

# FORT Mobile SDK for Android

## Merchant Integration Guide

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## 1 PAYFORT

PAYFORT is a trusted online payment gateway enabling businesses, governments, SMEs, startups and institutions with innovative payment options for both the banked and non-banked online shoppers.

We work with our customers first by understanding both their financial and revenue model; identify areas of risk exposure, and payment processes in order to formulate strategies to maximize online payment acceptance. We work under the notion that “People are different” thus we help our Merchants in offering different payment options that mirror their online shoppers behavior for both credit card and non-credit cardholders.

Our team is comprised of seasoned bankers, technology gurus, and risk management experts that have been helping hundreds of firms manage and innovate their online payment processes across the Arab World and beyond.

## 2 About this Document

This document describes our FORT Mobile SDK (for Android) and includes information on how to integrate it with the Merchant's Mobile Application.

### 2.1 Intended Audience

This document was created for the Android Merchants' developers who will integrate the FORT Mobile SDK with their Merchants' Applications.

### 3 Before Starting the Integration with FORT

These are the steps you need to know; to start building an integration with PayFort:

**Step 1: Access your test account**

You need to make sure that you have access to the test account, it's a full test environment allow you to simulate and process simulation transactions.

**Step 2: make sure that you are using the correct integration type**

Prior building the integration, you need to make sure that you are selecting and using the proper parameters in the API calls as per the required integration type.

All the mandatory parameters mentioned under every section in the API document

**Step 3: Create the Transaction Request**

Process the valid API request depends on transaction parameters included, you need to check the documentation and read every parameter possible values in order to reduce the errors in processing the transaction.

**Step 4: Process the Transaction Response**

After every payment, PayFort return the transaction response on the URL configured in your account under Technical Settings channel configuration.

For more details; check the [Direct Transaction Feedback](#) section.

You need to validate the response parameters returned on this URL by calculating the [signature](#) for the response parameters using the SHA Response Phrase configured in your account under Security Settings.

**Step 5: Test and Go Live**

You can use our [testing cards](#) to test your integration and simulate your test cases. PayFort team may require to test your integration before the going live to assure your application integration.

## 4 About the Software

### 4.1 Supported Platforms

The first version of the solution is available only for the Android OS.

#### 4.1.1 Supported Android Platforms

The FORT Mobile SDK supports all devices running Android 4.1.x (API level 16). #ICE\_CREAM\_SANDWICH or higher are supported.

*This release supports Android Pie API 28.*

### 4.2 Localization

The FORT Mobile SDK supports both English and Arabic languages.

### 4.3 Screen Orientation

Portrait is the only orientation supported within the FORT Mobile SDK.

### 4.4 Supported Payment Methods

Through the first version of the FORT Mobile SDK, the Merchant has the ability to process a **CREDIT CARD** transactions only.

### 4.5 Supported Payment Options

The supported credit card payment options are **VISA, MASTERCARD, American Express (AMEX), MADA and MEEZA.**

## 5 FORT Android SDK – Device ID permission

This section helps the developers to understand the need and usage of the permission requested by the FORT Payment SDK to generate a unique device ID.

**NOTE!**

You might not face this issue through your payment flow. It depends on the time you are requesting the `getDeviceId` function and ask about the permission for the first time.

A part of the FORT mobile SDK flow is to get a unique ID for the device. Generating the ID based on more than one input (collecting as much as possible will lead to a real unique ID).

The Telephone manager is one of these sources. Accessing the Telephone manager need the use of `'android.permission.READ_PHONE_STATE'` permission. According to Android that's a dangerous permission to be used.

Getting the needed permission through the flow on the case of getting the client granted that will produce a mismatch device ID on the 1<sup>st</sup> SDK call.

To avoid the mismatch flow we are suggesting you the following solutions:

- **Handle the 1<sup>st</sup> SDK call in the `onActivityResult()`.**  
Since The FORT SDK is a module running within the main application context the requested permission response will be returned to the merchant context. Once the activity that called `geDeviceId` for the 1<sup>st</sup> received a call-back in the `onActivityResult()` with request code = 222 you can for sure starts the payment flow of creating an SDK token and calling the SDK afterwards.
- Call `getDeviceId` on a previous activity or in your application class to make sure that the permission request was triggered before you reach the payment step.

## 6 FORT Mobile SDK

The FORT Mobile SDK allows Merchants to securely integrate the payment functions. It also allows Merchants to easily accept In-App payments. Instead of the traditional, time-consuming, and complex way of being redirected to the mobile browser to complete the payment, In-App payments can be completed through our FORT Mobile SDK. In turn, this gives the Merchant's consumers a smooth, pleasing user-experience by using In-App payment functions through the native applications.

### 6.1 Download the FORT Mobile SDK

To download the FORT Mobile SDK, click [here](#).

### 6.2 Create FORT Mobile SDK Token

A Mobile SDK token is required to authenticate every request sent to the SDK. The token is also significant to process payment operations in the FORT through our FORT Mobile SDK.



