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學習

PayPal

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#paypal

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1: PayPal

◦ PayPal API◦

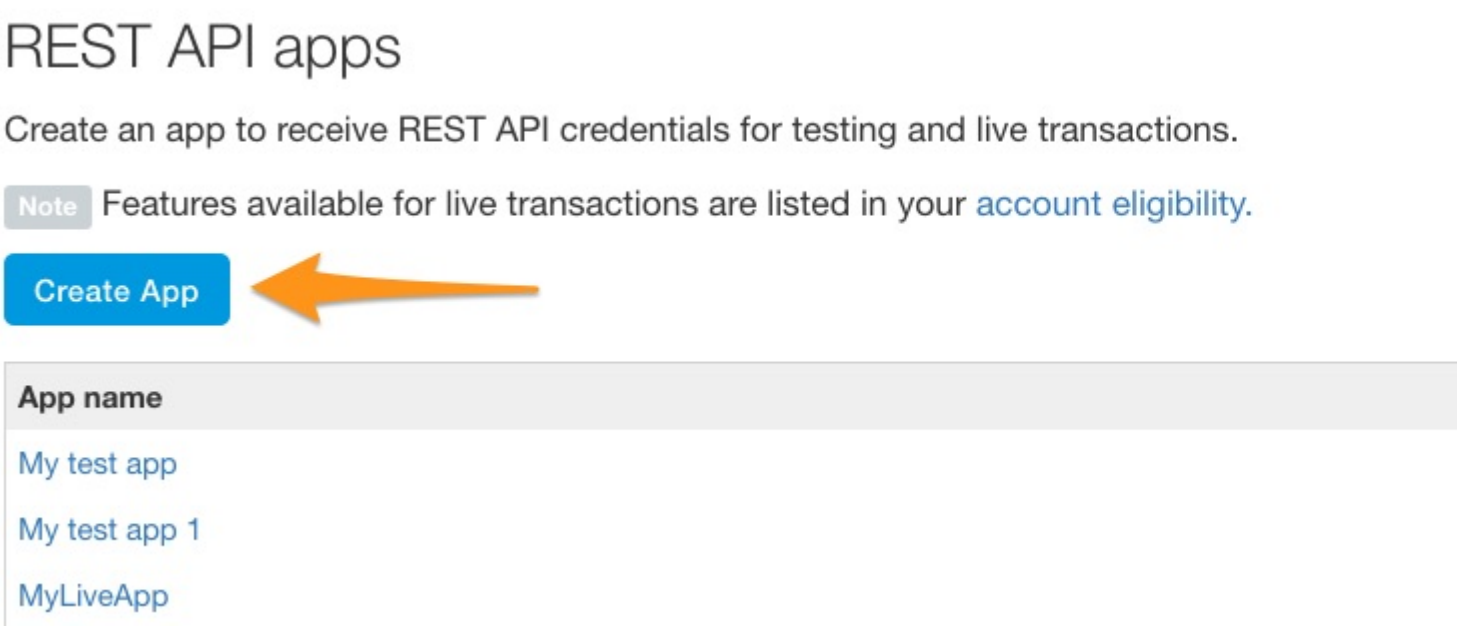
1.0.0	2016411

Examples

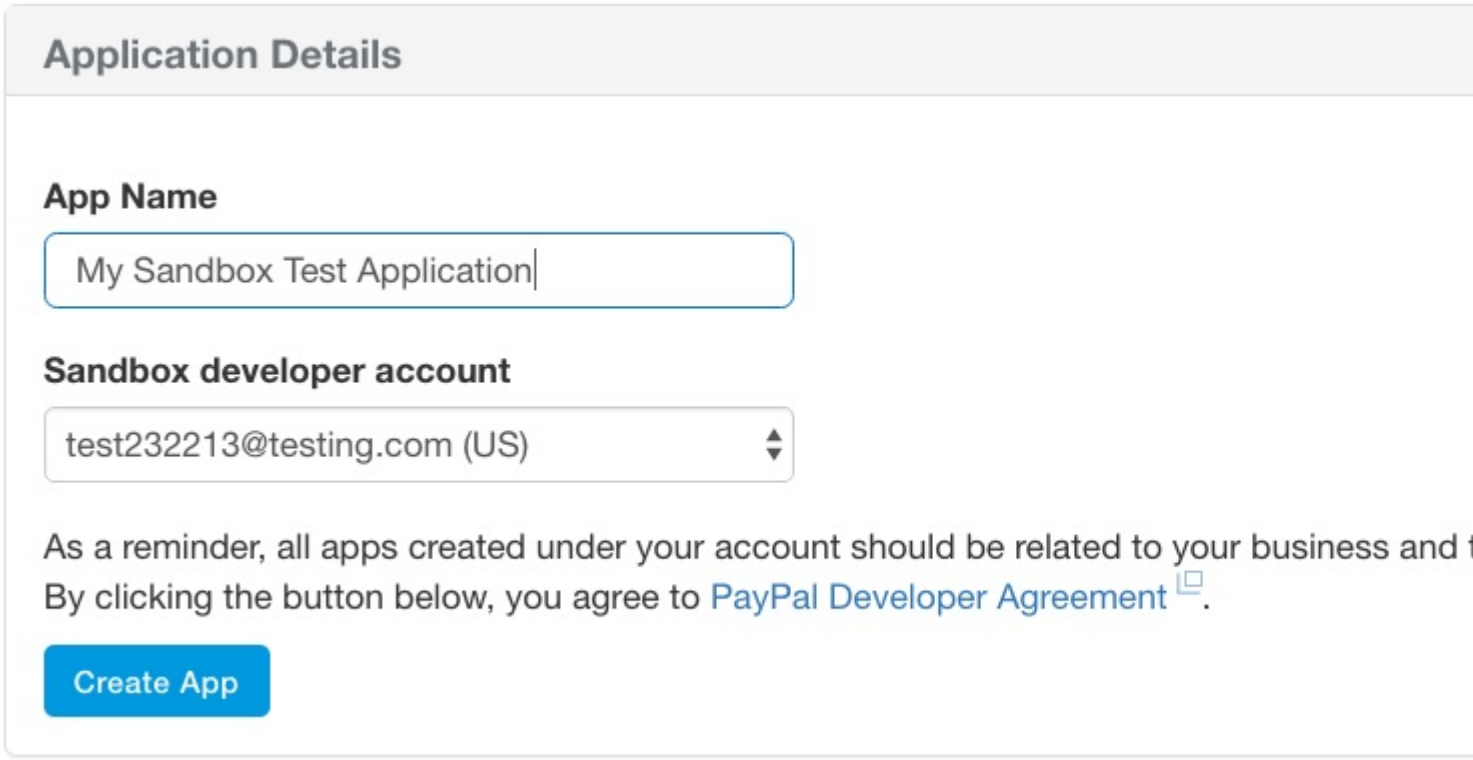
ID /

PayPal APIID◦

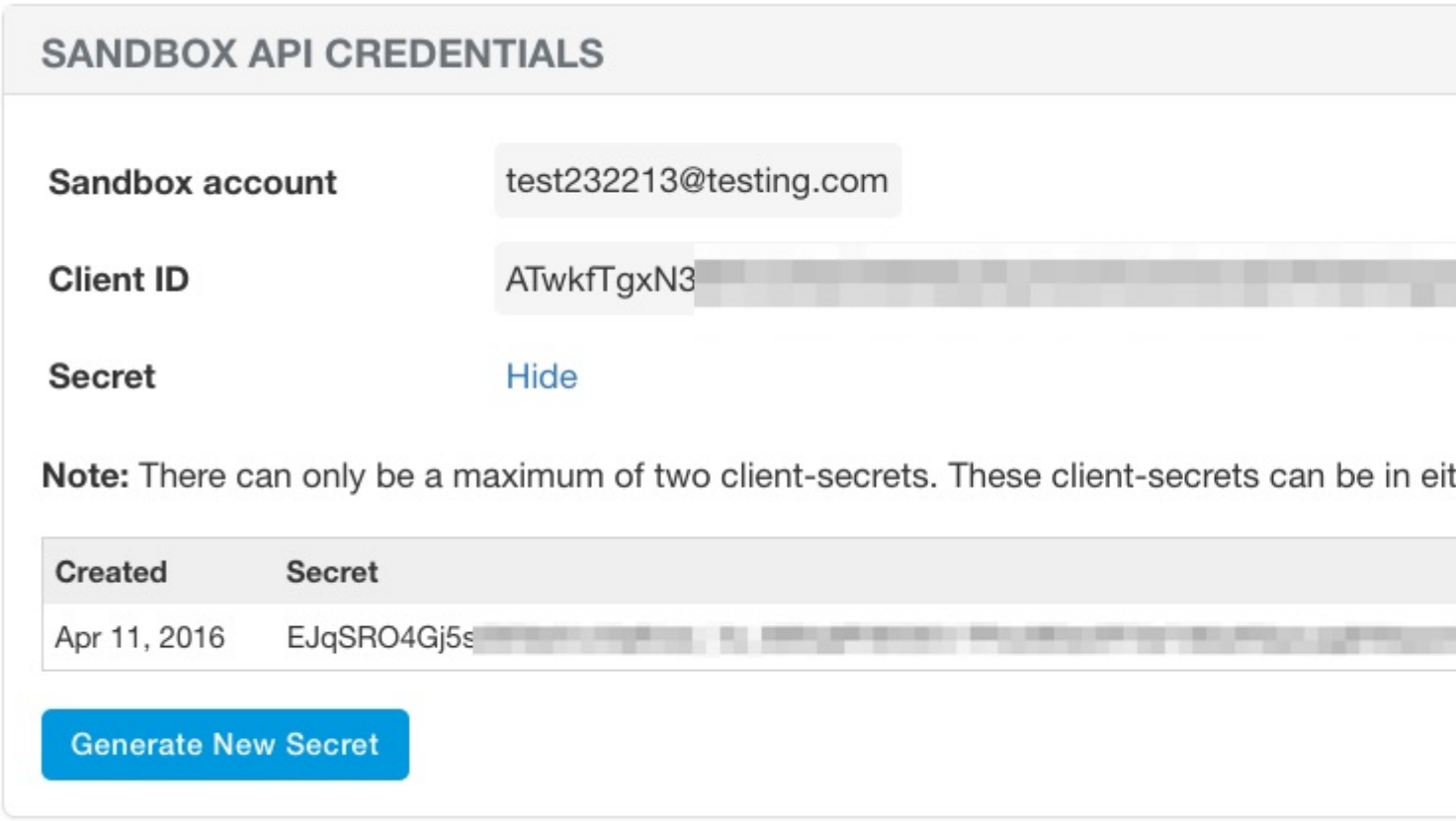
https://developer.paypal.com/developer/applications/ “”



