PayPal Express Checkout Integration Demo Using Android Custom Chrome Tabs

Version – 3.0

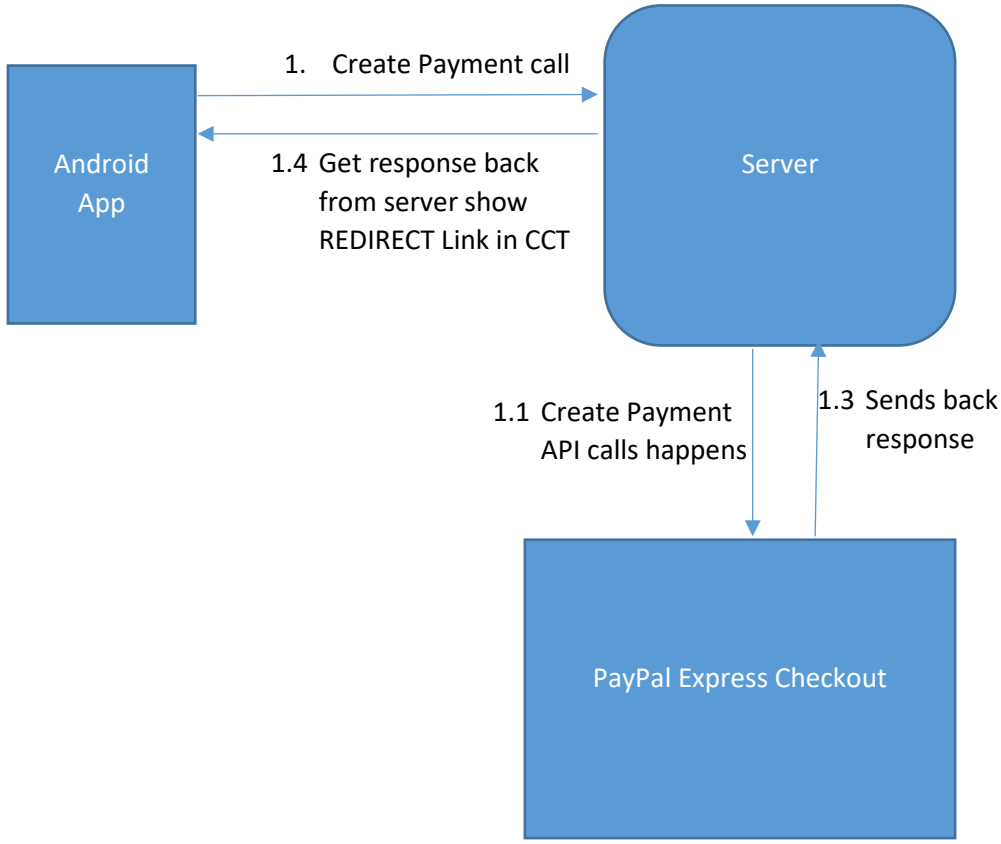
Reviewed By	Role	Dated
Rajesh Narayanan	Integration Architect	
Rajeev Gupta	Manager	
Santhosh Nelson	Developer	20/11/2017

Synopsis

This Android app will showcase PayPal Express Checkout using Rest API with Custom Chrome Tab (CCT). For the demo purpose, a NodeJS server is developed to consume the data from app and make appropriate API calls to PayPal Express Checkout API and to return the response data to app.

For this demo, we have hosted the server in c9 server and the code of this sample server is provided below. It is expected that the Merchants should have some similar server setup.

Flow Diagram



1.	Send Product details to Server to initiate the create payment API call. Product object send from mobile app to server, server should transform the product object into a Payload object, which is used to make create payment API call.
1.1	From server initiate your create payment API call with your product object as described in PayPal create Payment API Document
1.3	PayPal will return an response with Pay ID and other information needed for the subsequent calls.

