**extends EditText**' found in file '[androidx/appcompat/widget/k.java](#)':

```
line 20: /* compiled from: AppCompatActivity */
line 21: public class k extends EditText implements u {
line 22:     private final e a;
```

There is '**extends TextView**' found in file '[androidx/appcompat/widget/y.java](#)':

```
line 25: /* compiled from: AppCompatActivity */
line 26: public class y extends TextView implements u, k, b {
line 27:     private final e mBackgroundTintHelper;
```

There is '**extends TextView**' found in file '[versioned/host/exp/exponent/modules/api/components/svg/TSpanView.java](#)':

```
line 20: @SuppressWarnings({"ViewConstructor"})
line 21: class TSpanView extends TextView {
line 22:     private static final String FONTS = "fonts/";
```

There is '**extends TextView**' found in file '[versioned/host/exp/exponent/modules/api/components/svg/TextPathView.java](#)':

```
line 11: @SuppressWarnings({"ViewConstructor"})
line 12: class TextPathView extends TextView {
line 13:     private String mHref;
```

There is '**extends HorizontalScrollView**' found in file '[androidx/appcompat/widget/o0.java](#)':

```
line 27: /* compiled from: ScrollingTabContainerView */
line 28: public class o0 extends HorizontalScrollView implements OnItemSelectedListener
{
line 29:     Runnable a;
```

There is '**extends SeekBar**' found in file '[androidx/appcompat/widget/t.java](#)':

```
line 9: /* compiled from: AppCompatActivity */
line 10: public class t extends SeekBar {
line 11:     private final u mAppCompatSeekBarHelper;
```

There is '**extends ViewPager**' found in file '[versioned/host/exp/exponent/modules/api/components/viewpager/ReactViewPager.java](#)':

```

line 18:
line 19: public class ReactViewPager extends ViewPager {
line 20:     private final EventDispatcher mEventDispatcher;

```

There is '**extends WebView**' found in file

'[versioned/host/exp/exponent/modules/api/components/webview/RNCWebViewManager.java](#)':

```

line 93:
line 94:     protected static class RNCWebViewClient extends WebViewClient {
line 95:         protected boolean mLastLoadFailed = false;

```

```

line 295:
line 296:     protected static class RNCWebView extends WebView implements
LifecycleEventListener {
line 297:         protected boolean hasScrollEvent = false;

```

There is '**extends TextureView**' found in file '[expo/modules/av/video/VideoTextureView.java](#)':

```

line 15: @SuppressWarnings("ViewConstructor")
line 16: public class VideoTextureView extends TextureView implements
SurfaceTextureListener {
line 17:     private boolean mIsAttachedToWindow = false;

```

There is '**extends TextureView**' found in file '[expo/modules/barcodescanner/BarCodeScannerViewFinder.java](#)':

```

line 19:
line 20: class BarCodeScannerViewFinder extends TextureView implements
SurfaceTextureListener, PreviewCallback {
line 21:     public static volatile boolean barCodeScannerTaskLock = false;

```

There is '**extends TextureView**' found in file '[expo/modules/gl/GLView.java](#)':

```

line 10:
line 11: public class GLView extends TextureView implements SurfaceTextureListener {
line 12:     private GLContext mGLContext;

```

There is '**extends CardView**' found in file '[d/f/b/e/l/e/a.java](#)':

```

line 10: /* compiled from: CircularRevealCardView */
line 11: public class a extends CardView implements d {
line 12:     private final c j;

```

CVSSv3 Base Score:

3.9 (AV:L/AC:L/PR:L/UI:R/S:U/C:L/I:L/A:N)

Reference:

- <https://developer.android.com/guide/topics/ui/declaring-layout.html>

- <https://developer.android.com/guide/topics/resources/layout-resource.html>
- <https://blog.lookout.com/blog/2010/12/09/android-touch-event-hijacking/>

EXPORTED ACTIVITIES [M1] [CWE-926] [SAST]

LOW

Description:

The mobile application contains exported activities that can be loaded and executed by other applications residing on the mobile device, including malicious ones, to trigger a legitimate application activity. An activity is an Android component that allows to interact with the application in a particular way (e.g. perform certain actions or functions).

Example of insecure code:

```
<activity
    android:name=".SomeActivity"
    ....
    android:exported="true" />
```

Example of secure code:

```
<activity
    android:name=".SomeActivity"
    ....
    android:exported="false" />
```

Details:

There is '**LauncherActivity**' found in file '**android/AndroidManifest.xml**':

```
line 33:      <activity android:exported="true" android:launchMode="singleTask"
android:name="host.exp.exponent.LauncherActivity"
android:theme="@android:style/Theme.Translucent.NoTitleBar"/>
```

There is '**RedirectUriReceiver**' found in file '**android/AndroidManifest.xml**':

```
line 55:      <activity
android:name="net.openid.appauth.RedirectUriReceiverActivity">
```

```
line 63:      <activity android:exported="true" android:launchMode="singleTask"
android:name="expo.modules.payments.stripe.RedirectUriReceiver"
android:theme="@android:style/Theme.Translucent.NoTitleBar.Fullscreen">
```

```
line 71:      <activity android:exported="true" android:launchMode="singleTask"
android:name="abi36_0_0.expo.modules.payments.stripe.RedirectUriReceiver"
android:theme="@android:style/Theme.Translucent.NoTitleBar.Fullscreen">
```

```
line 79:      <activity android:exported="true" android:launchMode="singleTask"
android:name="abi35_0_0.expo.modules.payments.stripe.RedirectUriReceiver"
android:theme="@android:style/Theme.Translucent.NoTitleBar.Fullscreen">
```

```
line 87:      <activity android:exported="true" android:launchMode="singleTask"
android:name="abi34_0_0.expo.modules.payments.stripe.RedirectUriReceiver"
android:theme="@android:style/Theme.Translucent.NoTitleBar.Fullscreen">
```

```
line 95:      <activity android:exported="true" android:launchMode="singleTask"
android:name="abi33_0_0.expo.modules.payments.stripe.RedirectUriReceiver"
android:theme="@android:style/Theme.Translucent.NoTitleBar.Fullscreen">
```

CVSSv3 Base Score:

3.6 (AV:L/AC:H/PR:L/UI:N/S:U/C:L/I:L/A:N)

Reference:

- <https://developer.android.com/reference/android/app/Activity.html>
- <https://developer.android.com/guide/topics/manifest/activity-element.html>

EXPORTED BROADCAST RECEIVERS [M1] [CWE-925] [SAST]

LOW

Description:

The mobile application contains an exported receiver enabling other applications, including malicious ones, to send intents without restrictions.

By default, Broadcast Receivers is exported in Android, as the result any application will be able to send an intent to the Broadcast Receiver of the application. To define which applications can send intents to mobile application's Broadcast Receiver set relevant permissions in the Android Manifest file.

Example of insecure code:

```
<receiver
  android:name=".receivers.BatteryMonitoringReceiver"
  ...
</receiver>
```

Example of secure code:

```
<permission
  android:name="com.yourpage.permission.YOUR_PERMISSION"
  android:protectionLevel="signature" />

<uses-permission
  android:name="com.yourpage.permission.YOUR_PERMISSION" />

<receiver
  android:name=".receivers.BatteryMonitoringReceiver"
  android:permission="com.yourpage.permission.YOUR_PERMISSION"
  ...
</receiver>
```

Details:

There is '**InstallReferrerReceiver**' found in file '[android/AndroidManifest.xml](#)':

```
line 108:      <receiver android:exported="true"
android:name="host.exp.exponent.referrer.InstallReferrerReceiver">
```

```
line 211:      <receiver android:enabled="true" android:exported="true"
android:name="com.google.android.gms.measurement.AppMeasurementInstallReferrerReceiver"
android:permission="android.permission.INSTALL_PACKAGES">
```

There is '**SchedulingTriggerReceiver**' found in file '[android/AndroidManifest.xml](#)':

```
line 154:      <receiver android:exported="true"
android:name="host.exp.exponent.notifications.receivers.SchedulingTriggerReceiver">
```

CVSSv3 Base Score:

3.3 (AV:L/AC:L/PR:L/UI:N/S:U/C:N/I:L/A:N)

Reference:

- <https://developer.android.com/guide/topics/manifest/receiver-element.html>
- <https://developer.android.com/reference/android/content/BroadcastReceiver.html>

TEMPORARY FILE CREATION [SAST]

WARNING

Description:

The mobile application creates temporary files. Despite that cache files are usually private by default, it is recommended to make sure that temporary files are securely deleted when they are not required by the application anymore.

