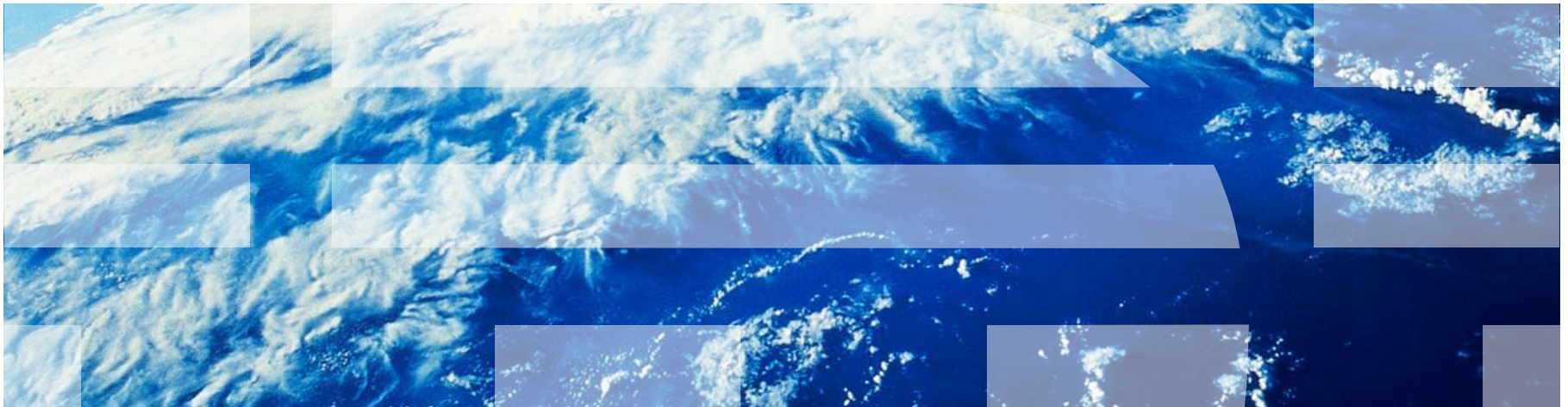


# ***IBM Worklight V6.2.0 Getting Started***

## **Trusteer Android Integration**



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## ***Introduction***

Trusteer Mobile SDK collects multiple mobile device risk factors and provides them to the mobile app, enabling organizations to restrict mobile app functionality based on risk levels.

In your IBM Worklight application, you may want to protect access to some specific resources or procedures based risk levels, such as detected malware or whether the device is jailbroken or rooted.

For example, you could prevent a malware-ridden device from logging into your banking app, and prevent rooted devices from using the “transfer funds” feature.

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## ***Obtain Trusteer SDK for Android***

To use Trusteer within a Worklight application, you first need to separately obtain the Trusteer SDK, license information, required libraries and manifest files.

See Trusteer documentation or contact Trusteer support if you are missing any of those items.

You may receive those items either as separate files, or as an IBM Worklight Application Component.

You still need to follow these steps if you use a WLC file.

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## ***Install Trusteer SDK***

If you've received a Worklight Component from Trusteer, search the IBM Worklight documentation for "Adding application components to IBM Worklight projects". Then make sure the file "tas.license" contains your license information.

If you've received the Trusteer SDK, follow the Trusteer documentation to add the Trusteer SDK to your Android project. Make sure you have the "tas.license" file in your "assets" folder.



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## ***Access Risk Items in JavaScript***

Optionally, you can access the client-side generated Trusteer data object using the following API:

```
WL.Trusteer.getRiskAssessment(onSuccess);
```

Where `onSuccess` is a function that will receive a JSON object containing all the data processed by Trusteer. See Trusteer documentation to get information on each risk item.

```
function onSuccess(result) {  
  //See in the logs what the full result looks like  
  WL.Logger.debug(JSON.stringify(result));  
  //Check for a specific flag  
  if(result["os.rooted"]["value"] != 0) {  
    alert("This device is rooted!");  
  }  
}
```

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## ***Access Risk Items in Java***

Optionally, you can access the client-side generated Trusteer data object using the following API:

```
WLTrusteer trusteeer = WLTrusteer.getInstance();  
JSONObject risks = trusteeer.getRiskAssessment();
```

This returns an JSONObject of all the data processed by Truster. See Trusteer documentation to get information on each risk item.

```
JSONObject rooted = (JSONObject) risks.get("os.rooted");  
if(rooted.getInt("value") > 0){  
    //device is rooted  
}
```

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## ***Authentication Config***

To prevent access to specific resources when a device is at risk, you can protect your adapter procedures or your applications with a custom security test containing a Trusteer realm. See IBM Worklight documentation for general information on security tests and realms.

The Trusteer realm will check the data generated by the Trusteer SDK and allow/reject the request based on the parameters you set.