“”◦



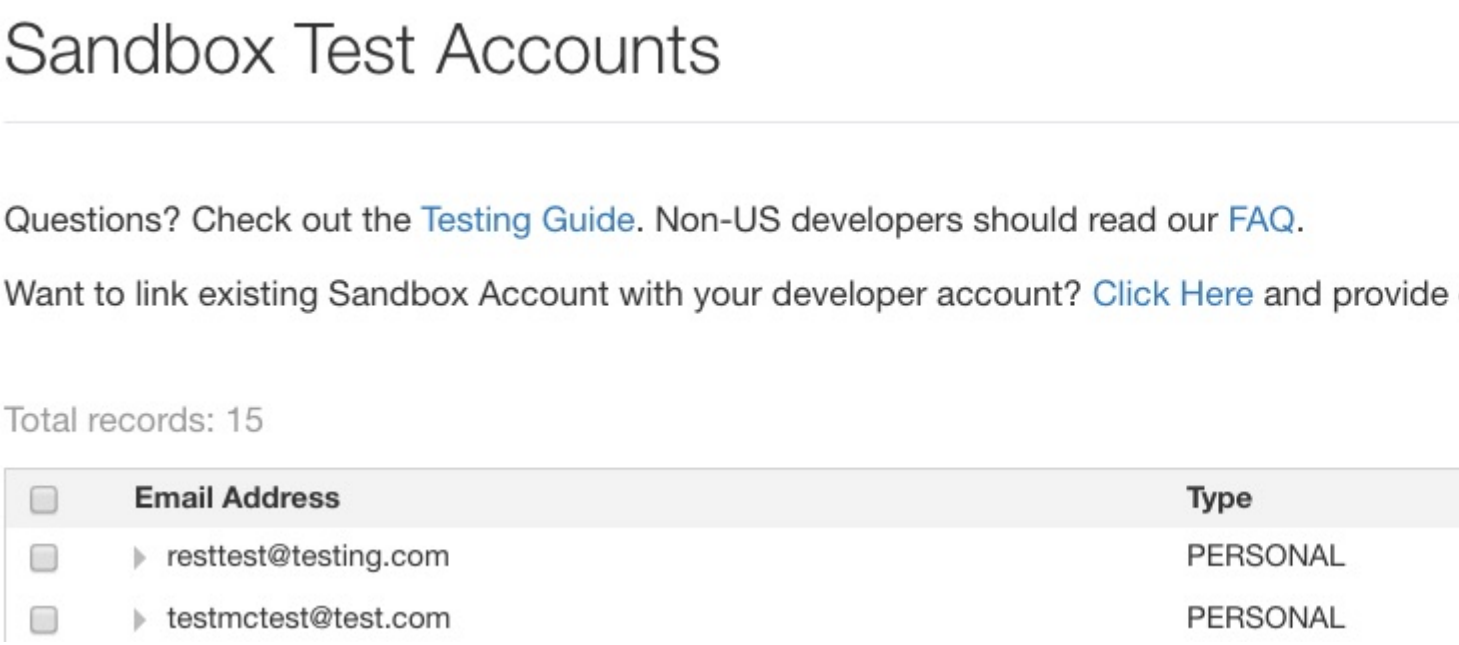
ID



PayPal API。

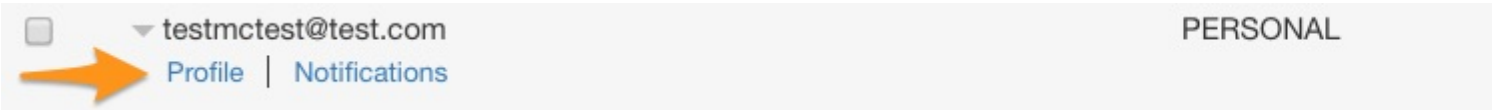
PayPal。

https://developer.paypal.com/developer/accounts/ PayPal“”



“”。。

“”。



“”。

API。

PayPal https://riptutorial.com/zh-TW/paypal/topic/406/paypal

2: /

billingAgreementAttributes	
billingPlan	ID
billingPlanAttribs	
billingPlanUpdateAttributes	
clientId	IDOAuth
HTTP	http
isoDate	ISO
	HATEOASURLPayPal
PARAMS	
	PayPal SDK
	OAuth
	PayPal

PayPal/。

1. 。 。
2. 。
3. ID。
4. PayPal。 。
5. 。

Examples

2

。 ID。

3PayPal

1. ID。
2. PayPalPayPal。 PayPal。
3. PayPal。

ExpressHTTP。

。 SDK `body-parser`JSON `httpexpress`。 IDSDKbodyParserJSON。

```
var paypal = require('paypal-rest-sdk'),
    bodyParser = require('body-parser'),
    http = require('http'),
    app = require('express')();

var clientId = 'YOUR APPLICATION CLIENT ID';
var secret = 'YOUR APPLICATION SECRET';

paypal.configure({
  'mode': 'sandbox', //sandbox or live
  'client_id': clientId,
  'client_secret': secret
});

app.use(bodyParser.json());
```

PayPal。IDIDURL

```
http://localhost:3000/createagreement?plan=P-3N543779E9831025ECYGDNVQ
```

。

```
app.get('/createagreement', function(req, res){
    var billingPlan = req.query.plan;

    var isoDate = new Date();
    isoDate.setSeconds(isoDate.getSeconds() + 4);
    isoDate.toISOString().slice(0, 19) + 'Z';

    var billingAgreementAttributes = {
        "name": "Standard Membership",
        "description": "Food of the World Club Standard Membership",
        "start_date": isoDate,
        "plan": {
            "id": billingPlan
        },
        "payer": {
            "payment_method": "paypal"
        },
        "shipping_address": {
            "line1": "W 34th St",
            "city": "New York",
            "state": "NY",
            "postal_code": "10001",
            "country_code": "US"
        }
    };

    // Use activated billing plan to create agreement
    paypal.billingAgreement.create(billingAgreementAttributes, function (error,
billingAgreement){
        if (error) {
            console.error(error);
```

```
            throw error;
        } else {
            //capture HATEOAS links
            var links = {};
            billingAgreement.links.forEach(function(linkObj){
                links[linkObj.rel] = {
                    'href': linkObj.href,
                    'method': linkObj.method
                };
            })

            //if redirect url present, redirect user
            if (links.hasOwnProperty('approval_url')){
                res.redirect(links['approval_url'].href);
            } else {
                console.error('no redirect URI present');
            }
        }
    });
});
```

ID。

`billingAgreementAttributes`。 ID。

`billingAgreement.create(...)` `billingAgreementAttributes`。 。 HATEOAS。 `approval_url` 。

。 `approval_url`PayPal。

PayPalURL。 URLPayPal。 。

。

```
app.get('/processagreement', function(req, res){
    var token = req.query.token;

    paypal.billingAgreement.execute(token, {}, function (error, billingAgreement) {
        if (error) {
            console.error(error);
            throw error;
        } else {
            console.log(JSON.stringify(billingAgreement));
            res.send('Billing Agreement Created Successfully');
        }
    });
});
```