Details:

There is '**createTempFile()**' found in file '[versioned/host/exp/exponent/modules/api/viewshot/RNViewShotModule.java](#)':

```
line 77:
line 78:      private File createTempFile(Context context, String str) {
line 79:          File externalCacheDir = context.getExternalCacheDir();
```

```
line 89:          stringBuilder.append(str);
line 90:          return File.createTempFile(TEMP_FILE_PREFIX, stringBuilder.toString(),
externalCacheDir);
line 91:      }
```

```
line 107:      try {
line 108:          File createTempFile = Results.TEMP_FILE.equals(string2) ?
createTempFile(this.mScopedContext, string) : null;
line 109:          Activity currentActivity = getCurrentActivity();
```

There is '**createTempFile()**' found in file

[versioned/host/exp/exponent/modules/api/components/maps/AirMapModule.java](#):

```
line 242:          stringBuilder.append(string);
line 243:          File createTempFile =
File.createTempFile("AirMapSnapshot", stringBuilder.toString(),
reactApplicationContext.getCacheDir());
line 244:          FileOutputStream fileOutputStream = new
FileOutputStream(createTempFile);
```


There is '**createTempFile()**' found in file '[versioned/host/exp/exponent/modules/api/components/maps/FileUtil.java](#)':

```
line 28:     private InputStream getDownloadFileInputStream(Context context, Uri uri) {
line 29:         File createTempFile = File.createTempFile("FileUtil", "temp",
context.getApplicationContext().getCacheDir());
line 30:         createTempFile.deleteOnExit();
```

There is '**createTempFile()**' found in file

['versioned/host/exp/exponent/modules/api/components/webview/RNCWebViewModule.java'](#):

```
line 124:     }
line 125:     return File.createTempFile(str, str2,
getReactApplicationContext().getExternalFilesDir(null));
line 126: }
```

There is '**createTempFile()**' found in file '[com/theartofdev/edmodo/cropper/c.java](#)':

```
line 220:         try {
line 221:             uri =
Uri.fromFile(File.createTempFile("aic_state_store_temp", ".jpg",
context.getCacheDir()));
line 222:         } catch (Exception e) {
```

There is '**createTempFile()**' found in file '[com/theartofdev/edmodo/cropper/CropImageActivity.java](#)':

```
line 72:         String str = this.c.G == CompressFormat.JPEG ? ".jpg" : this.c.G
== CompressFormat.PNG ? ".png" : ".webp";
line 73:         return Uri.fromFile(File.createTempFile("cropped", str,
getCacheDir()));
line 74:     } catch (IOException e) {
```

There is '**createTempFile()**' found in file '[b/p/c.java](#)':

```
line 414:         stringBuilder.append(str);
line 415:         File createTempFile = File.createTempFile(stringBuilder.toString(),
".zip", file.getParentFile());
line 416:         stringBuilder = new StringBuilder();
```

Reference:

- <https://developer.android.com/training/basics/data-storage/files.html>

USAGE OF IMPLICIT INTENT [M1] [CWE-927] [SAST]

WARNING

Description:

The mobile application uses implicit intent that may be insecure under certain conditions.

Intents enable mobile applications to communicate with each other by requesting to perform different actions for which they are better suited. An implicit intent, however, does not specify to which particular application it sends a request to

perform an action. If a malicious application is installed on victim's device, it may also receive the implicit intent, respond to it and perform some action instead, or in addition to, a legitimate application.

Example of insecure code:

```
Intent sendIntent = new Intent();
```

Example of secure code:

```
Intent downloadIntent = new Intent(this, DownloadService.class);
```

Details:

There is '**new Intent()**' found in file '[net/openid/appauth/d.java](#)':

```
line 211:    public Intent a() {  
line 212:        Intent intent = new Intent();  
line 213:        intent.putExtra("net.openid.appauth.AuthorizationException", c());
```

There is '**new Intent()**' found in file '[net/openid/appauth/f.java](#)':

```
line 163:    public Intent c() {  
line 164:        Intent intent = new Intent();  
line 165:        intent.putExtra("net.openid.appauth.AuthorizationResponse", b());
```

There is '**new Intent()**' found in file '[net/openid/appauth/u/d.java](#)':

```
line 117:    private static boolean a(PackageManager packageManager, String str) {  
line 118:        Intent intent = new Intent();  
line 119:        intent.setAction("android.support.customtabs.action.CustomTabsService");
```

There is '**new Intent()**' found in file '[androidx/core/app/f.java](#)':

```
line 58:        } else {  
line 59:            makeMainActivity = new Intent().setComponent(componentName);  
line 60:        }
```

```
line 107:    } else {  
line 108:        makeMainActivity = new Intent().setComponent(componentName2);  
line 109:    }
```

There is '**new Intent()**' found in file '[androidx/core/app/k.java](#)':

```
line 253:          this.e = b;
line 254:          List queryIntentServices =
this.a.getPackageManager().queryIntentServices(new
Intent()).setAction("android.support.BIND_NOTIFICATION_SIDE_CHANNEL"), 0);
line 255:          HashSet<ComponentName> hashSet = new HashSet();
```

There is '**new Intent()**' found in file '[androidx/core/widget/i.java](#)':

```
line 139:          private Intent a() {
line 140:              return new
Intent().setAction("android.intent.action.PROCESS_TEXT").setType("text/plain");
line 141:          }
```

There is '**new Intent()**' found in file '[expo/modules/imagepicker/ImagePickerModule.java](#)':

```
line 870:          if (readOptions(map, hVar)) {
line 871:              Intent intent = new Intent();
line 872:              String str = "image/*";
```

There is '**new Intent()**' found in file '[expo/modules/webbrowser/CustomTabsActivitiesHelper.java](#)':

```
line 33:          private Intent createDefaultCustomTabsServiceIntent() {
line 34:              Intent intent = new Intent();
line 35:
intent.setAction("android.support.customtabs.action.CustomTabsService");
```

There is '**new Intent()**' found in file '[com/theartofdev/edmodo/cropper/d.java](#)':

```
line 43:          this.b.a();
line 44:          Intent intent = new Intent();
line 45:          intent.setClass(context, cls);
```

```
line 164:          if (arrayList.isEmpty()) {
line 165:              intent = new Intent();
line 166:          } else {
```

There is '**new Intent()**' found in file '[com/theartofdev/edmodo/cropper/CropImageActivity.java](#)':

```
line 248:          c cVar = new c(this.a.getImageUri(), uri, exception,
this.a.getCropPoints(), this.a.getCropRect(), this.a.getRotatedDegrees(),
this.a.getWholeImageRect(), i);
line 249:          Intent intent = new Intent();
line 250:          intent.putExtras(getIntent());
```

Reference:

- <https://developer.android.com/guide/components/intents-filters.html>
- <https://developer.android.com/training/articles/security-tips.html>

USAGE OF INTENT FILTER [M1] [CWE-927] [SAST]**WARNING****Description:**

The mobile application uses an intent filter that may be a serious security risk if not properly implemented and filtered. Developers should not solely rely on intent filters for security purposes because they place no restrictions on explicit intents. Intent filters are defined in the Android Manifest file, they let developers choose which type of intents their application components are supposed to receive and handle.