#### NOTE!

- A unique token should be created for each transaction. Each token has a life-time of only one hour if no new request from the same device is sent.

- The creation and initiation of a Mobile SDK token happens on the Merchant's server side.

### 6.3 FORT Mobile SDK Token URLs

Test Environment URL
<a href="https://sbpaymentservices.payfort.com/FortAPI/paymentApi">https://sbpaymentservices.payfort.com/FortAPI/paymentApi</a>

Production Environment URL
<a href="https://paymentservices.payfort.com/FortAPI/paymentApi">https://paymentservices.payfort.com/FortAPI/paymentApi</a>

### 6.4 Parameters Submission Type

REST POST request using JSON.

#### 6.4.1 FORT Mobile SDK Token Request Parameters

Include the following parameters in the Request you will send to PayFort:

FORT Mobile SDK Token Request Parameters							
Parameter Name	Type	Mandatory	Description	Length	Special Characters	Possible/ Expected Values	Example
service_command	Alpha	Yes	Command	20	-	SDK_TOKEN	

access_code	Alphanumeric	Yes	Access code.	20			zx0IPmPy 5jp1vAz8 Kpg7
merchant_id ntifier	Alphanumeric	Yes	The ID of the Merchant.	20			CycHZxVj
language	Alpha	Yes	The checkout page and messages language.	2		- en - ar	
device_id	Alphanumeric	Yes	A unique device identifier.	100	-		ffffff- a9fa- 0b44- 7b27- 29e7003 3c587
signature	Alphanumeric	Yes	A string hashed using the Secure Hash Algorithm. (More details are available in our <a href="#">PAYFORT Merchant Integration Guide</a> ).	200			7cad05f02 12ed933c 9a5d5dffa 31661acf2 c827a

## 6.4.2 FORT Mobile SDK Token Response Parameters

The following parameters will be returned in PayFort's Response:

FORT Mobile SDK Token Response Parameters					
Parameter Name	Type	Description	Length	Possible/ Expected Values	Example
service_command	Alpha	Command.	20	SDK_TOKEN	
access_code	Alphanumeric	Access code.	20		zx0IPmPy5jp 1vAz8Kpg7
merchant_identifier	Alphanumeric	The ID of the Merchant.	20		CycHZxVj
language	Alpha	The checkout page and messages language.	2	- en - ar	
device_id	Alphanumeric	The ID of the used device for this payment.	100		ffffff-a9fa- 0b44-7b27- 29e70033c58 7
signature	Alphanumeric	A string hashed using the Secure Hash Algorithm. (More details are available in our <a href="#">PAYFORT Merchant Integration Guide</a> ).	200		7cad05f0212 ed933c9a5d5 dfa31661acf 2c827a
sdk_token	Alphanumeric	An SDK token to enable using the FORT Mobile SDK.	100		Dwp78q3
response_message	Alphanumeric	Message description of the response code. It returns according to the request language.	150		Insufficient Funds
response_code	Numeric	Response Code carries the value of our system's response. *The code is made up of five digits, the first 2 digits refer to the <a href="#">statuses</a> , and the last 3 digits refer to the <a href="#">messages</a> .	5		20064
status	Numeric	A two-digit numeric value that indicates the status of the transaction.	2	(Please refer to section <a href="#">Statuses</a> in our Merchant Integration Guide).	



### NOTE!

Every parameter the Merchant sends in the Request should be received by the Merchant in the Response - even the optional ones.

## 7 Integrate the FORT Mobile SDK

To process a transaction using the FORT Mobile SDK, create a Mobile SDK token (Please refer to section [Create FORT Mobile SDK Token](#)) and proceed through the following sections.

### 7.1 IDE Configurations

To start using the FORT Mobile SDK, do the following:

1. Extract the folder found in [section 3.1](#)
2. Download SDK for Android.
3. Unzip the downloaded Android SDK.
4. The folder content is as follows:
  - Dependencies folder which includes:
    - Eclipse folder:
      - a. .jar files for the SDK dependencies.
      - b. LINKS\_README text file that contains a list for sources of the above jars and a list of required libraries to be added as dependencies as well (Manual configuration).
    - AndroidStudio\_gradle text file; add the compile command for what your project does not include.
  - Res folder which includes:
    - Layout
    - Layout-ar
  - FORTSDKv1.5.aar



#### NOTE!

Please make sure to read our notes according to the IDE you are using whether it's the [Eclipse](#) or [Android Studio](#).

#### 7.1.1 Android Studio

To continue the integration, please proceed with the following steps:

1. Go to File → New → New Module.
2. Select "Import .JAR/.AAR Package" and click next.
3. Enter the path to .aar file and click finish.
4. Browse to the dependencies folder and open the "AndroidStudio\_gradle" text file.
5. Copy and paste the implementation/ api lines that are NOT already supported in your dependency block. (All listed dependencies are required).
6. Sync the project with gradle files by clicking the  button.
7. Clean the project.
8. The SDK is now ready for your use.