`billingAgreement.execute` 。 。 。

HTTP。

```
//create server
http.createServer(app).listen(3000, function () {
   console.log('Server started: Listening on port 3000');
});
```

1

。。

PayPal Node SDK。NPM

```
npm install paypal-rest-sdk
```

.jsSDKSDKIDSDK。

```
var paypal = require('paypal-rest-sdk');

var clientId = 'YOUR CLIENT ID';
var secret = 'YOUR SECRET';

paypal.configure({
  'mode': 'sandbox', //sandbox or live
  'client_id': clientId,
  'client_secret': secret
});
```

JSON。 `billingPlanAttribs` `billingPlanUpdateAttributes`。

```
var billingPlanAttribs = {
    "name": "Food of the World Club Membership: Standard",
    "description": "Monthly plan for getting the t-shirt of the month.",
    "type": "fixed",
    "payment_definitions": [{
        "name": "Standard Plan",
        "type": "REGULAR",
        "frequency_interval": "1",
        "frequency": "MONTH",
        "cycles": "11",
        "amount": {
            "currency": "USD",
            "value": "19.99"
        }
    }],
    "merchant_preferences": {
        "setup_fee": {
            "currency": "USD",
            "value": "1"
        },
        "cancel_url": "http://localhost:3000/cancel",
        "return_url": "http://localhost:3000/processagreement",
        "max_fail_attempts": "0",
        "auto_bill_amount": "YES",
        "initial_fail_amount_action": "CONTINUE"
    }
};

var billingPlanUpdateAttributes = [{
    "op": "replace",
    "path": "/",
    "value": {
        "state": "ACTIVE"
```

```
    }
}];
```

billingPlanAttribs

- **name / description / type** 。
- **payment_definitions** 。 。
- **merchant_preferences** URL。 。

。

```
paypal.billingPlan.create(billingPlanAttribs, function (error, billingPlan){
    if (error){
        console.log(error);
        throw error;
    } else {
        // Activate the plan by changing status to Active
        paypal.billingPlan.update(billingPlan.id, billingPlanUpdateAttributes, function(error,
response){
            if (error) {
                console.log(error);
                throw error;
            } else {
                console.log(billingPlan.id);
            }
        });
    }
});
```

billingPlan.create(...) billingPlanAttribs。 。 ID。

billingPlan.update(...) IDbillingPlanUpdateAttributes。 。

IDbillingPlan.id 。

。

/ https://riptutorial.com/zh-TW/paypal/topic/467/-

3: PayPal /

	PayPalID
	PayPal
paymentConfig	
serviceConfig	

Examples

AndroidPayPal /

PayPal Android SDKPayPal。 PayPal。

PayPal Developer Github。

。

SDK 。 build.gradle

```
dependencies {
    compile 'com.paypal.sdk:paypal-android-sdk:2.14.1'
    ...
}
```

MainActivity.javaPayPalIDconfig。

```
private static PayPalConfiguration config = new PayPalConfiguration()
    .environment(PayPalConfiguration.ENVIRONMENT_SANDBOX)
    .clientId("YOUR CLIENT ID");
```

onCreate(...)PayPal。

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

    final Button button = (Button) findViewById(R.id.paypal_button);
}
```

。 res> layout> main XMLpaypal_button IDonClick。

```
<Button android:id="@+id/paypal_button"
```

```
    android:layout_height="wrap_content"
    android:layout_width="wrap_content"
    android:text="@string/paypal_button"
    android:onClick="beginPayment" />
```

`beginPayment(...)`。 strings.xml

```
<string name="paypal_button">Pay with PayPal</string>
```

。 `onCreate(...)beginPayment(...)` `onCreate(...)`。

```
public void beginPayment(View view){
    Intent serviceConfig = new Intent(this, PayPalService.class);
    serviceConfig.putExtra(PayPalService.EXTRA_PAYPAL_CONFIGURATION, config);
    startService(serviceConfig);

    PayPalPayment payment = new PayPalPayment(new BigDecimal("5.65"),
        "USD", "My Awesome Item", PayPalPayment.PAYMENT_INTENT_SALE);

    Intent paymentConfig = new Intent(this, PaymentActivity.class);
    paymentConfig.putExtra(PayPalService.EXTRA_PAYPAL_CONFIGURATION, config);
    paymentConfig.putExtra(PaymentActivity.EXTRA_PAYMENT, payment);
    startActivityForResult(paymentConfig, 0);
}
```

ID`config` `serviceConfig`。 。 。 。 `paymentConfig` `configpayment`。

PayPalPayPalcard.io。

PayPal。 `onActivityResult(...)` 。

```
@Override
protected void onActivityResult (int requestCode, int resultCode, Intent data){
    if (resultCode == Activity.RESULT_OK){
        PaymentConfirmation confirm = data.getParcelableExtra(
            PaymentActivity.EXTRA_RESULT_CONFIRMATION);
        if (confirm != null){
            try {
                Log.i("sampleapp", confirm.toJSONObject().toString(4));

                // TODO: send 'confirm' to your server for verification

            } catch (JSONException e) {
                Log.e("sampleapp", "no confirmation data: ", e);
            }
        }
    } else if (resultCode == Activity.RESULT_CANCELED) {
        Log.i("sampleapp", "The user canceled.");
    } else if (resultCode == PaymentActivity.RESULT_EXTRAS_INVALID) {
        Log.i("sampleapp", "Invalid payment / config set");
    }
}
```

`onActivityResult(...)` `resultCode`RESULT_OKRESULT_CANCELEDRESULT_EXTRAS_INVALID

。 。