Example of insecure code:

```
<intent-filter>
  <action android:name="android.intent.action.VIEW" />
  <action android:name="android.intent.action.EDIT" />
  <action android:name="android.intent.action.PICK" />
  <category android:name="android.intent.category.DEFAULT" />
  <data mimeType="vnd.android.cursor.dir/vnd.google.note" />
</intent-filter>
```

Example of secure code:

```
// When you use intent-filter, you have to perform input validation in your code.
```

Details:

There is '**<intent-filter>**' found in file '**android/AndroidManifest.xml**':

```
line 35:      <activity
android:configChanges="keyboard|keyboardHidden|orientation|screenSize"
android:launchMode="singleTask" android:name="host.exp.exponent.MainActivity"
android:theme="@style/Theme.Exponent.Splash"
android:windowSoftInputMode="adjustResize">
line 36:          <intent-filter>
line 37:              <data android:scheme="myapp"/>
```

```
line 41:          </intent-filter>
line 42:          <intent-filter>
line 43:              <action android:name="android.intent.action.MAIN"/>
```

```
line 48:      <activity android:label="@string/app_name"
android:name="host.exp.exponent.experience.TvActivity"
android:screenOrientation="landscape" android:theme="@style/Theme.Exponent.Light">
line 49:          <intent-filter>
line 50:              <action android:name="android.intent.action.MAIN"/>
```

```
line 55:      <activity
android:name="net.openid.appauth.RedirectUriReceiverActivity">
line 56:          <intent-filter>
line 57:              <action android:name="android.intent.action.VIEW"/>
```

```
line 63:      <activity android:exported="true" android:launchMode="singleTask"
android:name="expo.modules.payments.stripe.RedirectUriReceiver"
android:theme="@android:style/Theme.Translucent.NoTitleBar.Fullscreen">
line 64:      <intent-filter>
line 65:      <action android:name="android.intent.action.VIEW"/>
```

```
line 71:      <activity android:exported="true" android:launchMode="singleTask"
android:name="abi36_0_0.expo.modules.payments.stripe.RedirectUriReceiver"
android:theme="@android:style/Theme.Translucent.NoTitleBar.Fullscreen">
line 72:      <intent-filter>
line 73:      <action android:name="android.intent.action.VIEW"/>
```

```
line 79:      <activity android:exported="true" android:launchMode="singleTask"
android:name="abi35_0_0.expo.modules.payments.stripe.RedirectUriReceiver"
android:theme="@android:style/Theme.Translucent.NoTitleBar.Fullscreen">
line 80:      <intent-filter>
line 81:      <action android:name="android.intent.action.VIEW"/>
```

```
line 87:      <activity android:exported="true" android:launchMode="singleTask"
android:name="abi34_0_0.expo.modules.payments.stripe.RedirectUriReceiver"
android:theme="@android:style/Theme.Translucent.NoTitleBar.Fullscreen">
line 88:      <intent-filter>
line 89:      <action android:name="android.intent.action.VIEW"/>
```

```
line 95:      <activity android:exported="true" android:launchMode="singleTask"
android:name="abi33_0_0.expo.modules.payments.stripe.RedirectUriReceiver"
android:theme="@android:style/Theme.Translucent.NoTitleBar.Fullscreen">
line 96:      <intent-filter>
line 97:      <action android:name="android.intent.action.VIEW"/>
```

```
line 108:     <receiver android:exported="true"
android:name="host.exp.exponent.referrer.InstallReferrerReceiver">
line 109:     <intent-filter>
line 110:     <action android:name="com.android.vending.INSTALL_REFERRER"/>
```

```
line 113:     <receiver android:enabled="true" android:exported="false"
android:name="com.google.android.gms.analytics.AnalyticsReceiver">
line 114:     <intent-filter>
line 115:     <action
android:name="com.google.android.gms.analytics.ANALYTICS_DISPATCH"/>
```

```
line 119:      <receiver android:exported="true"
android:name="com.google.android.gms.gcm.GcmReceiver"
android:permission="com.google.android.c2dm.permission.SEND">
line 120:      <intent-filter>
line 121:      <action
android:name="com.google.android.c2dm.intent.RECEIVE"/>
```

```
line 126:      <service android:exported="false"
android:name="host.exp.exponent.gcm.ExponentGcmListenerService">
line 127:      <intent-filter>
line 128:      <action
android:name="com.google.android.c2dm.intent.RECEIVE"/>
```

```
line 131:      <service android:exported="false"
android:name="host.exp.exponent.gcm.ExponentInstanceIdListenerService">
line 132:      <intent-filter>
line 133:      <action
android:name="com.google.android.gms.iid.InstanceID"/>
```

```
line 137:      <service
android:name="host.exp.exponent.fcm.ExpoFcmMessagingService">
line 138:      <intent-filter>
line 139:      <action android:name="com.google.firebase.MESSAGING_EVENT"/>
```

```
line 154:      <receiver android:exported="true"
android:name="host.exp.exponent.notifications.receivers.SchedulingTriggerReceiver">
line 155:      <intent-filter>
line 156:      <action android:name="android.intent.action.REBOOT"/>
```

```
line 170:      <receiver android:exported="false"
android:name="expo.modules.taskManager.TaskBroadcastReceiver">
line 171:      <intent-filter>
line 172:      <action
android:name="expo.modules.taskManager.TaskBroadcastReceiver.INTENT_ACTION"/>
```

```
line 211:      <receiver android:enabled="true" android:exported="true"
android:name="com.google.android.gms.measurement.AppMeasurementInstallReferrerReceiver"
android:permission="android.permission.INSTALL_PACKAGES">
line 212:      <intent-filter>
line 213:      <action android:name="com.android.vending.INSTALL_REFERRER"/>
```

```

line 224:      <receiver android:exported="true"
android:name="com.google.firebase.iid.FirebaseInstanceIdReceiver"
android:permission="com.google.android.c2dm.permission.SEND">
line 225:      <intent-filter>
line 226:      <action
android:name="com.google.android.c2dm.intent.RECEIVE"/>

```

```

line 233:      <receiver android:exported="false"
android:name="com.facebook.CurrentAccessTokenExpirationBroadcastReceiver">
line 234:      <intent-filter>
line 235:      <action
android:name="com.facebook.sdk.ACTION_CURRENT_ACCESS_TOKEN_CHANGED"/>

```

```

line 238:      <receiver android:exported="true"
android:name="com.facebook.CampaignTrackingReceiver"
android:permission="android.permission.INSTALL_PACKAGES">
line 239:      <intent-filter>
line 240:      <action android:name="com.android.vending.INSTALL_REFERRER"/>

```

Reference:

- <https://developer.android.com/guide/components/intents-filters.html>
- <https://developer.android.com/training/articles/security-tips.html>

JS ENABLED IN A WEBVIEW [M10] [CWE-749] [SAST]

WARNING

Description:

The mobile application has enabled JavaScript in WebView. By default, JavaScript is disabled in WebView, if enabled it can bring various JS-related security issues, such as Cross-Site Scripting (XSS) attacks.

Example of insecure code:

```

WebSettings settings = webView.getSettings();
settings.setJavaScriptEnabled(true);

```

Example of secure code:

```

// Don't enable Javascript in WebView

```

Details:

There is '**setJavaScriptEnabled()**' found in file

'versioned/host/exp/exponent/modules/api/components/webview/RNCWebViewManager.java':

```

line 665:      public void setJavaScriptEnabled(Webview webView, boolean z) {
line 666:      webView.getSettings().setJavaScriptEnabled(z);

```

Reference:

- <https://developer.android.com/reference/android/webkit/WebView.html>
- <https://developer.android.com/reference/android/webkit/WebSettings.html>

DYNAMIC LOAD OF CODE [M7] [CWE-94] [SAST]**WARNING****Description:**

The mobile application uses dynamic load of executable code. Under certain circumstances, dynamic load of code can be dangerous. For example, if the code is located on an external storage (e.g. SD card), this can lead to code injection vulnerability if the external storage is world readable and/or writable and an attacker can access it.