## 7.1.2 Eclipse

Since you have extracted the .aar file, you are ready to start. The integration will include two main steps. For the first step, you need to create a library project by following the below steps:

1. Create a new project (from this time it's called "library project") in your workspace.
2. Do not forget to mark it as library.
3. Clear the src folder of the library project.
4. Unzip the .aar file. You can rename it to zip and then unzip it or use any tool.
5. Copy the classes.jar file to libs folder on the library project.
6. Replace the res folder on library project with the res folder of the .aar file.

The project you have created contains almost everything you need. Now let's start configuring your project to reference this library project by following the below points:

1. In the target project, use the library created in step one (mentioned above) as a dependency.
2. Open the AndroidManifest.xml file inside .aar file and make sure to copy everything it takes (permissions, activities, services, receivers ...) in the AndroidManifest.xml file of the target project.
3. Copy the entire contents (if any) inside the assets folder of the .aar file to the assets folder of the target project.
4. Copy the entire contents (if any) inside the libs folder of the .aar file to the libs folder of the target project.
5. Open the dependencies file → Eclipse, then copy all .jar files and add them to the libs folder of the target project.
6. Check if your target project has the project dependencies included in the LINKS\_README text file under the libraries [projects/aar]. Otherwise, use the links included in the previously mentioned file and add them as a dependency project on your target project.
7. Clean and rebuild your target project.

## 7.2 OS permissions

The FORT Mobile SDK requires the following permissions to work properly:

```
<uses-permission android:name="android.permission.INTERNET" />
<uses-permission android:name="android.permission.READ_PHONE_STATE" />
<uses-permission android:name="android.permission.ACCESS_NETWORK_STATE" />
```