```
{
    "client": {
        "environment": "sandbox",
        "paypal_sdk_version": "2.14.1",
        "platform": "Android",
        "product_name": "PayPal-Android-SDK"
    },
    "response": {
        "create_time": "2016-05-02T15:33:43Z",
        "id": "PAY-0PG63447RB821630KK1TXGTY",
        "intent": "sale",
        "state": "approved"
    },
    "response_type": "payment"
}
```

responsestateapproved state ◦ ◦ ◦

onDestroy(...)◦

```
@Override
public void onDestroy(){
    stopService(new Intent(this, PayPalService.class));
    super.onDestroy();
}
```

◦ PayPal◦

- beginPayment(...)beginPayment(...)◦
- ◦
- ◦

PayPal / https://riptutorial.com/zh-TW/paypal/topic/608/paypal--

4:

AndroidPayPal。

Examples

Android1

PayPal Developer GithubAndroid +。

AndroidNode。

PayPalConfiguration。

```
private static PayPalConfiguration config = new PayPalConfiguration()
        .environment(PayPalConfiguration.ENVIRONMENT_SANDBOX)
        .clientId("YOUR APPLICATION CLIENT ID")
        .merchantName("My Store")
        .merchantPrivacyPolicyUri(Uri.parse("https://www.example.com/privacy"))
        .merchantUserAgreementUri(Uri.parse("https://www.example.com/legal"));
```

onCreate(...)。 。

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

    final Button button = (Button) findViewById(R.id.paypal_button);
}
```

res > layout > activity_main.xmlbeginFuturePayment(...) 。

```
<Button android:id="@+id/paypal_button"
    android:layout_height="wrap_content"
    android:layout_width="wrap_content"
    android:text="@string/paypal_button"
    android:onClick="beginFuturePayment" />
```

res > values > strings.xml。

```
<string name="paypal_button">Process Future Payment</string>
```

。 。

```
public void beginFuturePayment(View view){
    Intent serviceConfig = new Intent(this, PayPalService.class);
    serviceConfig.putExtra(PayPalService.EXTRA_PAYPAL_CONFIGURATION, config);
    startService(serviceConfig);
```

```
    Intent intent = new Intent(this, PayPalFuturePaymentActivity.class);
    intent.putExtra(PayPalService.EXTRA_PAYPAL_CONFIGURATION, config);
    startActivityForResult(intent, 0);
}
```

◦ `authCodemetadataId` 2◦

```
@Override
protected void onActivityResult (int requestCode, int resultCode, Intent data){
    if (resultCode == Activity.RESULT_OK){
        PayPalAuthorization auth =
data.getParcelableExtra(PayPalFuturePaymentActivity.EXTRA_RESULT_AUTHORIZATION);
        if (auth != null){
            try{
                //prepare params to be sent to server
                String authCode = auth.getAuthorizationCode();
                String metadataId = PayPalConfiguration.getClientMetadataId(this);
                String [] params = {authCode, metadataId};

                //process async server request for token + payment
                ServerRequest req = new ServerRequest();
                req.execute(params);

            } catch (JSONException e) {
                Log.e("FPSample", "JSON Exception: ", e);
            }
        }
    } else if (resultCode == Activity.RESULT_CANCELED) {
        Log.i("FPSample", "User canceled.");
    } else if (resultCode == PayPalFuturePaymentActivity.RESULT_EXTRAS_INVALID) {
        Log.i("FPSample", "Invalid configuration");
    }
}
```

`onDestroy()` ◦

```
@Override
public void onDestroy(){
    stopService(new Intent(this, PayPalService.class));
    super.onDestroy();
}
```

Android2

PayPal Developer GithubAndroid +◦

PayPalPayPal SDKID◦

- URI`http://10.0.2.2:3000/fpstore` localhost`/fpstore`◦
- JSONID◦
- ◦ 200/201◦ ◦
- `onPostExecute(...)`◦ ◦

```
public class ServerRequest extends AsyncTask<String, Void, String> {
    protected String doInBackground(String[] params){
        HttpURLConnection connection = null;
        try{
            //set connection to connect to /fpstore on localhost
            URL u = new URL("http://10.0.2.2:3000/fpstore");
            connection = (HttpURLConnection) u.openConnection();
            connection.setRequestMethod("POST");

            //set configuration details
            connection.setRequestProperty("Content-Type", "application/json");
            connection.setRequestProperty("Accept", "application/json");
            connection.setAllowUserInteraction(false);
            connection.setConnectTimeout(10000);
            connection.setReadTimeout(10000);

            //set server post data needed for obtaining access token
            String json = "{\"code\": \"" + params[0] + "\", \"metadataId\": \"" + params[1] +
"\"}";
            Log.i("JSON string", json);

            //set content length and config details
            connection.setRequestProperty("Content-length", json.getBytes().length + "");
            connection.setDoInput(true);
            connection.setDoOutput(true);
            connection.setUseCaches(false);

            //send json as request body
            OutputStream outputStream = connection.getOutputStream();
            outputStream.write(json.getBytes("UTF-8"));
            outputStream.close();

            //connect to server
            connection.connect();

            //look for 200/201 status code for received data from server
            int status = connection.getResponseCode();
            switch (status){
                case 200:
                case 201:
                    //read in results sent from the server
                    BufferedReader bufferedReader = new BufferedReader(new
InputStreamReader(connection.getInputStream()));
                    StringBuilder sb = new StringBuilder();
                    String line;
                    while ((line = bufferedReader.readLine()) != null){
                        sb.append(line + "\n");
                    }
                    bufferedReader.close();

                    //return received string
                    return sb.toString();
            }

        } catch (MalformedURLException ex) {
            Log.e("HTTP Client Error", ex.toString());
        } catch (IOException ex) {
            Log.e("HTTP Client Error", ex.toString());
        } catch (Exception ex) {
            Log.e("HTTP Client Error", ex.toString());
        } finally {
```

```
            if (connection != null) {
                try{
                    connection.disconnect();
                } catch (Exception ex) {
                    Log.e("HTTP Client Error", ex.toString());
                }
            }
        }
        return null;
    }

    protected void onPostExecute(String message){
        //log values sent from the server - processed payment
        Log.i("HTTP Client", "Received Return: " + message);
    }
}
```