See next page for an example of a Trusteer realm and login module you can add to your authenticationConfig.xml

# Authentication Config

```

<realms>
  ...
  <realm name="wl_basicTrusteerFraudDetectionRealm"
  loginModule="trusteerFraudDetectionLogin">
    <className>
      com.worklight.core.auth.ext.TrusteerAuthenticator
    </className>
    <parameter name="rooted-device" value="block"/>
    <parameter name="device-with-malware" value="block"/>
    <parameter name="rooted-hiders" value="block"/>
    <parameter name="unsecured-wifi" value="alert"/>
    <parameter name="outdated-configuration" value="alert"/>
  </realm>
</realms>

```

# *Authentication Config*

```
<loginModules>
  ...
  <loginModule name="trusteerFraudDetectionLogin">
    <className>
      com.worklight.core.auth.ext.TrusteerLoginModule
    </className>
  </loginModule>
</loginModules>
```



## *Authentication Config*

This realm contains 5 parameters:

- `rooted-device` - indicates whether the device is rooted (android) or jailbroken (iOS)
- `device-with-malware` - indicates whether the device contains malware
- `rooted-hiders` - indicate that the device contains root hiders applications that hides the fact that the device is rooted/jailbroken
- `unsecured-wifi` - indicates that the device is currently connected to an insecure wifi.
- `outdated-configuration` - indicates that Trusteer SDK configuration hasn't updated for some time (didn't connect to the Trusteer server).
- The possible values are `block`, `alert` or `accept`.

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## ***JavaScript Challenge Handler***

Assuming you've added a Trusteer realm to your server's authentication configuration file, you can register a challenge handler to receive the responses from the authenticator.

```
var trusteeChallengeHandler =  
  WL.Client.createWLChallengeHandler("wl_basicTrusteerFraudDetectionRealm")  
  ;
```

Notice that you are registering a `WLChallengeHandler` and not a `ChallengeHandler`. See user documentation on `WLChallengeHandler`.

## JavaScript Challenge Handler

If you have set one of your realm options to `block`, a blocking event will trigger `handleFailure`.

```
trusteerChallengeHandler.handleFailure = function(error) {  
    WL.SimpleDialog.show("Error", "Operation failed. Please contact  
customer support (reason code: " + error.reason + ")", [{text:"OK"}]);  
};
```

`error.reason` can be one of the following: `TAS_ROOT`,  
`TAS_ROOT_EVIDENCE`,  
`TAS_MALWARE`,`TAS_WIFI`,`TAS_OUTDATED`,`TAS_INVALID_HEADER`,`TAS_NO_HEADER`.

## JavaScript Challenge Handler

If you have set one of your realm options to alert, you can catch the alert event by implementing the `processSuccess` method.

```
trusteerChallengeHandler.processSuccess = function(identity) {
    var alerts = identity.attributes.alerts; //Array of alerts codes
    if(alerts.length > 0) {
        WL.SimpleDialog.show("Warning", "Please note that your
                               device is : " +
alerts, [{text:"OK"}]);
    }
};
```

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## ***Native Challenge Handler***

Assuming you've added a Trusteer realm to your server's authentication configuration file, you can register a challenge handler to receive the responses from the authenticator.

Create a class that extends `WLChallengeHandler`:

```
public class TrusteerChallengeHandler extends WLChallengeHandler{  
    //...  
}
```

In your application code, register your newly created challenge handler for your Trusteer realm:

```
WLClient.getInstance().registerChallenge(  
    new  
    TrusteerChallengeHandler("wl_basicTrusteerFraudDetectionRealm");  
);
```

## ***Native Challenge Handler***

If you have set one of your realm options to `block`, a blocking event will trigger `handleFailure`.

```
public class TrusteerChallengeHandler extends
    WLChallengeHandler{
//...
public void handleFailure(JSONObject error){
    String errorReason =
error.getString("reason");
    //Show user that the request was denied.
}
//...
}
```

reason **can be one of the following:** `TAS_ROOT`, `TAS_ROOT_EVIDENCE`, `TAS_MALWARE`, `TAS_WIFI`, `TAS_OUTDATED`, `TAS_INVALID_HEADER`, `TAS_NO_HEADER`.



## ***Native Challenge Handler***

If you have set one of your realm options to `alert`, you can catch the alert event by implementing the `handleSuccess` method.

```
public class TrusteerChallengeHandler extends
WLChallengeHandler{
    //...
    public void handleSuccess(JSONObject identity) {
        JSONArray alerts =
identity.getJSONObject("attributes").getJSONArray("alerts");

        if(alerts.length() > 0) {
            //Alert the user of potential issues.
        }
    }
    //...
}
```

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## ***Sample: set up***

- Download the **TrusteerIntegrationProject**
- Import it into your IBM Worklight workspace
- For pure native, download and import **TrusteerAndroidNativeProject** as well (update **wlclient.properties** with your IP address)
- Install the Trusteer SDK into your application(s) following the steps explained previously
- Deploy and run it on your Android device

## *Sample: expected results*

- The sample will display whether or not it successfully loaded the Trusteer SDK
- It will display whether your device is rooted or not.
- It features a button to “**get sensitive data**”, which invokes a dummy procedure protected by a Trusteer realm.
- Depending on the state of your device, you should see “**this is sensitive data**”, or an error explaining why your request was rejected.

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