## 7.3 Using the FORT Mobile SDK

### 7.3.1 Payment Process

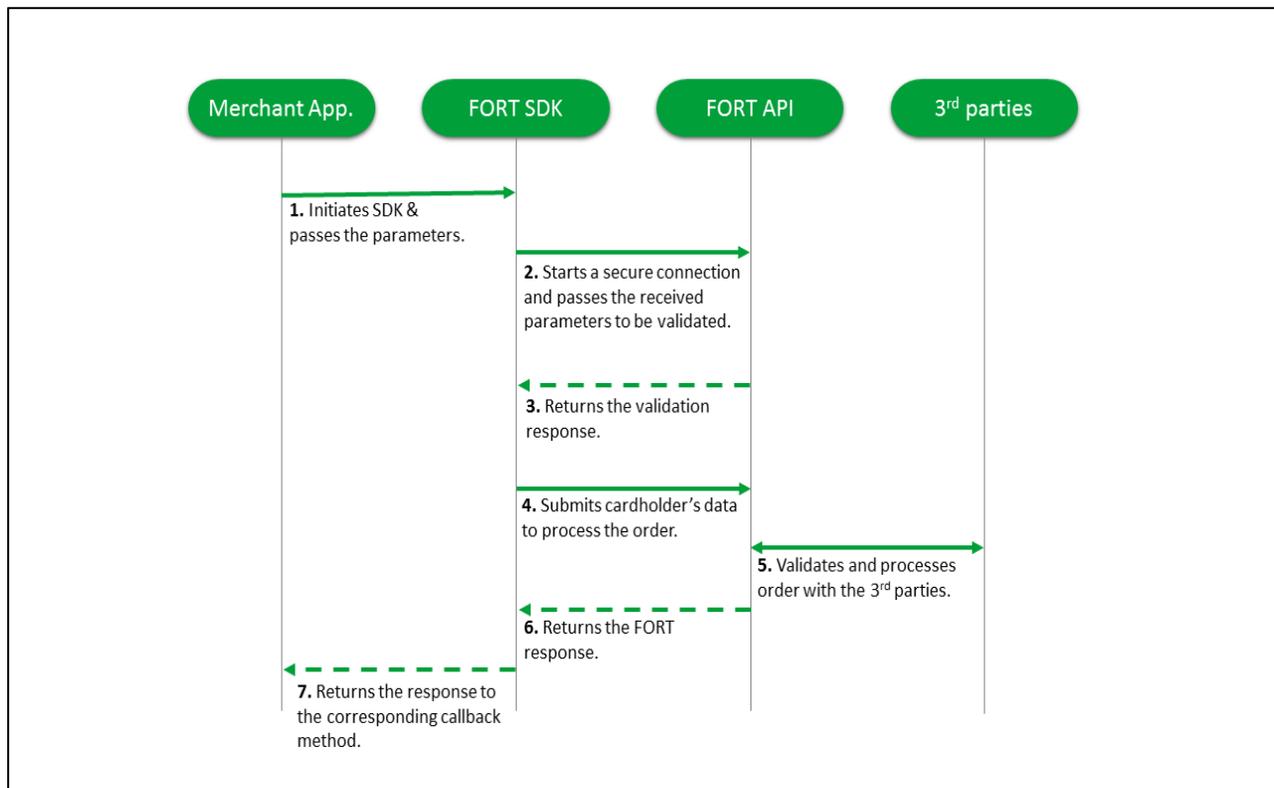


Figure 1: Payment Workflow

#### Workflow Description:

1. The Merchant's application initiates the FORT Mobile SDK and passes the parameters to the FORT Mobile SDK.
2. The FORT Mobile SDK starts a secure connection and passes the received parameters to the FORT API to be validated.
3. The FORT API returns the validation response.
4. The FORT Mobile SDK submits the cardholder's data to the FORT API to process the order.
5. The FORT API validates and processes the order with the third parties.
6. The FORT API returns the FORT response.
7. The FORT Mobile SDK returns the response to the corresponding callback method.

### 7.3.2 Collect the FORT Mobile SDK Request

The Java model/ bean of the FORT Mobile SDK request is as follows:

```
public class FortRequest implements Serializable{
private Map<String,Object> requestMap;
private boolean showResponsePage;
public Map<String, Object> getRequestMap() {
    return requestMap;
}
public void setRequestMap(Map<String, Object> requestMap) {
    this.requestMap = requestMap;
}
public boolean isShowResponsePage() {
    return showResponsePage;
}
public void setShowResponsePage(boolean showResponsePage) {
    this.showResponsePage = showResponsePage;
}
}
```

- The “requestMap” must contain all the FORT parameters of the order/ transaction. (Detailed information can be found in our PAYFORT Merchant Integration Guide).
- “showResponsePage” is the Boolean field where you can determine if you want the FORT response page to be displayed or not.

### 7.3.3 Define a Callback Manager

Define and initialize an instance of the FortCallBackManager in your activity as follows:

```
private FortCallBackManager fortCallback= null;
fortCallback =FortCallback.Factory.create();
```

### 7.3.4 Attach the Callback to the Activity

You need to add the following statement to the onActivityResult function as follows:

```
@Override
protected void onActivityResult(int requestCode, int resultCode, Intent data) {
    super.onActivityResult(requestCode, resultCode, data);
    fortCallback.onActivityResult(requestCode,resultCode,data);
}
```

### 7.3.5 Call the FORT Mobile SDK

For every transaction that needs to be processed, do the following call and handle the callback methods upon your business flow:

```
FortSdk.getInstance().registerCallback(this,fortRequest,5, fortCallback, showLoading, new
FortInterfaces.OnTnxProcessed() {
    @Override
    public void onCancel(Map<String, Object> requestParamsMap,Map<String, Object> responseMap) {
        //TODO: handle me
    }

    @Override
    public void onSuccess(Map<String, Object> requestParamsMap, Map<String, Object> fortResponseMap) {
        //TODO: handle me
    }

    @Override
    public void onFailure(Map<String, Object> requestParamsMap, Map<String, Object> fortResponseMap) {
        //TODO: handle me
    }
    @Override
    public void onSuccess(Map<String, Object> requestParamsMap, Map<String, Object> fortResponseMap) {
        //TODO: handle me
    }
});
```

The above code registers a new callback for a new request. The registerCallBack requires the following inputs:

```
public void registerCallback(
Activity context,
final FortRequest fortRequest,
String environment,
final int requestCode,
final FortCallBackManager callbackManager,
boolean showLoading,
final FortInterfaces.OnTnxProcessed callback)
```

### Mobile SDK Call Parameters

Parameter	Description
context	Passes the currency activity context.
fortRequest	An instance of the model mentioned in <a href="#">Collect the FORT Mobile SDK Request</a> section.
environment	This parameter used to determine whether the request is going to be submitted to the test or production environment. It has two possible values: <ul style="list-style-type: none"> <li>- ENVIRONMENT.TEST</li> <li>- ENVIRONMENT.PRODUCTION</li> </ul>
requestCode	A unique ID for this request
callBackManager	The instance defined in section <a href="#">Define a Callback Manager</a> .
showLoading	A Boolean flag to show or hide the loading dialog.
callback	A transaction callback listener that overrides the three callback options: <ul style="list-style-type: none"> <li>- <b>onCancel()</b>: called when the user cancels the payment by clicking the back button.</li> <li>- <b>onSuccess()</b>: called when the transaction is processed successfully.</li> <li>- <b>onFailure()</b>: called when the transaction is failed.</li> </ul>

### 7.3.6 FORT Mobile SDK Device ID Value

Please make sure to use the following FortSDK function to generate the device\_id parameter value that must be used for creating the sdk\_token from your business security server:

```
String device_id = FortSdk.getDeviceId(this);
```



#### NOTE!

The Merchant can choose to display the FORT response page by passing "showResponsePage" value as "True".