Android3

PayPal Developer GithubAndroid +。

2/fpstoreID。 。

。

```
var bodyParser = require('body-parser'),
    http = require('http'),
    paypal = require('paypal-rest-sdk'),
    app = require('express')();

var client_id = 'YOUR APPLICATION CLIENT ID';
var secret = 'YOUR APPLICATION SECRET';

paypal.configure({
    'mode': 'sandbox',
    'client_id': client_id,
    'client_secret': secret
});

app.use(bodyParser.urlencoded({ extended: false }))
app.use(bodyParser.json());
```

ExpressAndroid/fpstorePOST。

- POSTID。
- generateToken() 。 。
- payment.create(...)。 。

```
app.post('/fpstore', function(req, res){
    var code = {'authorization_code': req.body.code};
    var metadata_id = req.body.metadataId;

    //generate token from provided code
    paypal.generateToken(code, function (error, refresh_token) {
        if (error) {
```

```
            console.log(error);
            console.log(error.response);
        } else {
            //create future payments config
            var fp_config = {'client_metadata_id': metadata_id, 'refresh_token':
refresh_token};

            //payment details
            var payment_config = {
                "intent": "sale",
                "payer": {
                    "payment_method": "paypal"
                },
                "transactions": [{
                    "amount": {
                        "currency": "USD",
                        "total": "3.50"
                    },
                    "description": "Mesozoic era monster toy"
                }]
            };

            //process future payment
            paypal.payment.create(payment_config, fp_config, function (error, payment) {
                if (error) {
                    console.log(error.response);
                    throw error;
                } else {
                    console.log("Create Payment Response");
                    console.log(payment);

                    //send payment object back to mobile
                    res.send(JSON.stringify(payment));
                }
            });
        }
    });
});
```

3000。

```
//create server
http.createServer(app).listen(3000, function () {
   console.log('Server started: Listening on port 3000');
});
```

https://riptutorial.com/zh-TW/paypal/topic/4537/--

5:

	Express
bodyParser	JSONbody-parser
clientId	IDOAuth 2
HTTP	http
	PayPalSDK
	OAuth 2
webhookId	webhookID
webhookUpdate	webhookJSON

PayPal webhook。

Examples

ngrokExpressSandbox Webhooks

webhookngrokNode HTTPlocalhostInternet。 NodewebhookwebhookHTTP POST。

1. webhooksPOSTPayPallocalhost。
2. ngroklocalhostInternetPayPal。
3. webhook2ngrok URI。

Webhooks

。 ngrokURLwebhook。

```
var bodyParser = require('body-parser'),
    http = require('http'),
    app = require('express')();

app.use(bodyParser.json());

app.post('/', function(req, res){
    console.log(JSON.stringify(req.body));
});

//create server
http.createServer(app).listen(3001, function () {
   console.log('Server started: Listening on port 3001');
});
```

Express。POSTPOST。。

HTTPlocalhost3001.。

ngrokInternet

localhost3001ngrok。

```
ngrok http 3001
```

3001localhost

PayPal webhooklocalhost`http(s)://055b3480.ngrok.io`。。

webhooks。webhook。

PayPal Node SDKID /PayPal。

```
var paypal = require('paypal-rest-sdk');

var clientId = 'YOUR APPLICATION CLIENT ID';
var secret = 'YOUR APPLICATION SECRET';

paypal.configure({
  'mode': 'sandbox', //sandbox or live
  'client_id': clientId,
  'client_secret': secret
});
```

webhooksJSON。 `webhooks`webhook`url` `event_types` 。

`url`ngrokURL。

https://developer.paypal.com/docs/integration/direct/rest-webhooks-overview/#event-type-support
。

`webhookswebhooks`webhooks `notification.webhook.create` 。 PayPallocalhost。

```
var webhooks = {
    "url": "https://436e4d13.ngrok.io",
    "event_types": [{
        "name": "PAYMENT.SALE.COMPLETED"
    },{
        "name": "PAYMENT.SALE.DENIED"
    }
]};

paypal.notification.webhook.create(webhooks, function (err, webhook) {
    if (err) {
        console.log(err.response);
        throw error;
    } else {
        console.log("Create webhook Response");
        console.log(webhook);
    }
});
```

。

PayPalPOSTPayPal

```
{
  "id": "WH-9FE9644311463722U-6TR22899JY792883B",
  "create_time": "2016-04-20T16:51:12Z",
  "resource_type": "sale",
  "event_type": "PAYMENT.SALE.COMPLETED",
  "summary": "Payment completed for $ 7.47 USD",
  "resource": {
    "id": "18169707V5310210W",
    "state": "completed",
    "amount": {
      "total": "7.47",
      "currency": "USD",
      "details": {
        "subtotal": "7.47"
      }
    },
    "payment_mode": "INSTANT_TRANSFER",
    "protection_eligibility": "ELIGIBLE",
    "protection_eligibility_type": "ITEM_NOT_RECEIVED_ELIGIBLE,UNAUTHORIZED_PAYMENT_ELIGIBLE",
    "transaction_fee": {
      "value": "0.52",
      "currency": "USD"
    },
    "invoice_number": "",
    "custom": "",
```

```
    "parent_payment": "PAY-809936371M327284GK4L3FHA",
    "create_time": "2016-04-20T16:47:36Z",
    "update_time": "2016-04-20T16:50:07Z",
    "links": [
      {
        "href": "https:\/\/api.sandbox.paypal.com\/v1\/payments\/sale\/18169707V5310210W",
        "rel": "self",
        "method": "GET"
      },
      {
        "href":
"https:\/\/api.sandbox.paypal.com\/v1\/payments\/sale\/18169707V5310210W\/refund",
        "rel": "refund",
        "method": "POST"
      },
      {
        "href": "https:\/\/api.sandbox.paypal.com\/v1\/payments\/payment\/PAY-
809936371M327284GK4L3FHA",
        "rel": "parent_payment",
        "method": "GET"
      }
    ]
  },
  "links": [
    {
      "href": "https:\/\/api.sandbox.paypal.com\/v1\/notifications\/webhooks-events\/WH-
9FE9644311463722U-6TR22899JY792883B",
      "rel": "self",
      "method": "GET"
    },
    {
      "href": "https:\/\/api.sandbox.paypal.com\/v1\/notifications\/webhooks-events\/WH-
9FE9644311463722U-6TR22899JY792883B\/resend",
      "rel": "resend",
      "method": "POST"
    }
  ]
}
```