Example of insecure code:

```
Object test = loader.loadClass("Test", true).newInstance();
```

Example of secure code:

```
// If you are using code from unsafe place (like external storage),  
// you should sign and cryptographically verify your code.
```

Details:

There is '**ClassLoader**' found in file '**androidx/core/app/CoreComponentFactory.java**':

```
line 26:  
line 27:     public Activity instantiateActivity(ClassLoader classLoader, String str,  
Intent intent) {  
line 28:         return (Activity) a(super.instantiateActivity(classLoader, str,  
intent));  
line 29:     }  
line 30:  
line 31:     public Application instantiateApplication(ClassLoader classLoader, String  
str) {  
line 32:         return (Application) a(super.instantiateApplication(classLoader,  
str));  
line 33:     }  
line 34:  
line 35:     public ContentProvider instantiateProvider(ClassLoader classLoader, String  
str) {  
line 36:         return (ContentProvider) a(super.instantiateProvider(classLoader,  
str));  
line 37:     }  
line 38:  
line 39:     public BroadcastReceiver instantiateReceiver(ClassLoader classLoader,  
String str, Intent intent) {  
line 40:         return (BroadcastReceiver) a(super.instantiateReceiver(classLoader,  
str, intent));  
line 41:     }  
line 42:  
line 43:     public Service instantiateService(ClassLoader classLoader, String str,  
Intent intent) {  
line 44:         return (Service) a(super.instantiateService(classLoader, str,  
intent));  
line 45:     }
```


There is '**ClassLoader**' found in file '[androidx/versionedparcelable/b.java](#)':

```
line 85:    public <T extends Parcelable> T h() {
line 86:        return this.e.readParcelable(b.class.getClassLoader());
line 87:    }
```

There is '**ClassLoader**' found in file '[androidx/versionedparcelable/a.java](#)':

```
line 175:        System.currentTimeMillis();
line 176:        method = Class.forName(str, true,
cls.getClassLoader()).getDeclaredMethod("read", new Class[]{cls});
line 177:        this.a.put(str, method);
```

```
line 240:    }
line 241:        cls2 = Class.forName(String.format("%s.%sParcelizer", new Object[]
{cls.getPackage().getName(), cls.getSimpleName()}), false, cls.getClassLoader());
line 242:        this.c.put(cls.getName(), cls2);
```

There is '**ClassLoader**' found in file '[androidx/viewpager/widget/ViewPager.java](#)':

```
line 11: import android.os.Parcelable;
line 12: import android.os.Parcelable.ClassLoaderCreator;
line 13: import android.os.Parcelable.Creator;
```

```
line 113:    private Parcelable mRestoredAdapterState = null;
line 114:    private ClassLoader mRestoredClassLoader = null;
line 115:    private int mRestoredCurItem = -1;
```

```
line 326:        Parcelable d;
line 327:        ClassLoader e;
line 328:
line 329:        static class a implements ClassLoaderCreator<m> {
line 330:            a() {
```

```
line 336:
line 337:            public m createFromParcel(Parcel parcel, ClassLoader classLoader)
{
line 338:                return new m(parcel, classLoader);
line 339:            }
```

```

line 365:
line 366:         m(Parcel parcel, ClassLoader classLoader) {
line 367:             super(parcel, classLoader);
line 368:             if (classLoader == null) {
line 369:                 classLoader = m.class.getClassLoader();
line 370:             }
line 371:             this.c = parcel.readInt();
line 372:             this.d = parcel.readParcelable(classLoader);
line 373:             this.e = classLoader;
line 374:         }

```

```

line 2133:             this.mRestoredAdapterState = mVar.d;
line 2134:             this.mRestoredClassLoader = mVar.e;
line 2135:         }

```

```

line 2324:             if (this.mRestoredCurItem >= 0) {
line 2325:                 this.mAdapter.restoreState(this.mRestoredAdapterState,
line 2326:                 this.mRestoredClassLoader);
line 2326:                 setCurrentItemInternal(this.mRestoredCurItem, false, true);

```

```

line 2328:             this.mRestoredAdapterState = null;
line 2329:             this.mRestoredClassLoader = null;
line 2330:         } else if (z) {

```

There is '**ClassLoader**' found in file '[androidx/viewpager/widget/a.java](#)':

```

line 66:
line 67:     public void restoreState(Parcelable parcelable, ClassLoader classLoader) {
line 68:     }

```

There is '**ClassLoader**' found in file '[androidx/fragment/app/n.java](#)':

```

line 58:
line 59:     public Fragment a(ClassLoader classLoader, g gVar) {
line 60:         if (this.n == null) {

```

```

line 62:         if (bundle != null) {
line 63:             bundle.setClassLoader(classLoader);
line 64:         }
line 65:         this.n = gVar.a(classLoader, this.a);
line 66:         this.n.setArguments(this.j);

```

```

line 68:         if (bundle2 != null) {
line 69:             bundle2.setClassLoader(classLoader);
line 70:             this.n.mSavedFragmentState = this.m;

```

There is 'ClassLoader' found in file 'androidx/fragment/app/Fragment.java':

```

line 17: import android.os.Parcelable;
line 18: import android.os.Parcelable.ClassLoaderCreator;
line 19: import android.os.Parcelable.Creator;

```

```

line 170:
line 171:         static class a implements ClassLoaderCreator<g> {
line 172:             a() {

```

```

line 182:
line 183:             public g createFromParcel(Parcel parcel, ClassLoader classLoader)
line 184:             {
line 185:                 return new g(parcel, classLoader);

```

```

line 187:
line 188:             g(Parcel parcel, ClassLoader classLoader) {
line 189:                 this.a = parcel.readBundle();
line 190:                 if (classLoader != null) {
line 191:                     Bundle bundle = this.a;
line 192:                     if (bundle != null) {
line 193:                         bundle.setClassLoader(classLoader);
line 194:                     }

```

```

line 1678:         try {
line 1679:             Fragment fragment = (Fragment) g.d(context.getClassLoader(),
line 1680:             str).getConstructor(new Class[0]).newInstance(new Object[0]);
line 1681:             if (bundle != null) {
line 1682:                 bundle.setClassLoader(fragment.getClass().getClassLoader());
line 1683:                 fragment.setArguments(bundle);

```

There is '**ClassLoader**' found in file '[androidx/fragment/app/j.java](#)':

```
line 279:
line 280:     public Fragment a(ClassLoader classLoader, String str) {
line 281:         h hVar = j.this.q;
```

```
line 717:         obtainStyledAttributes.recycle();
line 718:         if (str3 == null || !g.b(context.getClassLoader(), str3)) {
line 719:             return null;
```

```
line 753:         if (fragment == null) {
line 754:             Fragment a = c().a(context.getClassLoader(), str3);
line 755:             a.mFromLayout = true;
```

```
line 2321:         r1 = r1.c();
line 2322:         r1 = r1.getClassLoader();
line 2323:         r0.setClassLoader(r1);
line 2324:         r0 = r7.mSavedFragmentState;
```

```
line 3371:                 if (bundle != null) {
line 3372:                     bundle.setClassLoader(this.q.c().getClassLoader());
line 3373:                     fragment.mSavedViewState =
nVar.m.getSparseParcelableArray("android:view_state");
```

```
line 3382:                 if (nVar2 != null) {
line 3383:                     a = nVar2.a(this.q.c().getClassLoader(), c());
line 3384:                     a.mFragmentManager = this;
```

There is '**ClassLoader**' found in file '[androidx/fragment/app/g.java](#)':

```
line 9:
line 10:     static boolean b(ClassLoader classLoader, String str) {
line 11:         try {
line 12:             return Fragment.class.isAssignableFrom(c(classLoader, str));
line 13:         } catch (ClassNotFoundException unused) {
```

```
line 17:
line 18:     private static Class<?> c(ClassLoader classLoader, String str) {
line 19:         Class<?> cls = (Class) a.get(str);
```

```
line 22:     }
line 23:     Class cls2 = Class.forName(str, false, classLoader);
line 24:     a.put(str, cls2);
```

```

line 27:
line 28:     public static Class<? extends Fragment> d(ClassLoader classLoader, String
line 29:         StringBuilder stringBuilder;

```

```

line 31:         try {
line 32:             return c(classLoader, str);
line 33:         } catch (ClassNotFoundException e) {

```

```

line 47:
line 48:     public Fragment a(ClassLoader classLoader, String str) {
line 49:         StringBuilder stringBuilder;

```

```

line 53:         try {
line 54:             return (Fragment) d(classLoader, str).getConstructor(new
line 55:                 Class[0]).newInstance(new Object[0]);

```

There is '**ClassLoader**' found in file '[androidx/fragment/app/m.java](#)':

```

line 81:
line 82:     public void restoreState(Parcelable parcelable, ClassLoader classLoader) {
line 83:     }

```

There is '**ClassLoader**' found in file '[androidx/recyclerview/widget/StaggeredGridLayoutManager.java](#)':

```

line 494:         this.j = z;
line 495:         this.g = parcel.readArrayList(a.class.getClassLoader());
line 496:     }

```

There is '**ClassLoader**' found in file '[androidx/recyclerview/widget/I.java](#)':

```

line 18: import android.os.Parcelable;
line 19: import android.os.Parcelable.ClassLoaderCreator;
line 20: import android.os.Parcelable.Creator;