### 7.3.7 Customizing the Mobile SDK Payment Layout

We provide you with the res folder that includes the source code of the pages in order to customize the design, themes, etc. You can customize both English and Arabic layouts as needed. However, please take the following tips into consideration:

1. Don't change the layout name because it's considered an override process.
2. Make sure to use all the views that has the ID property in order to avoid the NullPointerException.
3. Redesign the view for portrait orientation. Note that Landscape orientation isn't supported.
4. You can support as much layout densities as you want.
5. Don't forget to redesign the layout-ar file too (right-to-left).
6. Don't change, rename, or remove onClick functions.

Our Mobile SDK v 1.5 consists one of the following three main activities design:

- activity\_cc\_payment.xml
- activity\_cc\_response.xml
- activity\_init\_secure\_conn

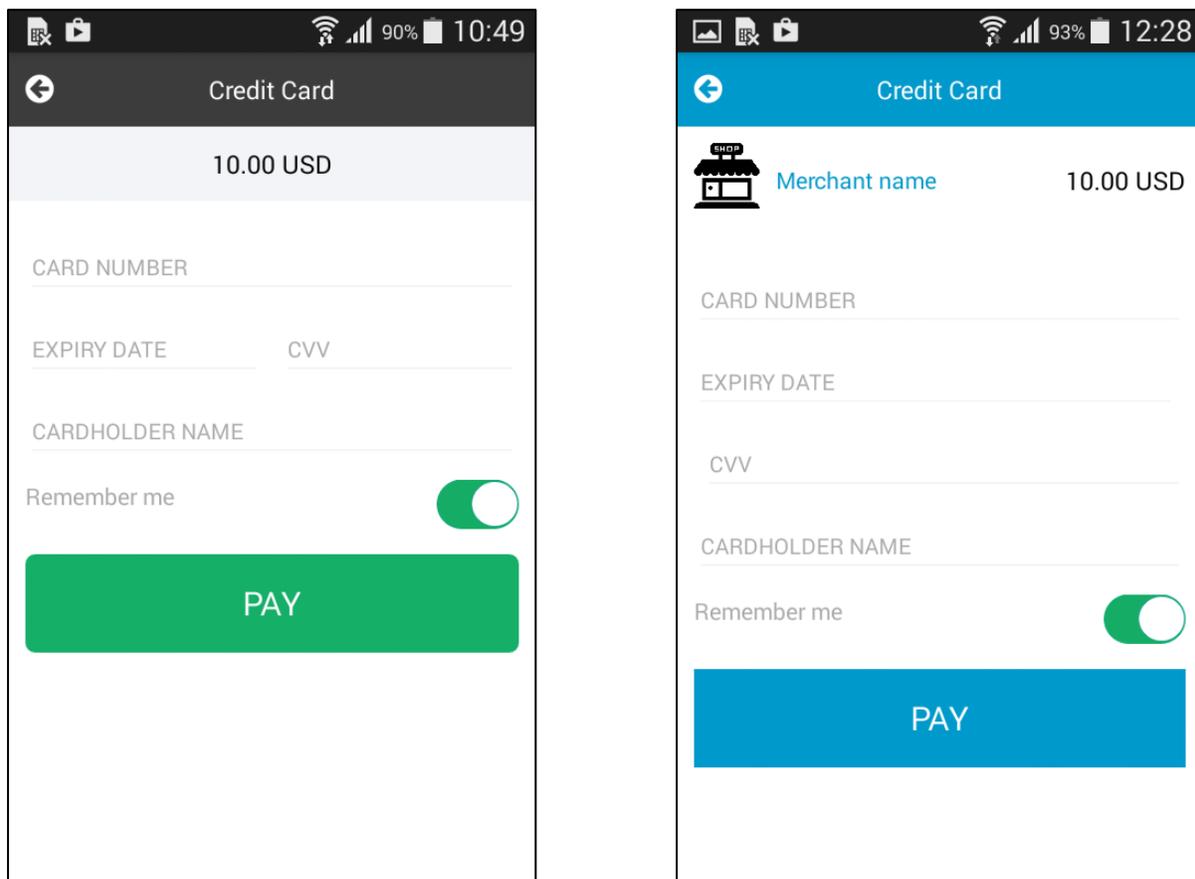
Every file is available for both English and Arabic alignments; layout and layout-ar.

**NOTE!**

The files *Hierarchy* and *Content* might change in our SDK's future versions.