1.4	Create Payment API call if successful will contain PAY ID and Links array object, this array will contain an object with method key as REDIRECT e.g.
	{
	"href": "https://api.sandbox.paypal.com/v1/payments//cgi-bin/webscr?cmd=_express-checkout&token=EC-60385559L1062554J",
	"rel": "approval_url",
	"method": "**REDIRECT**"
	}

2.	In the above response REDIRECT link is fetched from Links Object array and shown in the Chrome Custom tab, this will show the chrome intent and will continue the PayPal flow to authorize the payment
2.2	Once the payment is authorized, PayPal will redirect the control to the RETURN URL mentioned in the Create Payment Payload object. This is a user defined callback, normally once the callback is received, merchants can preprocess any payment information for their records and will fire the Execute Payment API call
2.3	Once the Execute Payment API call is complete ***merchants server should handle the response*** and should send back the results to mobile app
	In order to send back response from the server to the android app, AndroidManifest.xml should be configured as below:

Add Chrome Custom Tab Dependencies

In your android app open build.gradle and in the dependencies section add the chrome custom tab dependencies

```
compile 'com.android.support:customtabs:25.2.0'
```

Recompile/ Re-run the project in order for android studio to download the dependencies

Note: The version of the custom tab should satisfy your build version.

Once the dependencies are downloaded then use the following snippet to open any external link to open in Chrome Custom Tab

```
CustomTabsIntent.Builder builder = new CustomTabsIntent.Builder();
CustomTabsIntent customTabsIntent = builder.build();
customTabsIntent.intent.setData(Uri.parse(url));
startActivityForResult(customTabsIntent.intent, CHROME_CUSTOM_TAB_REQUEST_CODE);
```

Replace url with the actual url to be opened in CCT

Sending back response from server to Android activity

1. Decide which activity should be notified for success response and error response
2. In Android Manifest declare the success / failure activity

```
<!--Actvity to open once the execute payments api is completed-->
        <activity android:name=".ProcessComplete">
            <intent-filter>
                <action android:name="android.intent.action.VIEW" />
                <category android:name="android.intent.category.DEFAULT" />
                <category android:name="android.intent.category.BROWSABLE" />
                <data android:scheme="com.example.paypalcustomtabdemo"/>
            </intent-filter>
        </activity>
```

3. Declare your package name in android scheme
4. In your server side code handle the app redirect in JavaScript as below
   (refer https://github.com/santhoshlfms/Android_PayPal_EC_NodeJs_Server_Sample.git)

   In Success Html add html Refresh meta (*<meta name="url" http-equiv="Refresh" content="5; url=* com.example.paypalcustomtabdemo:/success/paymentId/payerId*>)*

   --- *this will ensure that redirect happens in case user use chrome with version 71 and above*

5. As a fallback*(for user with older version of chrome)* add a Button in success html which redirects to the app on user interaction.

```
<input type="button" class="btn btn-primary" onclick="RedirectSuccess();" name="ok"
id="successButton" value="Continue to App"  />

function RedirectSuccess() {
            window.location = "com.example.paypalcustomtabdemo:/success
document.querySelector('meta[name="url"]').setAttribute("url",
"com.example.paypalcustomtabdemo:/success/"+qs("id")+"/"+qs("payerId")); -- DYNAMIC META UPDATE
 }
 function RedirectCancel() {
        window.location="com.example.paypal_ec_customtab_demo:/cancel";
}
```

Note: You can pass any no of params to the above redirect as below

```
window.location = "com.example.paypalcustomtabdemo:/success/param1/param2/ …
```