URLWebhook

webhookURL。webhookPayPalID。

PayPal SDK。

```
var paypal = require('paypal-rest-sdk');

var clientId = 'YOUR APPLICATION CLIENT ID';
var secret = 'YOUR APPLICATION SECRET';

paypal.configure({
    'mode': 'sandbox', //sandbox or live
    'client_id': clientId,
    'client_secret': secret
});
```

JSONwebhook。webhookID`webhookId`。`webhookUpdate` replace`path/url`URL`value`。

```
var webhookId = "YOUR WEBHOOK ID";
var webhookUpdate = [{
    "op": "replace",
    "path": "/url",
    "value": "https://64fb54a2.ngrok.io"
}];
```

`notification.webhook.replace(...) webhookIdwebhookUpdate ◦`

paypal.notification.webhook.replacewebhookIdwebhookUpdatefunctionerrres{iferr{console.logerr; throw err;} else {console.logJSON.stringifyres;} };

PayPal◦

```
{
    "id":"4U496984902512511",
    "url":"https://64fb54a2.ngrok.io",
    "event_types":[{
        "name":"PAYMENT.SALE.DENIED",
        "description":"A sale payment was denied"
    }],
    "links":[{
        "href":"https://api.sandbox.paypal.com/v1/notifications/webhooks/4U496984902512511",
        "rel":"self",
        "method":"GET"
    },{
        "href":"https://api.sandbox.paypal.com/v1/notifications/webhooks/4U496984902512511",
        "rel":"update",
        "method":"PATCH"
    },{
        "href":"https://api.sandbox.paypal.com/v1/notifications/webhooks/4U496984902512511",
        "rel":"delete",
        "method":"DELETE"
    }],
    "httpStatusCode":200
}
```

https://riptutorial.com/zh-TW/paypal/topic/575/

6: PayPal

clientId	PayPalIDOAuth 2
	PayPalHATEOAS
paymentId	PayPalID
payerId	PayPalID
	PayPal Node SDK
payReq	JSON
REQ	
	PayPalOAuth 2

PayPal SDKPayPal。。

Examples

Node Express

PayPal Node SDKExpressPayPal。JSON。

PayPal

1. JSONPayPal。PayPal。
2. PayPal。PayPal。
3. 。

NodeNPMPayPal Node SDK

```
npm install paypal-rest-sdk
```

。

```
var http = require('http'),
    paypal = require('paypal-rest-sdk'),
    bodyParser = require('body-parser'),
    app = require('express')();

var client_id = 'YOUR APPLICATION CLIENT ID';
var secret = 'YOUR APPLICATION SECRET';
```

```
//allow parsing of JSON bodies
app.use(bodyParser.json());

//configure for sandbox environment
paypal.configure({
    'mode': 'sandbox', //sandbox or live
    'client_id': client_id,
    'client_secret': secret
});
```

1. HTTP。
2. PayPalSDK。
3. bodyParserJSON。
4. Express。

ID。`bodyParser`JSON。

PayPal。

```
app.get('/create', function(req, res){
    //build PayPal payment request
    var payReq = JSON.stringify({
        'intent':'sale',
        'redirect_urls':{
            'return_url':'http://localhost:3000/process',
            'cancel_url':'http://localhost:3000/cancel'
        },
        'payer':{
            'payment_method':'paypal'
        },
        'transactions':[{
            'amount':{
                'total':'7.47',
                'currency':'USD'
            },
            'description':'This is the payment transaction description.'
        }]
    });

    paypal.payment.create(payReq, function(error, payment){
        if(error){
            console.error(error);
        } else {
            //capture HATEOAS links
            var links = {};
            payment.links.forEach(function(linkObj){
                links[linkObj.rel] = {
                    'href': linkObj.href,
                    'method': linkObj.method
                };
            })

            //if redirect url present, redirect user
            if (links.hasOwnProperty('approval_url')){
                res.redirect(links['approval_url'].href);
            } else {
                console.error('no redirect URI present');
            }
```

```
        }
    });
});
```

JSONPayPal。 intentsale URL/payment_methodpaypal。

payment.create(...) payReq。 PayPal。 HATEOASURLURLapproval_url。

HATEOAS。 approval_url 。

PayPal。 createPayment(...)return_url 。

。

```
app.get('/process', function(req, res){
    var paymentId = req.query.paymentId;
    var payerId = { 'payer_id': req.query.PayerID };

    paypal.payment.execute(paymentId, payerId, function(error, payment){
        if(error){
            console.error(error);
        } else {
            if (payment.state == 'approved'){
                res.send('payment completed successfully');
            } else {
                res.send('payment not successful');
            }
        }
    });
});
```

paymentId PayerIDtoken 。 。

PayerID。 payment.execute(...) 。

payment.stateapprovedpayment.state。 。

。

```
//create server
http.createServer(app).listen(3000, function () {
   console.log('Server started: Listening on port 3000');
});
```

http://localhost:3000/create。

PayPal https://riptutorial.com/zh-TW/paypal/topic/449/paypal

7:

card_data	JSON
	PayPalJSON
CLIENT_ID	PayPalIDOAuth 2
	PayPal Node SDK
	PayPalOAuth 2
UUID	node-uuid

