

Integration Guide WAP

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1 Introduction

With the growing number of Chinese consumers purchasing merchandise on the overseas merchants' site direct, the merchant could integrate with Alipay Standard Payment solution to offer the users the familiar user experience that they comfortable with, along the convenience provided for both the merchants and the consumers on the payment, FX exchange and settlement.

Once integrated, the merchant's site will present an Alipay payment button when the consumer completes the payment and checks out.

- The user clicks the payment/checkout button, to make payment with Alipay
- The user would be redirected to Alipay site. He/she could log in, and complete the payment on Alipay.
- Once the payment is completed, the user will be redirected back to the merchant site with the payment result. The merchant could check the result and make decision on how to move forward.
- In the meantime, an asynchronous notification will be sent to the merchant with the payment result. The notification is reliable with build-in retry mechanism.

2 Payment Flow and User Experience

Merchant checkout page:



Login page:

登录支付宝

国家和地区

中国大陆+86 >

手机号

填写手机号码

[使用其他方式登录](#)

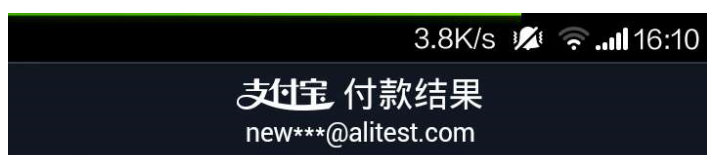
下一步

支付宝

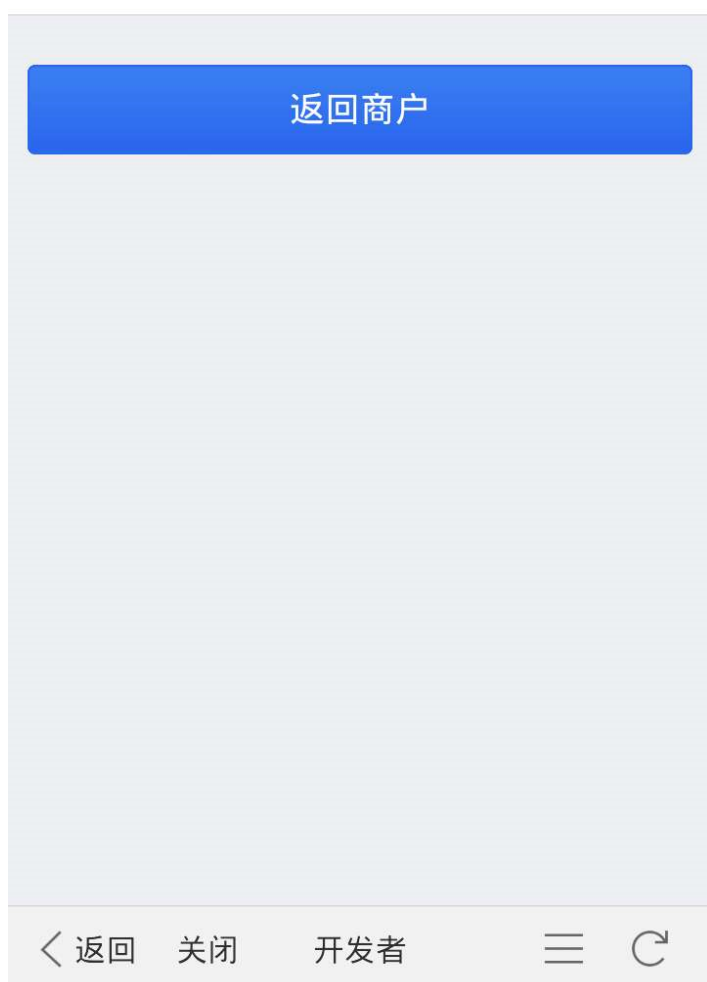
Payment page:



Success page (The user will be redirected back to merchant after this page):



✓ 付款成功



3 Quick Integration

Payment: Merchants can reference the following alipay demo code to do quick integration or directly check the API document and construct the http request to make the payment. This section illustrates the steps needed for demo code approach.

3.1 Demo Code Download

Language	MD5
JAVA	download
PHP	download
.Net	download

3.2 Deploy/Run in Sandbox

Take JAVA demo code using MD5 signature algorithm as an example. Import the demo code project into your IDE tool, like Eclipse, then run:

create_forex_trade

out_trade_no:

Remarks: It is the merchant trade number. No special characters.

Subject:

Remarks : It is the product name. No special characters.

Currency:

Remarks: Settlement currency that merchants signed with Alipay, like USD

Total_fee:

Remarks: The product price in settlement currency

Body:

Remarks: It is the description of the product. Optional.