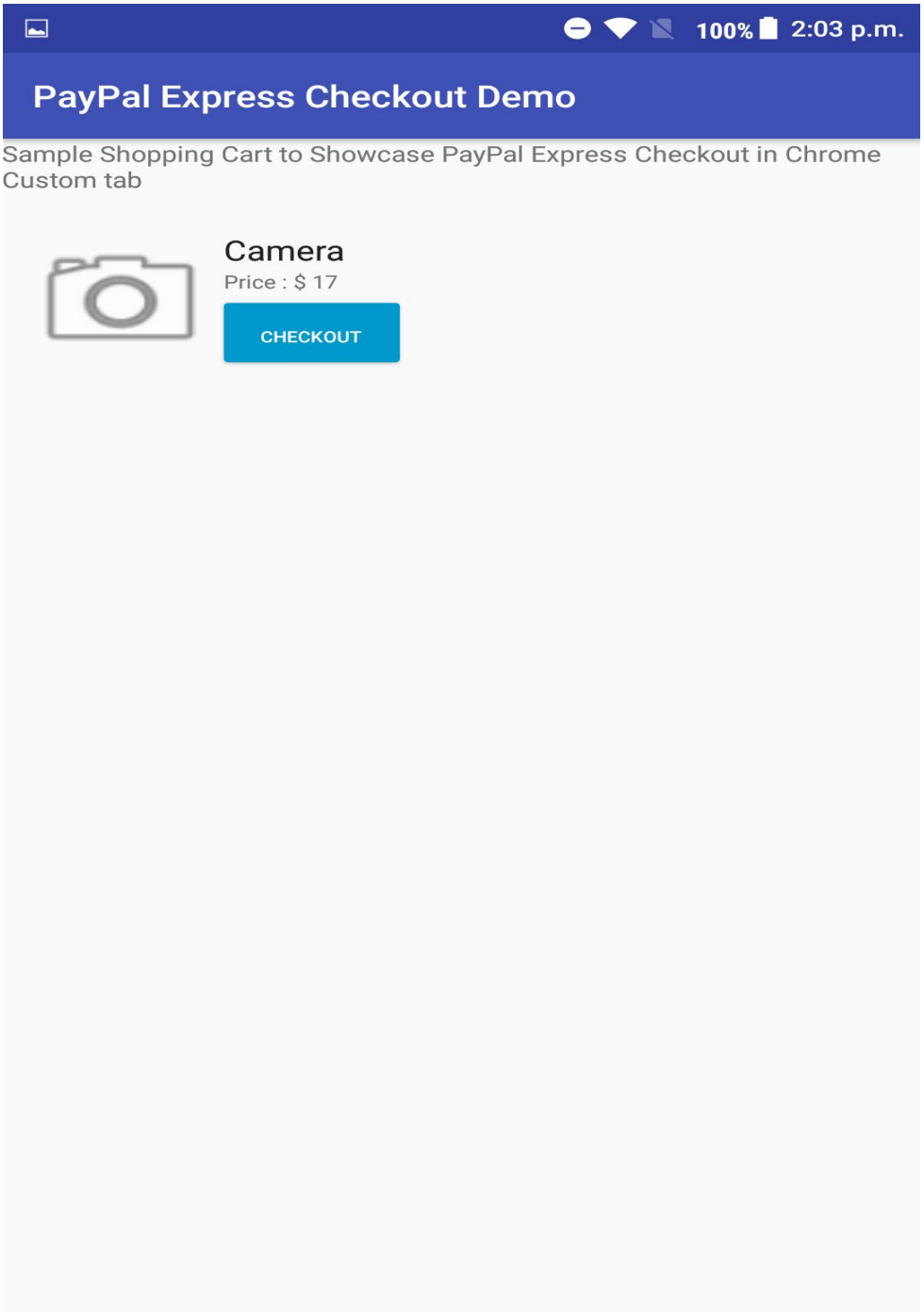
Steps to run the demo:

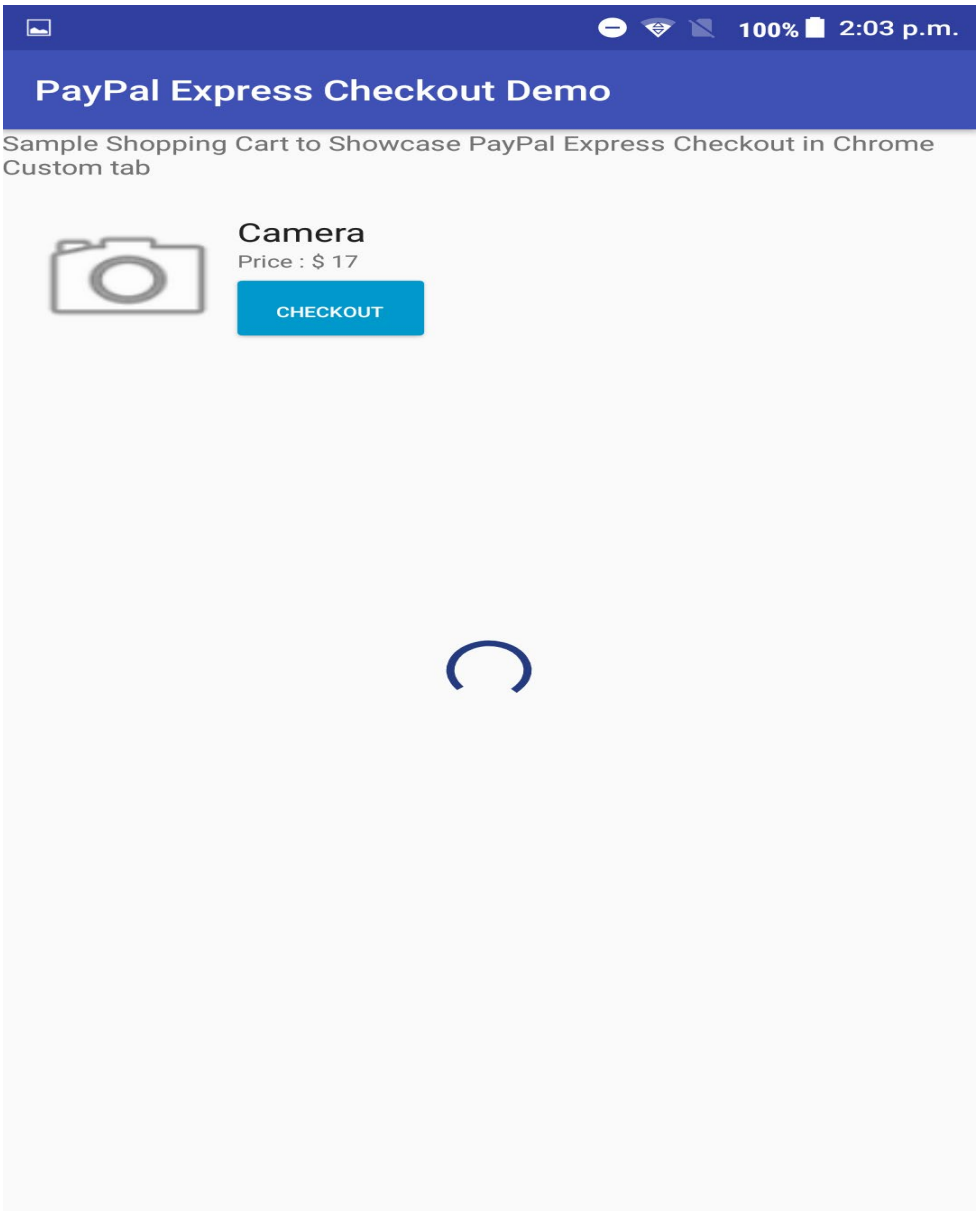
1. Clone the android app repository to your local machine
2. Open the project from Android Studio.
3. Connect your device via usb, Run – Run App will deploy the app to your android device
4. Click Blue Checkout button, this will initiate create payments and PayPal Flow will continue

Source Code Links

#	Source Code	Links
1	Android Demo Source code	https://github.paypal.com/sannelson/Android_PayPal_EC_CustomTab_Demo.git
2	NodeJS Server Sample	https://github.com/santhoshlfms/Android_PayPal_EC_NodeJs_Server_Sample.git
3	Heroku App	https://node-paypal-express-sever.herokuapp.com/