PayPal SDK。

Examples

NPMPayPal

```
npm install paypal-rest-sdk
```

SDK

```
var paypal = require('paypal-rest-sdk');

var client_id = 'YOUR CLIENT ID';
var secret = 'YOUR SECRET';

paypal.configure({
    'mode': 'sandbox', //sandbox or live
    'client_id': client_id,
    'client_secret': secret
});
```

SDKID。。

JSON。

```
var card_data = {
  "intent": "sale",
  "payer": {
    "payment_method": "credit_card",
    "funding_instruments": [{
      "credit_card": {
        "type": "visa",
        "number": "4417119669820331",
        "expire_month": "11",
        "expire_year": "2018",
```

```
        "cvv2": "874",
        "first_name": "Joe",
        "last_name": "Shopper",
        "billing_address": {
          "line1": "52 N Main ST",
          "city": "Johnstown",
          "state": "OH",
          "postal_code": "43210",
          "country_code": "US" }}}]},
  "transactions": [{
    "amount": {
      "total": "7.47",
      "currency": "USD",
      "details": {
        "subtotal": "7.41",
        "tax": "0.03",
        "shipping": "0.03"}},
    "description": "This is the payment transaction description."
}]};
```

sale intentcredit_cardpayment_method ◦ funding_instrumentsfunding_instrumentstransactions transactions ◦ ◦

payment.create(...)card_data◦

```
paypal.payment.create(card_data, function(error, payment){
  if(error){
    console.error(error);
  } else {
    console.log(payment);
  }
});
```

```
{
  "id": "PAY-9BS08892W3794812YK4HKFQY",
  "create_time": "2016-04-13T19:49:23Z",
  "update_time": "2016-04-13T19:50:07Z",
  "state": "approved",
  "intent": "sale",
  "payer": {
    "payment_method": "credit_card",
    "funding_instruments": [
      {
        "credit_card": {
          "type": "visa",
          "number": "xxxxxxxxxxxx0331",
          "expire_month": "11",
          "expire_year": "2018",
          "first_name": "Joe",
          "last_name": "Shopper",
          "billing_address": {
            "line1": "52 N Main ST",
            "city": "Johnstown",
            "state": "OH",
            "postal_code": "43210",
            "country_code": "US"
          }
        }
```

```
      }
    ]
  },
  "transactions": [
    {
      "amount": {
        "total": "7.47",
        "currency": "USD",
        "details": {
          "subtotal": "7.41",
          "tax": "0.03",
          "shipping": "0.03"
        }
      },
      "description": "This is the payment transaction description.",
      "related_resources": [
        {
          "sale": {
            "id": "0LB81696PP288253D",
            "create_time": "2016-04-13T19:49:23Z",
            "update_time": "2016-04-13T19:50:07Z",
            "amount": {
              "total": "7.47",
              "currency": "USD"
            },
            "state": "completed",
            "parent_payment": "PAY-9BS08892W3794812YK4HKFQY",
            "links": [
              {
                "href":
"https:\/\/api.sandbox.paypal.com\/v1\/payments\/sale\/0LB81696PP288253D",
                "rel": "self",
                "method": "GET"
              },
              {
                "href":
"https:\/\/api.sandbox.paypal.com\/v1\/payments\/sale\/0LB81696PP288253D\/refund",
                "rel": "refund",
                "method": "POST"
              },
              {
                "href": "https:\/\/api.sandbox.paypal.com\/v1\/payments\/payment\/PAY-
9BS08892W3794812YK4HKFQY",
                "rel": "parent_payment",
                "method": "GET"
              }
            ],
            "fmf_details": {

            },
            "processor_response": {
              "avs_code": "X",
              "cvv_code": "M"
            }
          }
        }
      ]
    }
  ],
  "links": [
    {
```

```
      "href": "https:\/\/api.sandbox.paypal.com\/v1\/payments\/payment\/PAY-
9BS08892W3794812YK4HKFQY",
      "rel": "self",
      "method": "GET"
    }
  ],
  "httpStatusCode": 201
}
```

`approved state` `links`HATEOAS。 `self`GET。

PayPal。

。 IDPCI。

。

```
var paypal = require('paypal-rest-sdk'),
    uuid = require('node-uuid');

var client_id = 'YOUR CLIENT ID';
var secret = 'YOUR SECRET';

paypal.configure({
  'mode': 'sandbox', //sandbox or live
  'client_id': client_id,
  'client_secret': secret
});
```

`node-uuid` UUID。

```
npm install node-uuid
```

PayPalJSON。 `node-uuid`ID。 `payer_id`。

```
var create_card_details = {
    "type": "visa",
    "number": "4417119669820331",
    "expire_month": "11",
    "expire_year": "2018",
    "first_name": "John",
    "last_name": "Doe",
    "payer_id": uuid.v4()
};
```

。 `credit_card.create(...)` `credit_card_details`。 。 payer_idID。

```
paypal.credit_card.create(create_card_details, function(error, credit_card){
    if(error){
        console.error(error);
    } else {
        var card_data = {
            "intent": "sale",
            "payer": {
```

```
                "payment_method": "credit_card",
                "funding_instruments": [{
                    "credit_card_token": {
                        "credit_card_id": credit_card.id,
                        "payer_id": credit_card.payer_id
                    }
                }]
            },
            "transactions": [{
                "amount": {
                    "total": "7.47",
                    "currency": "USD",
                    "details": {
                        "subtotal": "7.41",
                        "tax": "0.03",
                        "shipping": "0.03"
                    }
                },
                "description": "This is the payment transaction description."
            }]
        };

        paypal.payment.create(card_data, function(error, payment){
            if(error){
                console.error(error);
            } else {
                console.log(JSON.stringify(payment));
            }
        });
    }
});
```

◦ `card_datapayerfunding_instruments`◦ IDID

```
"credit_card_token": {
    "credit_card_id": credit_card.id,
    "payer_id": credit_card.payer_id
}
```

◦

https://riptutorial.com/zh-TW/paypal/topic/444/--

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