Pay

Click payment button to pay:



The screenshot shows the Alipay mobile app login interface. At the top, there is a dark header bar with a back arrow and the text '返回' (Return) on the left, and '登录支付宝' (Login Alipay) and 'san***@alipay.com' on the right. Below the header, there are two input fields: '国家' (Country) with the value '中国大陆+86' and a right arrow, and '手机号' (Mobile Number) with the placeholder '填写手机号码' (Enter mobile number). A large blue button labeled '下一步' (Next Step) is positioned below these fields. In the bottom right corner, there is a red rectangular button labeled '支付宝账户登录' (Login with Alipay account).

Login to Alipay:



The screenshot shows the Alipay mobile app login interface. At the top, there is a dark header bar with a back arrow and the text '返回' (Return) on the left, and '登录支付宝' (Login Alipay) and 'san***@alipay.com' on the right. Below the header, there are two input fields: '账户' (Account) with the value 'douyufua@alitest.com' and '密码' (Password) with a yellow background and six dots. A large blue button labeled '下一步' (Next Step) is positioned below these fields. In the bottom right corner, there is a blue text link labeled '忘记密码' (Forgot password).

< 返回

付款详情
dou***@alitest.com

?

订单信息

test123

支付宝账户

dou***@alitest.com >

付款方式

账户余额付款 >

订单金额

0.07CNY(0.01USD)

汇率

1 USD = 6.59430000 CNY

需付款

0.07元

确认付款

Buyer can see the price calculated in RMB and exchange rate here. Confirm to pay to continue:

< 返回

输入支付密码
dou***@alitest.com

?

输入支付密码，以完成付款

密码

.....

×

确定

忘记密码

Input the payment password to pay. Click pay button to finish payment:



支付成功

Buyer is brought back to the merchant's website after payment according to parameter `return_url`:



3.3 Integrate/Run in Production

Merchant can integrate the demo code into or write their own code and run in Alipay production. If using demo code, change the following two settings:

1. Change Alipay gateway to production URL:

<https://mapi.alipay.com/gateway.do?> in `AlipaySubmit.java`

2. Change the account and key information to the merchant's real account in `AlipayConfig.java`.
Merchants can check their account and key information in global.alipay.com.

4 API List

4.1 Create_forex_trade_wap

4.1.1 Request Parameters

Parameter	Type (length in bytes)	Description	Optional	Example
Basic Parameter				
service	String	Service Name	N	create_forex_trade_wap
partner	String(16)	Partner ID. Composed of 16 digits beginning with 2088.	N	2088001159940003
_input_charset	String	The charset with which the request data is encoded. UTF-8 is supported	N	UTF-8
sign_type	String	Signature method. The following are supported. Must be uppercase. DSA, RSA, and MD5.	N	RSA
sign	String	Signature value.	N	e5815a4556db338e d237f7d3fd222184
notify_url	URL(200)	The URL for receiving asynchronous notifications after the payment is done.	N	
return_url	URL(200)	After the payment is done, the result is returned to this url via the URL redirect.	N	
Business Parameter				

Parameter	Type (length in bytes)	Description	Optional	Example
out_trade_no	String(64)	The unique transaction ID specified by the partner. If the id is duplicated with an earlier transaction's out_trade_no, the payment will fail with a error message indicating that it is the duplicated payment.	N	PARTNER_TRANS_ID_113
merchant_url	String	The link which customer could jump back to merchant page from Alipay cashier	N	http://item.com/itemback
currency	String(10)	The settlement currency code the merchant specifies in the contract.	N	USD
subject	String(256)	The name of the items. It should not contain special symbols.	N	Baby cloth
body	String (400)	A detailed description of the items. It should not contain special symbols.	Y	
total_fee	Number(8,2)	A floating number ranging 0.01~1000000.00. rmb_fee and total_fee must use only one. If total_fee is not null, it means the transaction uses foreign currency and the product price will be calculated in RMB based on the exchange rate.	Y	100.30
rmb_fee	Number(8,2)	Use this parameter to replace total_fee if partner wish to price their product in RMB. If total_fee is used, rmb_fee should not be set. They are mutual exclusive.	Y	100.30
supplier	String(100)	supplier	Y	
timeout_rule	String(10)	The default is 12h. Max value is 15d. This parameter controls the valid time from login to completion.	Y	5m 10m 15m 30m 1h 2h 3h 5h 10h 12h 1d.

Remarks:

1. In case a merchant wishes to price their products in **RMB**, the merchant can put the CNY payment amount in the 'rmb_fee' field. In the same time, "total_fee" filed should be ignored.

The payment amount will be displayed in RMB to the user.

- The merchant should not change the value of the 'currency' field, which is the **settlement currency** which Alipay will pay the merchant in.
- The "total_fee" or "rmb_fee" fields are mutually exclusive. One and only one of them should be used.

2. For the amount of charge in "total_fee" or "rmb_fee" field, the number should be in the form with 2 digits after the decimal point, for example, 100.30 USD. But for Japanese and Korean currency, the number should be 0 digit after the decimal point, like 1000KRW and 1000 JPY.

The system with return with exception for numbers in other formats, for example, USD 101.999.

3. The merchant **could not** attach parameters to the "return_url", and hoping them be passed by Alipay. Alipay will remove all extra parameters in the "return_url" field.