```

```

line 4422:     /* compiled from: RecyclerView */
line 4423:     static class a implements ClassLoaderCreator<y> {
line 4424:         a() {

```

```

line 4430:
line 4431:         public y createFromParcel(Parcel parcel, ClassLoader
classLoader) {
line 4432:             return new y(parcel, classLoader);
line 4433:         }

```

```

line 4439:
line 4440:         y(Parcel parcel, ClassLoader classLoader) {
line 4441:             super(parcel, classLoader);
line 4442:             if (classLoader == null) {
line 4443:                 classLoader = o.class.getClassLoader();
line 4444:             }
line 4445:             this.c = parcel.readParcelable(classLoader);
line 4446:         }

```

```

line 4539:             try {
line 4540:                 ClassLoader classLoader;
line 4541:                 Constructor constructor;
line 4542:                 if (isInEditMode()) {
line 4543:                     classLoader = getClass().getClassLoader();
line 4544:                 } else {
line 4545:                     classLoader = context.getClassLoader();
line 4546:                 }
line 4547:                 Class asSubclass =
classLoader.loadClass(str).asSubclass(o.class);
line 4548:                 Object[] objArr = null;

```

There is '**ClassLoader**' found in file '[androidx/appcompat/app/AppCompatViewInflater.java](#)':

```

line 128:         str2 = str;
line 129:         constructor = Class.forName(str2, false,
context.getClassLoader()).asSubclass(View.class).getConstructor(sConstructorSignature);
line 130:         sConstructorMap.put(str, constructor);

```

There is '**ClassLoader**' found in file '[androidx/appcompat/widget/Toolbar.java](#)':

```

line 8: import android.os.Parcelable;
line 9: import android.os.Parcelable.ClassLoaderCreator;
line 10: import android.os.Parcelable.Creator;

```

```

line 266:
line 267:         static class a implements ClassLoaderCreator<g> {
line 268:             a() {

```

```

line 274:
line 275:         public g createFromParcel(Parcel parcel, ClassLoader classLoader)
line 276:         {
line 277:             return new g(parcel, classLoader);
line 278:         }

```

```

line 283:
line 284:         public g(Parcel parcel, ClassLoader classLoader) {
line 285:             super(parcel, classLoader);
line 286:             this.c = parcel.readInt();

```

There is '**ClassLoader**' found in file '[androidx/appcompat/widget/SearchView.java](#)':

```

line 19: import android.os.Parcelable;
line 20: import android.os.Parcelable.ClassLoaderCreator;
line 21: import android.os.Parcelable.Creator;

```

```

line 460:
line 461:         static class a implements ClassLoaderCreator<o> {
line 462:             a() {

```

```

line 468:
line 469:         public o createFromParcel(Parcel parcel, ClassLoader classLoader)
line 470:         {
line 471:             return new o(parcel, classLoader);
line 472:         }

```

```

line 496:
line 497:         public o(Parcel parcel, ClassLoader classLoader) {
line 498:             super(parcel, classLoader);
line 499:             this.c = ((Boolean) parcel.readValue(null)).booleanValue();

```

There is '**ClassLoader**' found in file '[androidx/coordinatorlayout/widget/CoordinatorLayout.java](#)':

```

line 14: import android.os.Parcelable;
line 15: import android.os.Parcelable.ClassLoaderCreator;
line 16: import android.os.Parcelable.Creator;

```

```

line 511:
line 512:         static class a implements ClassLoaderCreator<h> {
line 513:             a() {

```

```

line 519:
line 520:         public h createFromParcel(Parcel parcel, ClassLoader classLoader)
{
line 521:             return new h(parcel, classLoader);
line 522:         }

```

```

line 528:
line 529:         public h(Parcel parcel, ClassLoader classLoader) {
line 530:             super(parcel, classLoader);
line 531:             int readInt = parcel.readInt();

```

```

line 533:             parcel.readIntArray(iArr);
line 534:             Parcelable[] readParcelableArray =
parcel.readParcelableArray(classLoader);
line 535:             this.c = new SparseArray(readInt);

```

```

line 1706:             if (constructor == null) {
line 1707:                 constructor =
context.getClassLoader().loadClass(str2).getConstructor(u);
line 1708:                 constructor.setAccessible(true);

```

There is 'ClassLoader' found in file '[androidx/savedstate/Recreator.java](#)':

```

line 41:         try {
line 42:             Class asSubclass = Class.forName(str, false,
Recreator.class.getClassLoader()).asSubclass(SavedStateRegistry.a.class);
line 43:         try {

```

There is 'ClassLoader' found in file '[h/a/a/n/b/q.java](#)':

```

line 20:         try {
line 21:             Class loadClass =
context.getClassLoader().loadClass("com.google.firebase.FirebaseApp");
line 22:             return new q(loadClass, loadClass.getDeclaredMethod("getInstance",
new Class[0]).invoke(loadClass, new Object[0]));

```

There is 'ClassLoader' found in file '[h/b/a/i/b/a.java](#)':

```

line 49:         public a(Parcel parcel) {
line 50:             this.a = (Location)
parcel.readParcelable(Location.class.getClassLoader());
line 51:             this.b = (Address)
parcel.readParcelable(Address.class.getClassLoader());
line 52:         }

```


There is '**ClassLoader**' found in file '[d/f/b/a/e.java](#)':

```
line 79:
line 80:         public d createFromParcel(Parcel parcel, ClassLoader classLoader)
{
line 81:             return new d(parcel, classLoader);
line 82:         }
```

```
line 88:
line 89:         public d(Parcel parcel, ClassLoader classLoader) {
line 90:             super(parcel);
line 91:             this.a = parcel.readInt();
line 92:             this.b = (a) parcel.readParcelable(classLoader);
line 93:             boolean z = true;
```

```
line 102:             this.h = z;
line 103:             this.i = (l) parcel.readParcelable(classLoader);
line 104:         }
```

There is '**ClassLoader**' found in file '[d/f/b/d/f/i/p0.java](#)':

```
line 8:         static {
line 9:             p0.class.getClassLoader();
line 10:         }
```

There is '**ClassLoader**' found in file '[d/f/b/d/f/n/k.java](#)':

```
line 9:         static {
line 10:             k.class.getClassLoader();
line 11:         }
```

There is '**ClassLoader**' found in file '[d/f/b/d/f/a/c.java](#)':

```
line 6:         static {
line 7:             c.class.getClassLoader();
line 8:         }
```

There is '**ClassLoader**' found in file '[d/f/b/d/f/f/c.java](#)':

```
line 9:         static {
line 10:             c.class.getClassLoader();
line 11:         }
```

There is '**ClassLoader**' found in file '[d/f/b/d/f/o/h4.java](#)':

```
line 235:      try {
line 236:          Class.forName(cls.getName(), true, cls.getClassLoader());
line 237:          t = (h4) zzaib.get(cls);
```

There is '**ClassLoader**' found in file '[d/f/b/d/f/o/i2.java](#)':

```
line 9: public class i2 {
line 10:     private static final ClassLoader a = i2.class.getClassLoader();
line 11:
```

There is '**ClassLoader**' found in file '[d/f/b/d/f/o/g4.java](#)':

```
line 21:      Class cls2 = g4.class;
line 22:      ClassLoader classLoader = cls2.getClassLoader();
line 23:      if (cls.equals(u3.class)) {
```

```
line 30:      try {
line 31:          return (u3) cls.cast(((g4) Class.forName(str, true,
classLoader).getConstructor(new Class[]).newInstance(new Object[0])).a());
line 32:      } catch (NoSuchMethodException e) {
```

```
line 40:      } catch (ClassNotFoundException unused) {
line 41:          Iterator it = ServiceLoader.load(cls2, classLoader).iterator();
line 42:          ArrayList arrayList = new ArrayList();
```

There is '**ClassLoader**' found in file '[d/f/b/d/f/h/m5.java](#)':

```
line 195:      try {
line 196:          Class.forName(cls.getName(), true, cls.getClassLoader());
line 197:          t = (m5) zzbsq.get(cls);
```

There is '**ClassLoader**' found in file '[d/f/b/d/f/m/p0.java](#)':

```
line 9:      static {
line 10:          p0.class.getClassLoader();
line 11:      }
```