**Customization example:**

The following image is the standard design and layout of the Mobile SDK Payment page:



**Figure 2:** Standard vs. Customized Mobile SDK Payment Page Design

**Design Customization Codes:**

The following code was used to customize the way the "Amount" is displayed in the Standard Mobile SDK Payment Page:

```
<TextView
    android:id="@+id/amountTV"
    android:layout_width="match_parent"
    android:layout_height="@dimen/pf_payment_type_header_height"
    android:background="@color/pf_light_gray"
    android:gravity="center_horizontal|center_vertical"
    android:textColor="@android:color/black"
    android:textSize="@dimen/pf_15_txt_size" />
```

The following code was used to customize the way the "Amount" is displayed in the Customized Mobile SDK Payment Page:

```
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:padding="10dp"
    android:background="@android:color/white">

<ImageView
    android:layout_width="40dp"
    android:layout_height="40dp"
    android:src="@drawable/merchant_logo"/>

<TextView
    android:fontFamily="sans-serif-medium"
    android:text="Merchant name"
    android:layout_margin="10dp"
    android:textColor="@android:color/holo_blue_dark"
    android:layout_width="wrap_content"
    android:layout_gravity="center_vertical"
    android:layout_height="wrap_content"
    android:src="@drawable/merchant_logo"/>

<TextView
    android:id="@+id/amountTV"
    android:layout_width="match_parent"
    android:layout_height="@dimen/pf_payment_type_header_height"
    android:gravity="right|center_vertical"
    android:textColor="@android:color/black"
    android:text="100 UDS"
    android:textSize="@dimen/pf_15_txt_size" />
```

```
</LinearLayout>
```

- As appears in the previous codes, elements with IDs haven't been changed in type or removed.  
For example: `android:id="@+id/amountTV"`.
- We were able to add static elements such as: "ImageView" element that contains the Merchant's logo, and "TextView" that contains the Merchant's name.
- To sum up, you can add any static elements or redesign the view, while keeping the views' elements used in the Standard layout that hold IDs.

**NOTE!**

- Make sure to retest your custom design, for example, by showing the error messages on fields and applying the changes to the Arabic layout. (Refer to the points mentioned under the [Customizing the Mobile SDK Payment Layout](#) section).

- The customized XML file should be added to the layout file in the target project (Merchant Application) to override the SDK file.

## 7.4 FORT Mobile SDK Operations

The **FORT Mobile SDK** allows the Merchant's application to process Authorization and Purchase operations.

### 7.4.1 Request Parameters

Include the following parameters in the Request you will send to the FORT SDK:

Request Parameters							
Parameter Name	Type	Mandatory	Description	Length	Special Characters	Possible/ Expected Values	Example
command	Alpha	Yes	Command.	20		- AUTHORIZATION - PURCHASE	
merchant_reference	Alphanumeric	Yes	The Merchant's unique order number.	40	- _ .		XYZ9239 -yu898
amount	Numeric	Yes	The transaction's amount. *Each currency has predefined allowed decimal points that should be taken into consideration when sending the amount.	10			10000
currency	Alpha	Yes	The currency of the transaction's	3			AED

			amount in ISO code 3.				
language	Alpha	Yes	The checkout page and messages language.	2		- en - ar	
customer_email	Alphanumeric	Yes	The customer's email.	254	- . @		customer@domain.com
sdk_token	Alphanumeric	Yes	An SDK token to enable using the FORT Mobile SDK.	100			Dwp78q3
token_name	Alphanumeric	No	The Token received from the Tokenization process.	100	. @ - _		Op9Vmp
payment_option	Alpha	No	Payment option.	10		- MASTERCARD - VISA - AMEX - MADA (for Purchase operations and eci Ecommerce only). <a href="#">Click here to download MADA branding document.</a> - MEEZA (for Purchase operations and ECOMMERCE eci only)	
eci	Alpha	No	E-commerce indicator.	16		ECOMMERCE	
order_description	Alphanumeric	No	A description of the order.	150	# , / . _ - : \$ Space		iPhone 6-S
customer_ip	Alphanumeric	No	It holds the customer's IP address.	45	.		192.178.1.10

			*It's Mandatory, if the fraud service is active.				
customer_name	Alpha	No	The customer's name.	40	— \ / - : ;		John Smith
phone_number	Alphanumeric	No	The customer's phone number.	19	+ - ( ) <b>Space</b>		0096279 7219966
settlement_reference	Alphanumeric	No	The Merchant submits this value to the FORT. The value is then passed to the Acquiring bank and displayed to the merchant in the Acquirer settlement file.	34	- — .		XYZ9239 -yu898
merchant_extra	Alphanumeric	No	Extra data sent by merchant. Will be received and sent back as received. Will not be displayed in any report.	999	. ; / — - , ' @		JohnSmith h
merchant_extra1	Alphanumeric	No	Extra data sent by merchant. Will be received and sent back as received. Will not be displayed in any report.	250	. ; / — - , ' @		JohnSmith h
merchant_extra2	Alphanumeric	No	Extra data sent by merchant. Will be received and sent back as received. Will not be displayed in any report.	250	. ; / — - , '		JohnSmith h

					@		
merchant_extra3	Alphanumeric	No	Extra data sent by merchant. Will be received and sent back as received. Will not be displayed in any report.	250	. ; / — - , ' @		JohnSmith h
merchant_extra4	Alphanumeric	No	Extra data sent by merchant. Will be received and sent back as received. Will not be displayed in any report.	250	. ; / — - , ' @		JohnSmith h
merchant_extra5	Alphanumeric	No	Extra data sent by merchant. Will be received and sent back as received. Will not be displayed in any report.	250	. ; / — - , ' @		JohnSmith h

**NOTE!**

Before sending the amount value of any transaction, you have to multiply the value with the currency decimal code according to ISO code 3.