4.1.2 Sync Response

Parameter	Type (length in bytes)	Description	Example
Basic Parameter			
sign_type	String	Signature method. The following are supported. Must be uppercase. DSA, RSA, and MD5.	RSA
sign	String	Signature value.	e5815a4556db338ed237f7d3fd222184
Business Parameter			
trade_status	String(32)	The status of Alipay's transaction. Partner must verify the status be 'TRADE_FINISHED'. Fixed value: TRADE_FINISHED	TRADE_FINISHED

Parameter	Type (length in bytes)	Description	Example
trade_no	String(64)	Alipay Transaction ID. Max length is 64 and min length is 16.	2015070800001000100080029361
out_trade_no	String(64)	out_trade_no passed in by the merchant in the request	2525759240575424
currency	String(3)	Currency code.	USD
total_fee	Number(8,2)	The amount of the payment	11.00
rmb_fee	Number(8,2)	The RMB amount of the payment. This parameter is only returned when merchants used it in the request.	1.00

Remarks

1. After successfully finish the payment, the buyer will see an Alipay trade-succes page, this page will stay for a few seconds and automatically redirect to the page partner named. (return_url)
2. Parameters in this page can be acquired with GET method, like request.QueryString("out_trade_no")、\$_GET['out_trade_no'].
3. Redirection only occurs once right after the buyer finished the payment.
4. In this mode, Alipay will not invoke partner page initiatively, rather using redirecting function of programming to make the user page redirect to the partner page.
5. Not only on sever, this mode can also be tested on local computer.
6. Return URL has a time limit, it would expire after one minute, which will cause verification failure.
7. When partner is configuring return_url, it is wrong to add custom parameters. For example
Wrong: http://www.alipay.com/alipay/return_url.php?xx=11
Right: http://www.alipay.com/alipay/return_url.php
8. Due to Alipay will try to validate the return_url, so do not set it on local host. For instance:
Wrong: http://localhost/alipay/return_url.php http://localhost:80/alipay/return_url.php
Right: http://www.test.com/alipay/return_url.php http://121.1.1.255/alipay/return_url.php
9. **Along with the business growth, Alipay may add new parameters (existing parameters will not change). When doing notification verification, Merchants MUST use all parameters returned from Alipay.**

4.1.3 Samples

4.1.3.1 Request Example

<https://openapi.alipaydev.com/gateway.do?subject=Beautylish+Order+%23TESTING+->


```
+CHANGE+ME&sign_type=RSA&out_trade_no=8315919735609649&currency=USD&total_fee=100&partner=2088101122136241&notify_url=http%3A%2F%2Fwww.alipay.com&agent=2088101000917061&sendFormat=normal&return_url=http%3A%2F%2Fwww.alipay.com&sign=Rbn7JXjgG%2BWt%2FHK8ej1oov8OTDrl7rxH%2FQmfNJ%2FyASGuayUVvD3NkoP0mLo5rmRNF8qNrZH0IQ68U0EFcU4Z6pCVavHI%2BML3INUagkFQ3YcS6f9pY1WoyEUt02%2FC2VyzxiEDTM%2FS6o6YiDZaUUdS2EPthPBgvJLvgHcafyMKTlo%3D&_input_charset=UTF-8&service=create_forex_trade_wap&seller_id=s123
```

4.1.3.2 Response Example

```
http://api.receive.com/receive_notify.htm?sign=6c1fd40533ccb5126aa78778ab10417a&trade_no=2015070800001000100080029361&total_fee=11.00&sign_type=MD5&out_trade_no=2525759240575424&trade_status=TRADE_FINISHED&currency=USD
```

4.1.4 Async Notification

In addition to the API response through the page redirect, the API response might also be sent to the partner asynchronously with the POST method if the merchant set 'notify_url' field in the request with the targeted URL to handle the asynchronous notification. Handling async notification is **required** for this payment solution.

Alipay would retry the sending asynchronous notification multiple times within a 25-hour window until the partner acknowledges the receipt of the notification by sending a string 'Success' in the response. The merchant needs to respond to avoid the further re-send of the async notification.

When handling the API response through the page redirect and the asynchronous notification, the following aspects should be considered:

- The asynchronous notification might arrive ahead of the page redirect.
- The duplicated asynchronous notifications.