There is '**ClassLoader**' found in file '[d/f/b/d/f/c/h.java](#)':

```
line 8:      static {
line 9:          h.class.getClassLoader();
line 10:      }
```

There is '**ClassLoader**' found in file '[d/f/b/d/f/q/w2.java](#)':

```
line 354:      try {
line 355:          Class.forName(cls.getName(), true, cls.getClassLoader());
line 356:          t = (w2) zzwl.get(cls);
```

There is '**ClassLoader**' found in file '[d/f/b/d/f/q/u2.java](#)':

```
line 21:      Class cls2 = u2.class;
line 22:      ClassLoader classLoader = cls2.getClassLoader();
line 23:      if (cls.equals(i2.class)) {
```

```
line 30:      try {
line 31:          return (i2) cls.cast(((u2) Class.forName(str, true,
classLoader).getConstructor(new Class[0]).newInstance(new Object[0])).a());
line 32:      } catch (NoSuchMethodException e) {
```

```
line 40:      } catch (ClassNotFoundException unused) {
line 41:          Iterator it = ServiceLoader.load(cls2, classLoader).iterator();
line 42:          ArrayList arrayList = new ArrayList();
```

There is '**ClassLoader**' found in file '[d/f/b/d/f/e/f1.java](#)':

```
line 204:      try {
line 205:          Class.forName(cls.getName(), true, cls.getClassLoader());
line 206:          t = (f1) zzjr.get(cls);
```

There is '**ClassLoader**' found in file '[d/f/b/d/f/e/y0.java](#)':

```
line 9:      static {
line 10:          y0.class.getClassLoader();
line 11:      }
```

There is '**ClassLoader**' found in file '[d/f/b/d/f/k/b.java](#)':

```
line 7:      static {
line 8:          b.class.getClassLoader();
line 9:      }
```

There is '**ClassLoader**' found in file '[d/f/b/d/c/f.java](#)':

```
line 32:          try {
line 33:              this.b = a((IBinder)
context.getClassLoader().loadClass(this.a).newInstance());
line 34:          } catch (ClassNotFoundException e) {
```

There is '**ClassLoader**' found in file '[d/f/b/d/d/j/c.java](#)':

```
line 22:          if (a2 == 1) {
line 23:              b.a(parcel, a, arrayList, c.class.getClassLoader());
line 24:          } else if (a2 == 2) {
```

```
line 26:          } else if (a2 == 3) {
line 27:              b.a(parcel, a, arrayList2, c.class.getClassLoader());
line 28:          } else if (a2 == 5) {
```

There is '**ClassLoader**' found in file '[d/f/b/e/s/a.java](#)':

```
line 5: import android.os.Parcelable;
line 6: import android.os.Parcelable.ClassLoaderCreator;
line 7: import android.os.Parcelable.Creator;
```

```
line 15:      /* compiled from: ExtendableSavedState */
line 16:      static class a implements ClassLoaderCreator<a> {
line 17:          a() {
```

```
line 23:
line 24:          public a createFromParcel(Parcel parcel, ClassLoader classLoader) {
line 25:              return new a(parcel, classLoader, null);
line 26:          }
```

```
line 32:
line 33:      /* synthetic */ a(Parcel parcel, ClassLoader classLoader, a aVar) {
line 34:          this(parcel, classLoader);
line 35:      }
```

```
line 65:
line 66:      private a(Parcel parcel, ClassLoader classLoader) {
line 67:          super(parcel, classLoader);
line 68:          int readInt = parcel.readInt();
```

There is 'ClassLoader' found in file 'd/f/b/b/n.java':

```
line 450:      this.q = parcel.readInt();
line 451:      this.s = (i) parcel.readParcelable(i.class.getClassLoader());
line 452:      this.t = parcel.readInt();
```

```
line 465:      }
line 466:      this.j = (j) parcel.readParcelable(j.class.getClassLoader());
line 467:      this.e = (d.f.b.b.p0.a)
parcel.readParcelable(d.f.b.b.p0.a.class.getClassLoader());
line 468:      }
```

There is 'ClassLoader' found in file 'd/f/b/b/r0/e0.java':

```
line 91:      for (int i = 0; i < this.a; i++) {
line 92:          this.b[i] = (n) parcel.readParcelable(n.class.getClassLoader());
line 93:      }
```

There is 'ClassLoader' found in file 'd/f/b/b/r0/f0.java':

```
line 84:      for (int i = 0; i < this.a; i++) {
line 85:          this.b[i] = (e0) parcel.readParcelable(e0.class.getClassLoader());
line 86:      }
```

There is 'ClassLoader' found in file 'd/f/b/b/p0/a.java':

```
line 86:      if (i < bVarArr.length) {
line 87:          bVarArr[i] = (b)
parcel.readParcelable(b.class.getClassLoader());
line 88:          i++;
```

There is 'ClassLoader' found in file 'd/f/b/b/p0/h/d.java':

```
line 91:      for (int i = 0; i < readInt; i++) {
line 92:          this.g[i] = (i) parcel.readParcelable(i.class.getClassLoader());
line 93:      }
```

There is 'ClassLoader' found in file 'd/f/b/b/p0/h/e.java':

```
line 87:      for (int i = 0; i < readInt; i++) {
line 88:          this.f[i] = (i) parcel.readParcelable(i.class.getClassLoader());
line 89:      }
```

There is '**ClassLoader**' found in file '[d/f/b/b/t0/c.java](#)':

```
line 284:          for (int i2 = 0; i2 < readInt3; i2++) {
line 285:              hashMap.put((f0)
parcel.readParcelable(f0.class.getClassLoader()), (d)
parcel.readParcelable(d.class.getClassLoader()));
line 286:          }
```

There is '**ClassLoader**' found in file '[com/theartofdev/edmodo/cropper/d.java](#)':

```
line 129:          protected c(Parcel parcel) {
line 130:              super(null, (Uri)
parcel.readParcelable(Uri.class.getClassLoader()), null, (Uri)
parcel.readParcelable(Uri.class.getClassLoader()), (Exception)
parcel.readSerializable(), parcel.createFloatArray(), (Rect)
parcel.readParcelable(Rect.class.getClassLoader()), (Rect)
parcel.readParcelable(Rect.class.getClassLoader()), parcel.readInt(),
parcel.readInt());
line 131:          }
```

There is '**ClassLoader**' found in file '[com/theartofdev/edmodo/cropper/f.java](#)':

```
line 275:          this.E = parcel.readInt();
line 276:          this.F = (Uri) parcel.readParcelable(Uri.class.getClassLoader());
line 277:          this.G = CompressFormat.valueOf(parcel.readString());
```

```
line 282:          this.L = parcel.readByte() != (byte) 0;
line 283:          this.M = (Rect) parcel.readParcelable(Rect.class.getClassLoader());
line 284:          this.N = parcel.readInt();
```

There is '**ClassLoader**' found in file '[butterknife/ButterKnife.java](#)':

```
line 42:          try {
line 43:              ClassLoader classLoader = cls.getClassLoader();
line 44:              StringBuilder stringBuilder = new StringBuilder();
```

```
line 46:          stringBuilder.append("_ViewBinding");
line 47:          constructor2 =
classLoader.loadClass(stringBuilder.toString()).getConstructor(new Class[]{cls,
View.class});
line 48:          if (debug) {
```

There is '**ClassLoader**' found in file '[b/i/a/a.java](#)':

```
line 4: import android.os.Parcelable;
line 5: import android.os.Parcelable.ClassLoaderCreator;
line 6: import android.os.Parcelable.Creator;
```

```
line 14:      /* compiled from: AbsSavedState */
line 15:      static class b implements ClassLoaderCreator<a> {
line 16:          b() {
```

```
line 22:
line 23:          public a createFromParcel(Parcel parcel, ClassLoader classLoader) {
line 24:              if (parcel.readParcelable(classLoader) == null) {
line 25:                  return a.b;
```

```
line 68:
line 69:      protected a(Parcel parcel, ClassLoader classLoader) {
line 70:          Parcelable readParcelable = parcel.readParcelable(classLoader);
line 71:          if (readParcelable == null) {
```