For example: If the amount value was 500 AED; according to ISO code 3, you should multiply the value with 100 (2 decimal points); so it will be sent in the request as 50000.

Another example: If the amount value was 100 JOD; according to ISO code 3, you should multiply the value with 1000 (3 decimal points); so it will be sent in the request as 100000.

## 7.4.2 Response Parameters

The following parameters will be returned in the FORT SDK Response:

Response Parameters					
Parameter Name	Type	Description	Length	Possible/ Expected Values	Example
command	Alpha	Command.	20	- AUTHORIZATION - PURCHASE	
merchant_reference	Alphanumeric	The Merchant's unique order number.	40		XYZ2939 -yu898
amount	Numeric	The transaction's value. *The amount parameter is returned by our system according to the predefined allowed decimal points per currency.	10		10000
currency	Alpha	The currency of the transaction's amount in ISO code 3.	3		AED
customer_email	Alphanumeric	The customer's email.	254		customer @domain .com
fort_id	Numeric	The order's unique reference returned by our system.	20		1492954 3540008 4008
sdk_token	Alphanumeric	An SDK token to enable using the FORT Mobile SDK.	100		Dwp78q3
token_name	Alphanumeric	The Token received from the Tokenization process.	100		Op9Vmp
payment_option	Alpha	Payment option.	10	- MASTERCARD - VISA - AMEX - MADA (for Purchase operations and eci Ecommerce only). <a href="#">Click here to download MADA branding document.</a> - MEEZA (for Purchase operations and ECOMMERCE eci only)	
eci	Alpha	E-commerce indicator.	16	ECOMMERCE	
authorization_code	Alphanumeric	The authorization code returned from the 3rd party.	100		P100000 0000000 372136
order_description	Alphanumeric	It holds the description of the order.	150		iPhone 6-S

response_message	Alphanumeric	The message description of the response code; it returns according to the request language.	150		Insufficient Funds
response_code	Numeric	Response code carries the value of our system's response. *The code consists of five digits, the first 2 digits represent the response <a href="#">status</a> , and the last 3 digits represent the response <a href="#">message</a> .	5		20064
customer_ip	Alphanumeric	It holds the customer's IP address.	45		192.178.1.10
customer_name	Alpha	The customer's name.	40		John Smith
expiry_date	Numeric	The card's expiry date.	4		1705
card_number	Numeric	The masked credit card's number. *Only the MEEZA payment option takes 19 digits card number. *AMEX payment option takes 15 digits card number. *Otherwise, they take 16 digits card number.	16		400555** ****0001
status	Numeric	A two-digit numeric value that indicates the status of the transaction.	2	(Please refer to section <a href="#">statuses</a> ).	
phone_number	Alphanumeric	The customer's phone number.	19		0096279 7219966
settlement_reference	Alphanumeric	The Merchant submits this value to the FORT. The value is then passed to the Acquiring bank and displayed to the merchant in the Acquirer settlement file.	34		XYZ9239 -yu898
merchant_extra	Alphanumeric	Extra data sent by merchant. Will be received and sent back as received. Will not be displayed in any report.	999		JohnSmith
merchant_extra1	Alphanumeric	Extra data sent by merchant. Will be received and sent back as received. Will not be displayed in any report.	250		JohnSmith
merchant_extra2	Alphanumeric	Extra data sent by merchant. Will be received and sent back as received. Will not be displayed in any report.	250		JohnSmith
merchant_extra3	Alphanumeric	Extra data sent by merchant. Will be received and sent back as received. Will not be displayed in any report.	250		JohnSmith
merchant_extra4	Alphanumeric	Extra data sent by merchant. Will be received and sent back as	250		JohnSmith

		received. Will not be displayed in any report.			
merchant_extra5	Alphanumeric	Extra data sent by merchant. Will be received and sent back as received. Will not be displayed in any report.	250		JohnSmith

**NOTE!**

Every parameter the Merchant sends in the Request should be received by the Merchant in the Response - even the optional ones.

## 7.5 FORT Transaction Feedback

### 7.5.1 Overview

The FORT transaction Feedback system provides Merchants with two types of configurable notifications:

1. Direct Transaction Feedback, PayFort will send Merchants HTTPs notifications that inform Merchants of the transaction's final status whenever a transaction is processed.
2. Notification Transaction Feedback, PayFort will send Merchants HTTPs notifications that inform Merchants of the transaction's final status whenever a transaction status is updated.