4.1.4.1 Response Parameters in Async Notifications

Parameter	Type (length in bytes)	Description	Example
Basic Parameter			
sign_type	String	Signature method. The following are supported. Must be uppercase. DSA, RSA, and MD5.	RSA
sign	String	Signature value.	e5815a4556db338ed237f7d3fd222184
Business Parameter			

Parameter	Type (length in bytes)	Description	Example
notify_type	String	Notification type, value: trade_status_sync.	trade_status_sync
notify_id	String(34)	The ID for a particular notification. It can be used by the partner system to verify the notification	92c60707dc43a5b2d648b7b4d3c2e1592g
notify_time	Timestamp	Time (Alipay's time zone): YYYY-MM-DD hh:mm:ss	2015-06-30 09:56:02
trade_status	String(32)	One of following two values: TRADE_FINISHED TRADE_CLOSED	TRADE_FINISHED
trade_no	String(64)	Alipay Transaction ID. Max length is 64 and min length is 16.	2015070800001000100080029361
out_trade_no	String(64)	out_trade_no passed in by the merchant in the request	2525759240575424
currency	String(3)	Currency code.	USD
total_fee	Number(8,2)	The amount of the payment	11.00
buyer_id	String(16)	A unique buyer ID to identify a contracted Alipay Account. A 16 digit number starts with 2088	2088123412341234
seller_id	String(16)	A unique partner ID to identify a contracted Alipay Account. A 16 digit number starts with 2088	2088123412341234

4.1.4.2 Asynchronous Notification Example

```
https://www.namesilo.com/alipay_ipn.php?notify_id=92c60707dc43a5b2d648b7b4d3c2e1592g&notify_type=trade_status_sync&sign=***&trade_no=2015063000001000080055080394&total_fee=7.99&out_trade_no=9677726c8757aea6d4df81091811b047&currency=USD&notify_time=2015-06-30
```

09:56:02&trade_status=TRADE_FINISHED&sign_type=MD5

http://www.namesilo.com/alipay_ipn.php?notify_id=0578bc470961e3b43fb676db616711fd2k¬ify_type=trade_status_sync&sign=***&trade_no=2015061700001000100000583330&total_fee=11.00&out_trade_no=2082389608326064¤cy=USD¬ify_time=2015-06-17+02%3A37%3A02&trade_status=TRADE_CLOSED&sign_type=RSA

Remarks:

1. Make sure the Notification Page (notify_url) is absolutely blank, without space, html tag, or any error message throw from the program system.
2. Parameters in this page can be acquired with GET method, like request.Form("out_trade_no"), \$_POST['out_trade_no'].
3. This response will be used, if Alipay initiatively notify.
4. Alipay will notify when there is a real transaction in Alipay system and the status of that transaction has changed.
5. Interaction between servers, unlike interaction between websites which is visible, is usually not displayable.
6. When the first time a transaction status is changed, not only page would redirect to partner website but also would Alipay notify partner system
7. After program is executed, the page must print "success" (without quote). If not, Alipay server would keep re-sending notification, until over 24 hour 22 minutes Generally, there are 8 notifications within 25 hours (Frequency: 2m,10m,15m,1h,2h,6h,15h)
8. After program is executed, there would not be redirection operation on the page, for Alipay would not recognize a "success" string, so it would be regarded as an error, and Alipay system would keep sending notification.
9. Cookies、session would be invalid on this page, which means these data would not be captured.
10. The configuration and testing of this system must be on a server, via internet
11. The main effect of this mood is to present transaction lost, so even redirection failed, the order in partner system still update.
12. As long as the partner receives the sever asynchronous response and prints "success", the parameter notify_id would be invalid. It means when Alipay send same asynchronous notification (include the re-sending notifications because of no "success"), the parameter notify_id would not change) As long as the partner receives the sever asynchronous response and prints "success", the parameter notify_id would be invalid. It means when Alipay send same asynchronous notification (include the re-sending notifications because of no "success"), the parameter notify_id would not change.
13. **Async notification will be triggered multiple times when the transaction status changes, like payment finishes, refund, transaction close etc. Merchants' system needs to have the capability to process repeated notifications for one transaction.**

14. Along with the business growth, Alipay may add new parameters (existing parameters will not change). When doing notification verification, Merchants **MUST** use all parameters returned from Alipay.

4.1.4.3 Notification Verification

For the interest of system's healthiness, it is recommended that the partner verifies if the notification is from Alipay.

The partner can **only** verify the notifications sent within the last 1 minute, and before sending the 'Success' acknowledgement back to Alipay.

For example:

```
https://intlmap.i.alipay.com/gateway.do?
service=notify_verify&partner=2088101122136241&notify_id=+4465b04e84cb6bacc2bd1b52232c
0b8gig&sign=ciSBXc7gjCfXW8KMBxFiFH2cbMZtFelfTOGKqY2NF7q98RnH3E%2BiF5Cj%2Fu%2
Bl8py1D%2FOsE%2FAva1ls8A6Tw1MzhG6ideJSgh4FxWmAjEnlcZdfLj%2FqzA6qGzxdKGEXaS
DFmTGgIOembXUqK8g8ajlCD%2BBH7xoxBRY7vtfylEXtojs%3D&sign_type=RSA
```

For more details, please refer to the API document of **notify_verify**.

4.1.5 Error Codes

For the system API calls, in general, the validations are being done at two levels on Alipay side.

The first level is at the API gateway level, where it does certain sanity checks such as verifying the signature, verifying if the partner ID is valid or whether the partner has permission to call this particular API, etc. If the validation fails, Alipay would return the appropriate error codes which are classified as the 'API Gateway Error Codes' as in the below.