There is '**ClassLoader**' found in file '[b/g/j/h.java](#)':

```
line 3: import android.os.Parcel;
line 4: import android.os.Parcelable.ClassLoaderCreator;
line 5: import android.os.Parcelable.Creator;
```

```
line 11:      /* compiled from: ParcelableCompat */
line 12:      static class a<T> implements ClassLoaderCreator<T> {
line 13:          private final i<T> a;
```

```
line 26:
line 27:          public T createFromParcel(Parcel parcel, ClassLoader classLoader) {
line 28:              return this.a.createFromParcel(parcel, classLoader);
line 29:          }
```

There is '**ClassLoader**' found in file '[b/g/j/i.java](#)':

```
line 7: public interface i<T> {
line 8:     T createFromParcel(Parcel parcel, ClassLoader classLoader);
line 9:
```

There is '**ClassLoader**' found in file '[b/a/o/g.java](#)':

```
line 260:          try {
line 261:              Constructor constructor = Class.forName(str, false,
g.this.c.getClassLoader()).getConstructor(clsArr);
line 262:              constructor.setAccessible(true);
```

There is '**ClassLoader**' found in file '[b/j/a/a.java](#)':

```
line 14: import android.os.Parcelable;
line 15: import android.os.Parcelable.ClassLoaderCreator;
line 16: import android.os.Parcelable.Creator;
```

```
line 259:          /* compiled from: DrawerLayout */
line 260:          static class a implements ClassLoaderCreator<f> {
line 261:              a() {
```

```
line 267:
line 268:          public f createFromParcel(Parcel parcel, ClassLoader classLoader)
{
line 269:              return new f(parcel, classLoader);
line 270:          }
```

```
line 276:
line 277:          public f(Parcel parcel, ClassLoader classLoader) {
line 278:              super(parcel, classLoader);
line 279:              this.c = parcel.readInt();
```

There is '**ClassLoader**' found in file '[b/p/a.java](#)':

```
line 106:
line 107:          static void a(ClassLoader classLoader, List<? extends File> list) {
line 108:              Object obj = a.b(classLoader, "pathList").get(classLoader);
line 109:              Object[] a = new a().a((List) list);
```

```
line 138:          private static final class b {
line 139:              static void a(ClassLoader classLoader, List<? extends File> list,
File file) {
line 140:                  Object obj = a.b(classLoader, "pathList").get(classLoader);
line 141:                  ArrayList arrayList = new ArrayList();
```



```

line 172:    private static final class c {
line 173:        static void a(ClassLoader classLoader, List<? extends File> list) {
line 174:            int size = list.size();
line 175:            Field a = a.b(classLoader, "path");
line 176:            StringBuilder stringBuilder = new StringBuilder((String)
a.get(classLoader));
line 177:            Object[] objArr = new String[size];

```

```

line 195:        }
line 196:        a.set(classLoader, stringBuilder.toString());
line 197:        a.b((Object) classLoader, "mPaths", objArr);
line 198:        a.b((Object) classLoader, "mFiles", objArr2);
line 199:        a.b((Object) classLoader, "mZips", objArr3);
line 200:        a.b((Object) classLoader, "mDexs", objArr4);
line 201:    }

```

```

line 309:    L_0x0055:
line 310:        r1 = r5.get(ClassLoader());      Catch:{ RuntimeException -> 0x00a5 }
line 311:        if (r1 != 0) goto L_0x0064;

```

```

line 313:        r5 = "MultiDex";
line 314:        r6 = "Context class loader is null. Must be running in test mode.
Skip patching.";
line 315:        android.util.Log.e(r5, r6);      Catch:{ all -> 0x00af }

```

```

line 366:        r6 = "MultiDex";
line 367:        r7 = "Failure while trying to obtain Context class loader. Must be
running in test mode. Skip patching.";
line 368:        android.util.Log.w(r6, r7, r5);      Catch:{ all -> 0x00af }

```

```

line 433:
line 434:    private static void a(ClassLoader classLoader, File file, List<? extends
File> list) {
line 435:        if (!list.isEmpty()) {

```

```

line 437:            if (i >= 19) {
line 438:                b.a(classLoader, list, file);
line 439:            } else if (i >= 14) {
line 440:                a.a(classLoader, list);
line 441:            } else {
line 442:                c.a(classLoader, list);
line 443:            }

```

There is '**ClassLoader**' found in file '[/c/c.java](#)':

```
line 138:      Enumeration systemResources;
line 139:      ClassLoader classLoader = c.class.getClassLoader();
line 140:      if (classLoader == null) {
line 141:          systemResources = ClassLoader.getSystemResources(f);
line 142:      } else {
line 143:          systemResources = classLoader.getResources(f);
line 144:      }
```

There is '**ClassLoader**' found in file '[/b/a/v/h.java](#)':

```
line 19:      private final String b;
line 20:      private final ClassLoader c;
line 21:      private final Map<String, Object> d;
```

```
line 102:      str = this.b.concat(str);
line 103:      ClassLoader classLoader = this.c;
line 104:      if (classLoader != null) {
line 105:          resourceAsStream = classLoader.getResourceAsStream(str);
line 106:      } else {
line 107:          resourceAsStream = ClassLoader.getSystemResourceAsStream(str);
line 108:      }
```

```
line 115:      stringBuilder.append(str);
line 116:      stringBuilder.append("\n ClassLoader: ");
line 117:      ClassLoader classLoader2 = this.c;
line 118:      stringBuilder.append(classLoader2 != null ? classLoader2.toString() :
"system");
line 119:      throw new IOException(stringBuilder.toString());
```

```
line 170:
line 171:      private h(String str, ClassLoader classLoader, boolean z) {
line 172:          if (str != null) {
```

```
line 180:      this.b = str;
line 181:      if (classLoader == null && !z) {
line 182:          classLoader = h.class.getClassLoader();
line 183:      }
line 184:      this.c = classLoader;
line 185:      this.d = a(c("ZoneInfoMap"));
```

Reference:

- <https://developer.android.com/reference/java/lang/ClassLoader.html>
- <https://developer.android.com/reference/dalvik/system/DexClassLoader.html>
- <https://developer.android.com/reference/java/security/SecureClassLoader.html>

- <https://developer.android.com/reference/java/net/URLClassLoader.html>

OBJECT DESERIALIZATION FOUND [M7] [CWE-502] [SAST]**WARNING****Description:**

Object deserialization performed on an untrusted resource (e.g. user-supplied input or external storage), can be dangerous if the data for deserialization is tampered by an attacker.

Example of insecure code:

```
bundle.putSerializable("exampleClass", exampleOfSerializabledClass);
exampleOfSerializabledClass = bundle.getSerializable("exampleClass");
```

Example of secure code:

```
// Use only serialization when you have the control over data
```

Details:

There is '**getSerializable()**' found in file '[host/exp/exponent/notifications/ScheduledNotificationReceiver.java](#)':

```
line 34:      Bundle extras = intent.getExtras();
line 35:      HashMap hashMap = (HashMap)
extras.getSerializable("notification_object");
line 36:      int i = extras.getInt("notification_id", 0);
```

There is '**getSerializableExtra()**' found in file

['io/nlopez/smartlocation/geocoding/providers/AndroidGeocodingProvider.java'](#):

```
line 47:      public void onHandleIntent(Intent intent) {
line 48:          Locale locale = (Locale) intent.getSerializableExtra("locale");
line 49:          if (locale == null) {
```

```
line 55:          if (intent.hasExtra(str)) {
line 56:              HashMap hashMap = (HashMap) intent.getSerializableExtra(str);
line 57:              for (String str2 : hashMap.keySet()) {
```

```
line 62:          if (intent.hasExtra(str)) {
line 63:              HashMap hashMap2 = (HashMap) intent.getSerializableExtra(str);
line 64:              for (Location location : hashMap2.keySet()) {
```

```
line 120:          if (AndroidGeocodingProvider.this.c != null) {
line 121:              AndroidGeocodingProvider.this.c.onAddressResolved((Location)
intent.getParcelableExtra(PlaceFields.LOCATION), (ArrayList)
intent.getSerializableExtra("result"));
line 122:          }
```

There is 'implements Serializable' found in file 'i/b.java':

```
line 5: /* compiled from: Tuples.kt */
line 6: public final class b<A, B> implements Serializable {
line 7:     private final A a;
```