Screencast


100% 2:03 p.m.
PayPal Express Checkout Demo
Sample Shopping Cart to Showcase PayPal Express Checkout in Chrome Custom tab
Camera
Price : $ 17
CHECKOUT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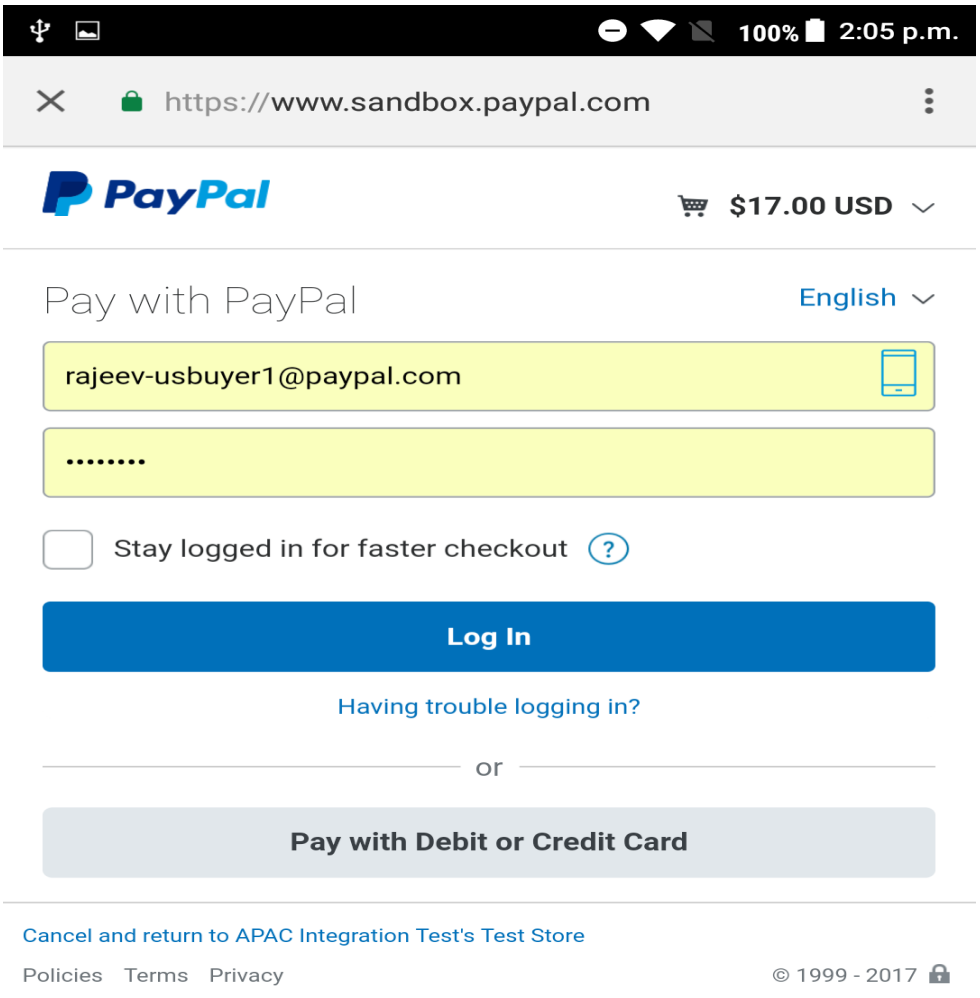
CHECKOUT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https://www.sandbox.paypal.com
PayPal
$17.00 USD
Pay with PayPal
English
rajeev-usbuyer1@paypal.com
Stay logged in for faster checkout
Log In
Having trouble logging in?
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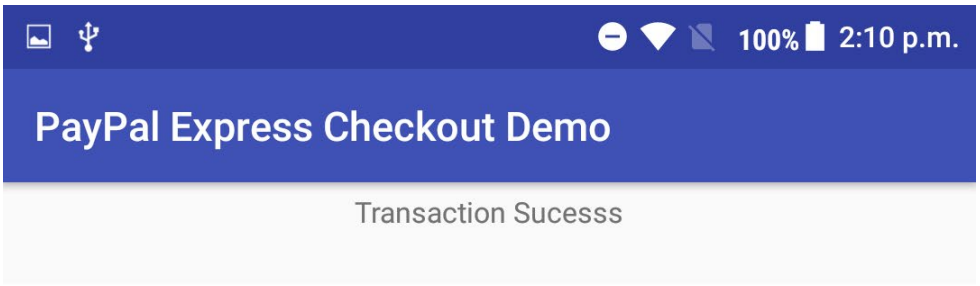


```
{
    "id": "PAY-2LM84160JS5712729LIJ6MOA",
    "intent": "sale",
    "state": "approved",
    "cart": "1KC937813M338831D",
    "payer": {
        "payment_method": "paypal",
        "status": "VERIFIED",
        "payer_info": {
            "email": "rajeev-usbuyer1@paypal.com",
            "first_name": "Rajeev",
            "last_name": "Gupta",
            "payer_id": "6P3F9C68385MQ",
            "shipping_address": {
                "recipient_name": "Rajeev Gupta",
                "line1": "1 Main St",
                "city": "San Jose",
                "state": "CA",
                "postal_code": "95131",
                "country_code": "US"
            },
            "phone": "4089429093",
            "country_code": "US"
        }
    },
```