Once it passes the validations at the API gateway level, the API request would be dispatched to the internal system for further processing, which it would be subjected to the validations of the business logic. The corresponding error codes returned are classified as the 'Business Error Codes'.

4.1.5.1 Business Logic Errors

The following are the possible errors related to the business logics.

Returned result	Description
FOREX_MERCHANT_NOT_SUPPORT_THIS_CURRENCY	Cannot support this currency
ILLEGAL_SECURITY_PROFILE	Cannot support this kind of encryption
REPEAT_OUT_TRADE_NO	out_trade_no parameter is duplicated

ILLEGAL_CURRENCY	Currency parameter is incorrect
ILLEGAL_TIMEOUT_RULE	Timeout_rule parameter is incorrect
SYSTEM_EXCEPTION	Alipay system error
ILLEGAL_ARGUMENT	Incorrect parameter

4.1.5.2 Access Errors / Common Errors with MAPI Gateway

If there are errors in calling parameters, Alipay MAPI gateway will capture it and display the errors. However, the control flow will stay at the Alipay side and will **NOT** return to the merchant's site.

Returned result	Description
ILLEGAL_SIGN	Illegal signature
ILLEGAL_SERVICE	Service Parameter is incorrect
ILLEGAL_PARTNER	Incorrect Partner ID
ILLEGAL_SIGN_TYPE	Signature is of wrong type.
ILLEGAL_PARTNER_EXTERFACE	Service is not activated for this account
ILLEGAL_DYN_MD5_KEY	Dynamic key information is incorrect
ILLEGAL_ENCRYPT	Encryption is incorrect.
ILLEGAL_USER	User ID is incorrect.
ILLEGAL_EXTERFACE	Interface configuration is incorrect.
ILLEGAL_AGENT	Agency ID is incorrect.
HAS_NO_PRIVILEGE	Has no right to visit.
INVALID_CHARACTER_SET	The character set is invalid.

4.1.5.3 System Errors

When system error occurs, please contact Alipay technology support to assist the error repair.

Returned result	Description
SYSTEM_ERROR	Alipay system error

SESSION_TIMEOUT	Session timeout
ILLEGAL_TARGET_SERVICE	Wrong target service
ILLEGAL_ACCESS_SWITCH_SYSTEM	Merchant is not allowed to visit system of this type.
EXTINTERFACE_IS_CLOSED	The interface has been closed.

4.2 Forex_refund

The single refund interface allows the partners to refund a transaction.

4.2.1 Request Parameters

Parameter	Type (length in bytes)	Description	Optional	Example
Basic Parameter				
service	String	Service Name	N	forex_refund
partner	String(16)	Partner ID. Composed of 16 digits beginning with 2088.	N	2088001159940003
_input_charset	String	The charset with which the request data is encoded; UTF-8 is supported	Y	UTF-8
sign_type	String	Signature method. The following are supported. Must be uppercase. DSA, RSA, and MD5.	N	RSA
sign	String	Signature value.	N	e5815a4556db338ed237f7d3fd222184
Business Parameter				
out_return_no	String(64)	The unique refund ID for refund request.	N	
out_trade_no	String(64)	The payment ID for the original payment txn.	N	

Parameter	Type (length in bytes)	Description	Optional	Example
return_amount	Number(8,2)	The amount to refund in settlement currency	N	100.30
currency	String(10)	Currency code		USD
gmt_return	String(14)	YYYYMMDDHHMMSS Beijing Time(+8)	N	
return_rmb_amount	Number(15)	Use this field to refund in CNY	Y	
reason	String(100)	Reason for the refund, for example, out of supply, etc.	N	100.30

Remarks:

1. The total of the refund amounts could not exceed the original payment amount.
2. The refund must be requested within a certain time period after the payment (specified in the contract, and the default is 3 month).

4.2.2 Sync Response

The response is in XML format

Parameter	Type (length in bytes)	Description	Optional	Example
is_success	String	Status of the API call, 'T' or 'F'	N	T
error	String	Error message	Y	REPEATED_REFUNDMENT_REQUEST

4.2.3 Samples

4.2.3.1 Request Example

https://intlmapl.alipay.com/gateway.do?reason=refund+test&return_amount=0.1&sign_type=MD5&gmt_return=20130812094000&out_trade_no=iamdjc456¤cy=HKD&sign=8e9004797d3c7112b907bd184d775662&_input_charset=UTF-8&out_return_no=test005&service=forex_refund&partner=2088701998606387

4.2.3.2 Sync Response Examples

4.2.3.2.1 Success response

```
<?xml version="1.0" encoding="UTF-8" ?>

<alipay>

<is_success>T</is_success>

</alipay>
```

4.2.3.2.2 Error response:

```
<?xml version="1.0" encoding="UTF-8" ?>

<alipay>

<is_success>F</is_success>

<error>REPEATED_REFUNDMENT_REQUEST</error>

</alipay>
```

4.2.4 Error Codes

For the system API calls, in general, the validations are being done at two levels on Alipay side.