There is 'implements Serializable' found in file 'd/f/e/d0/d/e.java':

```
line 21:     /* compiled from: FinderPatternFinder */
line 22:     private static final class b implements Serializable, Comparator<d> {
line 23:         private final float a;
```

```
line 36:     /* compiled from: FinderPatternFinder */
line 37:     private static final class c implements Serializable, Comparator<d> {
line 38:         private final float a;
```

There is 'implements Serializable' found in file 'd/f/e/y/d/a.java':

```
line 58:     /* compiled from: Detector */
line 59:     private static final class c implements Serializable, Comparator<b> {
line 60:         private c() {
```

There is 'implements Serializable' found in file 'd/f/b/d/f/o/y2.java':

```
line 7:
line 8: public abstract class y2 implements Serializable, Iterable<Byte> {
line 9:     public static final y2 b = new i3(i4.b);
```

There is 'implements Serializable' found in file 'd/f/b/d/f/o/e2.java':

```
line 4:
line 5: public abstract class e2<T> implements Serializable {
line 6:     e2() {
```

There is 'implements Serializable' found in file 'd/f/b/d/f/h/i4.java':

```
line 7:
line 8: public abstract class i4 implements Serializable, Iterable<Byte> {
line 9:     public static final i4 b = new s4(o5.b);
```

There is 'implements Serializable' found in file 'd/f/b/d/f/q/m1.java':

```
line 7:
line 8: public abstract class m1 implements Serializable, Iterable<Byte> {
line 9:     public static final m1 b = new v1(z2.b);
```

There is 'implements Serializable' found in file 'd/f/b/d/f/e/a0.java':

```
line 6:
line 7: public abstract class a0 implements Serializable, Iterable<Byte> {
line 8:     public static final a0 b = new h0(h1.b);
```

There is 'implements Serializable' found in file 'k/f.java':

```
line 15: /* compiled from: ByteString */
line 16: public class f implements Serializable, Comparable<f> {
line 17:     static final char[] d = new char[]{'0', '1', '2', '3', '4', '5', '6', '7',
'8', '9', 'a', 'b', 'c', 'd', 'e', 'f'};
```

There is 'implements Serializable' found in file 'l/a/a/a/b.java':

```
line 8: /* compiled from: CommandLine */
line 9: public class b implements Serializable {
line 10:     private static final long serialVersionUID = 1;
```

There is 'implements Serializable' found in file 'l/a/a/a/i.java':

```
line 9: /* compiled from: OptionGroup */
line 10: public class i implements Serializable {
line 11:     private static final long serialVersionUID = 1;
```

There is 'implements Serializable' found in file 'l/a/a/a/k.java':

```
line 9: /* compiled from: Options */
line 10: public class k implements Serializable {
line 11:     private static final long serialVersionUID = 1;
```

There is 'implements Serializable' found in file 'l/a/a/c/e/c.java':

```
line 6: /* compiled from: StringBuilderWriter */
line 7: public class c extends Writer implements Serializable {
line 8:     private static final long serialVersionUID = -146927496096066153L;
```

There is 'implements Serializable' found in file '/b/a/h.java':

```
line 6: /* compiled from: DurationFieldType */
line 7: public abstract class h implements Serializable {
line 8:     static final h b = new a("eras", (byte) 1);
```

There is 'implements Serializable' found in file '/b/a/d.java':

```
line 5: /* compiled from: DateTimeFieldType */
line 6: public abstract class d implements Serializable {
line 7:     private static final d b = new a("era", (byte) 1, h.d(), null);
```

There is 'implements Serializable' found in file '/b/a/f.java':

```
line 19: /* compiled from: DateTimeZone */
line 20: public abstract class f implements Serializable {
line 21:     public static final f b = q.f;
```

```
line 106:     /* compiled from: DateTimeZone */
line 107:     private static final class b implements Serializable {
line 108:         private static final long serialVersionUID = -6471952376487863581L;
```

There is 'implements Serializable' found in file '/b/a/t/c.java':

```
line 7: /* compiled from: BaseDurationField */
line 8: public abstract class c extends g implements Serializable {
line 9:     private static final long serialVersionUID = -2554245107589433218L;
```

There is 'implements Serializable' found in file '/b/a/t/q.java':

```
line 8: /* compiled from: UnsupportedDurationField */
line 9: public final class q extends g implements Serializable {
line 10:     private static HashMap<h, q> b = null;
```

There is 'implements Serializable' found in file '/b/a/t/p.java':

```
line 10: /* compiled from: UnsupportedDateTimeField */
line 11: public final class p extends c implements Serializable {
line 12:     private static HashMap<d, p> c = null;
```

There is 'implements Serializable' found in file '/b/a/t/i.java':

```
line 7: /* compiled from: MillisDurationField */
line 8: public final class i extends g implements Serializable {
line 9:     public static final g a = new i();
```

There is 'implements Serializable' found in file '/b/a/t/a.java':

```
line 8: /* compiled from: AbstractReadableInstantFieldProperty */
line 9: public abstract class a implements Serializable {
line 10:     private static final long serialVersionUID = 1971226328211649661L;
```

There is 'implements Serializable' found in file '/b/a/s/b.java':

```
line 12: /* compiled from: BaseChronology */
line 13: public abstract class b extends a implements Serializable {
line 14:     private static final long serialVersionUID = -7310865996721419676L;
```

There is 'implements Serializable' found in file '/b/a/s/q.java':

```
line 17:     /* compiled from: ISOChronology */
line 18:     private static final class a implements Serializable {
line 19:         private static final long serialVersionUID = -6212696554273812441L;
```

Reference:

- <https://developer.android.com/reference/android/os/Bundle.html>

NETWORK SECURITY CONFIGURATION IS NOT PRESENT [SAST]

WARNING

Description:

The mobile application does not use Network Security Configuration to define which certificates and Certificate Authorities (CA) can be used for different environments (e.g. Development, Test and Production). The Network Security Configuration on Android feature lets application developers customize their network security settings in a safe, declarative configuration file without modifying the application code.

Reference:

- <https://developer.android.com/training/articles/security-config.html>

Mobile Application Behaviour

Mobile Application Functionality

The mobile application uses the following functionality that can endanger user's privacy under certain circumstances:

Location

The mobile application has an access to geographical location of the mobile phone.

Mobile Application Outgoing Traffic

The following HTTP/S requests were sent by mobile application without interaction with user:

🔒 POST https://app-measurement.com HTTP/1.1

Date/Time: 17.04.2020 16:13 CEST

Requested URL: https://app-measurement.com/a



Software Composition Analysis

The mobile application uses the following external and native libraries:

External

- net.openid
- host.exp
- versioned.host
- org.unimodules
- io.nlopez
- expo.modules
- me.leolin
- com.amplitude
- com.raizlabs
- com.theartofdev
- com.bumpteck
- butterknife

Android Native

- androidx.core
- androidx.versionedparcelable
- androidx.activity
- androidx.viewpager
- androidx.lifecycle
- androidx.annotation
- androidx.browser
- androidx.fragment
- androidx.recyclerview
- androidx.appcompat
- androidx.coordinatorlayout
- androidx.savedstate
- androidx.cardview
- androidx.media
- javax.inject
- android.support

Mobile App External Communications

Static mobile application security test revealed the following remote hosts where the mobile application may send or receive data:

Hostname	IP:Port	SSL Encryption	Websec Server Security	Domain Domain Security
www.slf4j.org:80	83.173.251.158:80	N	C+	2 malicious websites found

Hostname	IP:Port	SSL Encryption	Websec Server Security	Domain Domain Security
exp.host:443	104.197.216.164:443	A+	C	235 malicious websites found
expo.io:443	104.197.216.164:443	A	A	19 malicious websites found
inthecheesefactory.com:443	104.28.10.95:443	A	A	No risks found
google.github.io:443	185.199.111.153:443	A	B+	5 malicious websites found
mobile-service.segment.com:443	35.166.113.65:443	A	C	No risks found
cdn-settings.segment.com:443	13.225.225.80:443	B+	C	1 malicious website found
api.segment.io:443	35.164.219.175:443	A	C	No risks found
api.amplitude.com:443	54.68.60.198:443	A+	B-	No risks found
docs.expo.io:443	13.225.221.2:443	B-	C	No risks found