### 7.5.2 Registering Transaction Feedback URLs

- 1 Log in to your back-office account.
- 2 Select the active channel under Integration Settings → Technical Settings.
- 3 Enter your Direct Transaction Feedback URL and Notification Transaction Feedback URL.
- 4 Click "Save Changes" button.

### 7.5.3 Transaction Feedback Implementation

The Transaction Feedback URL is required to send the Merchant the response parameters after processing the transaction on the Merchant's server side.

For the Direct Transaction Feedback, it sends the immediate payments response in all cases, like if the user closed the browser before getting redirected to the Redirection URL due to a drop in the internet connection or he closed the browser during the Redirection, the Merchant will create an endpoint which accepts the notifications received from PayFort side as POST Method.

For the Notification Transaction Feedback, it's required to provide the Merchant the transaction final status update whenever received, like if the Transaction was pending due to the unavailability for any party, the final update will be pushed to the Notification Feedback URL as POST Method.

Beyond whatever your Transaction Feedback URL does with the data received, it must also return a 2xx (like 200, 201, etc...) or 302 HTTP status code to update the FORT system that the notification was received. If your URL does not return 2xx or 302, the FORT will continue to retry the notification for 10 times with 10 seconds in between until it's properly acknowledged.

Beyond whatever your Transaction Feedback URL does with the data received, it must also return a 2xx (like 200, 201, etc...) or 302 HTTP status code to update the FORT system that the notification was received. If your URL does not return 2xx or 302, the FORT will continue to retry the notification for 10, times with 10 seconds in between until it's properly acknowledged.



#### NOTE!

- You can check the Direct and Notification Feedback logs in your PayFort back-office Account to check the details related to the submission like the Transaction Feedback URL which was triggered, The response which our FORT system pushed, The response Code and Status returned from your Transaction Feedback URL.

- The specifics of the data will differ based upon the financial operation that has been processed. Please refer to the FORT integration guide for more details.
- If you want to change the submission type to JSON or XML, you can contact us on [integration@payfort.com](mailto:integration@payfort.com).
- If you want to change the grace period or the time interval between the retries please contact us on [integration@payfort.com](mailto:integration@payfort.com).

## 7.6 Sample Code

```
public class PayFortSdkSample extends Activity {

    private FortCallBackManager fortCallback = null;
    String deviceId = "", sdkToken = "";

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        // create Fort callback instance
        fortCallback = FortCallback.Factory.create();

        // Generating deviceId
        deviceId = FortSdk.getDeviceId(PayFortSdkSample.this);
        Log.d("DeviceId ", deviceId);

        // prepare payment request
        FortRequest fortrequest = new FortRequest();
        fortrequest.setRequestMap(collectRequestMap("PASS_THE_GENERATED_SDK_TOKEN_HERE"));
        fortrequest.setShowResponsePage(true); // to [display/use] the SDK response page

        // execute payment request
        callSdk(fortrequest);
    }

    private Map<String, Object> collectRequestMap(String sdkToken) {
        Map<String, Object> requestMap = new HashMap<>();
        requestMap.put("command", "PURCHASE");
        requestMap.put("customer_email", "Sam@gmail.com");
        requestMap.put("currency", "SAR");
        requestMap.put("amount", "100");
    }
}
```

```

requestMap.put("language", "en");
requestMap.put("merchant_reference", "ORD-0000007682");
requestMap.put("customer_name", "Sam");
requestMap.put("customer_ip", "172.150.16.10");
requestMap.put("payment_option", "VISA");
requestMap.put("eci", "ECOMMERCE");
requestMap.put("order_description", "DESCRIPTION");
requestMap.put("sdk_token", sdkToken);
return requestMap;
}

private void callSdk(FortRequest fortrequest) {

    try {
        FortSdk.getInstance().registerCallback(PayFortSdkSample.this, fortrequest,
FortSdk.ENVIRONMENT.TEST, 5, fortCallback, new FortInterfaces.OnTnxProcessed() {
            @Override
            public void onCancel(Map<String, Object> requestParamsMap, Map<String,
                Object> responseMap) {
                //TODO: handle me
                Log.d("Cancelled ", responseMap.toString());
            }

            @Override
            public void onSuccess(Map<String, String> requestParamsMap, Map<String,
                Object> fortResponseMap) {
                //TODO: handle me
                Log.i("Success ", fortResponseMap.toString());
            }

            @Override
            public void onFailure(Map<String, String> requestParamsMap, Map<String,
                Object> fortResponseMap) {
                //TODO: handle me
                Log.e("Failure ", fortResponseMap.toString());
            }

        });
    } catch (Exception e) {
        Log.e("execute Payment", "call FortSdk", e);
    }
}

@Override
public void onActivityResult(int requestCode, int resultCode, Intent data) {

```

```
super.onActivityResult(requestCode, resultCode, data);
fortCallback.onActivityResult(requestCode, resultCode, data);
}
```