The first level is at the API gateway level, where it does certain sanity checks such as verifying the signature, verifying if the partner ID is valid or whether the partner has permission to call this particular API, etc. If the validation fails, Alipay would return the appropriate error codes which are classified as the 'API Gateway Error Codes' as in the below.

Once it passes the validations at the API gateway level, the API request would be dispatched to the internal system for further processing, which it would be subjected to the validations of the business logic. The corresponding error codes returned are classified as the 'Business Error Codes'.

4.2.4.1 Business Logic Errors

Returned result	Description
REFUNDMENT_VALID_DATE_EXCEED	Could not refund after the specified refund timeframe.
SYSTEM_EXCEPTION	System exception

ILLEGAL_ARGUMENT	Illegal argument
REPEATED_REFUNDMENT_REQUEST	Duplicated refund request
RETURN_AMOUNT_EXCEED	Refund amount is over the payment amount
CURRENCY_NOT_SAME	Different currency from the payment currency
PURCHASE_TRADE_NOT_EXIST	The payment transaction does not exist

4.2.4.2 Access Errors / Common errors with MAPI gateway

If the calling parameters have error in it, Alipay MAPI gateway will capture it and display the errors. However, the control flow will stay at the Alipay side and will **NOT** return to the merchant's site.

Returned result	Description
SYSTEM_EXCEPTION	Alipay system error
ILLEGAL_ARGUMENT	Incorrect parameter
ILLEGAL_SIGN	Illegal signature
ILLEGAL_SERVICE	Service Parameter is incorrect
ILLEGAL_PARTNER	Incorrect Partner ID
ILLEGAL_SIGN_TYPE	Signature is of wrong type.
ILLEGAL_PARTNER_EXTERFACE	Service is not activated for this account
ILLEGAL_DYN_MD5_KEY	Dynamic key information is incorrect
ILLEGAL_ENCRYPT	Encryption is incorrect.
ILLEGAL_USER	User ID is incorrect.
ILLEGAL_EXTERFACE	Interface configuration is incorrect.
ILLEGAL_AGENT	Agency ID is incorrect.

HAS_NO_PRIVILEGE	Has no right to visit.
INVALID_CHARACTER_SET	The character set is invalid.

4.2.4.3 System Errors

When system error occurs, please contact Alipay technology support to assist the error repair.

Returned result	Description
SYSTEM_ERROR	Alipay system error
SESSION_TIMEOUT	Session timeout
ILLEGAL_TARGET_SERVICE	Wrong target service
ILLEGAL_ACCESS_SWITCH_SYSTEM	Merchant is not allowed to visit system of this type.
EXTERFACE_IS_CLOSED	The interface has been closed.

4.3 Single_trade_query

The partners can use this API to obtain the information on a particular transaction, such as the transaction's ID, out_trade_no, item name, transaction status, etc.

4.3.1 Request Parameters

Parameter	Parameter Name	Type(length)	Description	Optional	Example
Basic Parameters					
service	API Name	String	API name	N	single_trade_query
partner	Partner ID	String(16)	A unique partner ID to identify a contracted Alipay Account. A 16 digit number starts with 2088	N	2088101011913539
_input_charset	Encode Charset	String	The charset on partner website like utf-8、gbk、gb2312 etc.	N	gbk
sign_type	Sign Type	String	DSA, RSA or MD5, capital letter	N	MD5

Parameter	Parameter Name	Type(length)	Description	Optional	Example
sign	Sign	String	Sign value	N	7d314d22efb a4f336fb1876 97793b9d2
Business Parameters					
trade_no	Trade Number	String(64)	The unique trade number in Alipay system. Length from 16 to 64. To query by Alipay trade number is preferred w.r.t the accuracy of the result.	Y	20081023032 10710
out_trade_no	Out Trade Number	String(64)	A unique number to identify a transaction in partner system	Y	68431922806 47118

Note:

This API receive https request only;

4.3.2 Sync Response

After Alipay finish processing request data, it will notify partner website by posting response data by the way of redirection. The response data of such procedure are these response parameters.

Synchronous Response Parameters Description

Parameters	Parameter Name	Type(length)	Description	Optional	Example
Basic Parameter					
is_success	Success mark	String	Indicate whether the API has been called successfully, it does not indicate the result of business <ul style="list-style-type: none"> T for True F for False 	N	T
sign_type	Sign Type	String	DSA, RSA or MD5, capital letter	N	MD5

Param eters	Parameter Name	Type(le ngth)	Description	Option al	Example
sign	Sign	String	Sign value	N	7d314d22efba4f336fb1 87697793b9d2
error	Error Code	String	Error information when query fails.	Y	TRADE_NOT_EXIST
Business Parameters					
buyer_ email	Buyer Email	String	Buyer Alipay Account	N	tstable01@alipay.com
buyer_ id	Buyer ID	String	A unique buyer ID to identify a contracted Alipay Account. A 16 digit number starts with 2088	N	2088002007018955
trade_ status	Trade Status	String	The status of this transaction. Please refer to the Chapter 9.5 "Transaction Status"	N	TRADE_SUCCESS
is_total _fee_a djust	Is Total Fee Adjust	String	Is total fee adjusted <ul style="list-style-type: none"> • T for True • F for False 	N	F
out_tra de_no	Out Trade Number	String	A unique number to identify a transaction in partner system	Y	6843192280647118
trade_ no	Trade Number	String	The unique trade number in Alipay system. Length from 16 to 64. To query by Alipay trade number is preferred w.r.t the accuracy of the result.	N	2008102303210710
subject	Subject	String	Goods name/trade name/order name/order key words etc.	N	Apple
flag_tr ade_lo cked	Flag Trade Locked	String	<ul style="list-style-type: none"> • 1 for trade is locked. • 0 for trade is not locked. 	N	0

Parameters	Parameter Name	Type(length)	Description	Optional	Example
body	Body	String	Detail description about a transaction, if there are multiple items involved, accumulate together into body.	N	Gundam MKII, Miniature Bracelet
gmt_create	GMT Create	Date	Time when transaction is created. Format: yyyy-MM-dd HH:mm:ss	N	2008-10-22 20:49:31
seller_email	Seller Email	String	Partner Alipay Account	N	tianc001@alipay.com
seller_id	Seller ID	String	A unique partner ID to identify a contracted Alipay Account. A 16 digit number starts with 2088	N	2088002007018966
total_fee	Total Fee	Number	Total Amount of the transaction. Unit: RMB Yuan. For escrow payment the maximum value is 1,000,000. Accurate to two decimal places.	N	100
price	Price	Number	Unit: RMB Yuan. Value Range [0.01, 100000000.00], accurate to two decimal places.	Y	10.00
quantity	Quantity	Number	Quantity of goods.	Y	1
logistics_fee	Logistics Fee	String	Logistics fee	Y	5.00
coupon_discount	Coupon Discount	String	Coupon discount.	Y	1
use_coupon	Use Coupon	String(1)	Whether coupon is used in transaction. <ul style="list-style-type: none"> T for True F for False 	Y	T

Parameters	Parameter Name	Type(length)	Description	Optional	Example
discount	Discount	Number	Discount	Y	0.00
refund_status	Refund Status	String	Please refer to "Refund Status"	Y	REFUND_SUCCESS
logistics_status	Logistics Status	String	Please refer to "Logistics Status"	Y	GOODS_RECEIVED
additional_trade_status	Additional Trade Status	String	Please refer to "Additional Trade Status"	Y	ZHIFUBAO_CONFIRM
gmt_last_modified_time	GMT Last Modified Time	Date	Time when the total fee is modified latest. Format: yyyy-MM-dd HH:mm:ss	Y	2008-01-08 20:39:30
gmt_payment	GMT Payment	Date	Time when transaction is paid by user. Format: yyyy-MM-dd HH:mm:ss	Y	2008-10-22 20:49:50
gmt_send_goods	GMT Send Goods	Date	Time when the goods are sent. Format: yyyy-MM-dd HH:mm:ss	Y	2010-03-14 17:49:32
gmt_refund	GMT Refund	Date	Time refund. Format: yyyy-MM-dd HH:mm:ss	Y	2010-03-14 17:50:08
time_out	Time Out	Date	Expiration time of trade. Format: yyyy-MM-dd HH:mm:ss	Y	2010-03-08 01:01:01
gmt_close	GMT Close	Date	Time when transaction is closed Format: yyyy-MM-dd HH:mm:ss	Y	2008-10-22 20:49:46

Parameters	Parameter Name	Type(length)	Description	Optional	Example
gmt_logistics_modify	GMT Logistics Modify	Date	Time when the logistics status is modified latest. 格式为: yyyy-MM-dd HH:mm:ss。	Y	2008-01-08 20:36:12
time_out_type	Time Out Type	String	Please refer to “Expiration Type”	Y	CLOSE_TRADE_ACTION
refund_fee	Refund Fee	String	Refund fee.	Y	7.00
refund_flow_type	Refund Flow Type	String	<ul style="list-style-type: none"> 1—Refund 1.0 2—Refund 2.0 3—Refund 3.0 	Y	1
refund_id	Refund ID	String	Refund ID.	Y	3879915
refund_cash_fee	Refund Cash Fee	String	Refund cash fee.	Y	7.00
refund_coupon_fee	Refund Coupon Fee	String	Refund coupon fee.	Y	1.00
refund_agent_pay_fee	Refund Agent Pay Fee	String	Refund of the points payment.	Y	0.00
coupon_used_fee	Coupon Used Fee	String	Coupon used fee.	Y	1.00
to_buyer_fee	To Buyer Fee	String	Accumulative refunded fee.	Y	1.00
to_seller_fee	To Seller Fee	String	Accumulative fee paid to seller.	Y	20.00

Parameters	Parameter Name	Type(length)	Description	Optional	Example
fund_bill_list	Fund Bill List	String	Fund bill list, XML format, consists of one or more FundBillDetail tags.	Y	<FundBillDetail><amount>0.01</amount><channel>10</channel><gmt_pay>2011-11-02 11:36:59.000</gmt_pay><out_biz_no>6916594952146352</out_biz_no><type>30</type></FundBillDetail><FundBillDetail><amount>0.01</amount><channel>10</channel><gmt_pay>2011-11-03 11:27:20.000</gmt_pay><out_biz_no>6095065897498516</out_biz_no><type>30</type></FundBillDetail>
payment_type	Payment Type	String	Please refer to " Payment Type "	Y	1
operator_role	Operator Role	String	<ul style="list-style-type: none"> B: Buyer S: Seller 	Y	B

4.3.3 Samples

4.3.3.1 Request Sample

https://mapi.alipay.com/gateway.do?service=single_trade_query&sign=d8ed9f015214e7cd59bfadb6c945a87b&trade_no=2010121502730740&partner=2088001159940003&out_trade_no=2109095506028810&sign_type=MD5

4.3.3.2 Response Sample

4.3.3.2.1 Success response

```
<?xml version="1.0" encoding="GBK"?>

<alipay>

  <is_success>T</is_success>

  <response>

    <account_page_query_result>

      <account_log_list>
```



```
<AccountQueryAccountLogVO>

    <balance>21640857.99</balance>

    <bank_name> Industrial and Commercial Bank of China
</bank_name>

    <bank_account_name>Ricky</bank_account_name>

    <bank_account_no>6228098765432109877</bank_account_no>

    <income>0.00</income>

    <memo>Transaction Payment</memo>

    <merchant_out_order_no>8914444063140954
</merchant_out_order_no>

    <outcome>500.00</outcome>

    <trans_code_msg>Tranfer</trans_code_msg>

    <trans_date>2010-09-25 17:27:30</trans_date>

    <trans_out_order_no>14526</trans_out_order_no>

</AccountQueryAccountLogVO>

</account_log_list>

<has_next_page>F</has_next_page>

<page_no>1</page_no>

<page_size>5000</page_size>

</account_page_query_result>

</response>

<sign>326e59040fb8d21149daf43e88e4c12a</sign>

<sign_type>MD5</sign_type>

</alipay>
```

4.3.3.2.2 Error response

```
<?xml version="1.0" encoding="utf-8"?>

<alipay>

    <is_success>F</is_success>

    <error>ILLEGAL_SIGN</error>

</alipay>
```

4.3.4 Error Codes

For the system API calls, in general, the validations are being done at two levels on Alipay side.

The first level is at the API gateway level, where it does certain sanity checks such as verifying the signature, verifying if the partner ID is valid or whether the partner has permission to call this particular API, etc. If the validation fails, Alipay would return the appropriate error codes which are classified as the 'API Gateway Error Codes' as in the below.

Once it passes the validations at the API gateway level, the API request would be dispatched to the internal system for further processing, which it would be subjected to the validations of the business logic. The corresponding error codes returned are classified as the 'Business Error Codes'.

4.3.4.1 Business Logic Errors

错误代码 (error_code)	含义
TRADE_NOT_EXIST	Trade not exist. out_trade_no or Alipay trade_no is incorrect
ILLEGAL_SIGN	Illegal signature.
ILLEGAL_DYN_MD5_KEY	Dynamic key information is incorrect.
ILLEGAL_ENCRYPT	Encryption is incorrect.
ILLEGAL_ARGUMENT	Parameter is incorrect.
ILLEGAL_SERVICE	Service parameter is incorrect.
ILLEGAL_USER	User ID is incorrect.
ILLEGAL_PARTNER	Partner ID is incorrect.
ILLEGAL_EXTERFACE	Interface configuration is incorrect.
ILLEGAL_PARTNER_EXTERFACE	Partner's interface information is incorrect.

错误代码 (error_code)	含义
ILLEGAL_SECURITY_PROFILE	Matching private key configuration has not been found.
ILLEGAL_AGENT	Agency ID is incorrect.
ILLEGAL_SIGN_TYPE	The signature type is incorrect.
ILLEGAL_CHARSET	The character set is illegal.
ILLEGAL_CLIENT_IP	Client IP address is illegal
HAS_NO_PRIVILEGE	Has no right to visit.
ILLEGAL_DIGEST_TYPE	Digest type is illegal
ILLEGAL_DIGEST	Digest is illegal
ILLEGAL_FILE_FORMAT	File format is illegal
ILLEGAL_ENCODING	Encoding type is illegal
EXTERFACE_IS_CLOSED	API is closed
ILLEGAL_REQUEST_REFERER	Anti-phishing checks illegal request
ILLEGAL_ANTI_PHISHING_KEY	Anti-phishing checks illegal timeframe
ANTI_PHISHING_KEY_TIMEOUT	Anti-phishing checks timeframe timeout
ILLEGAL_EXTER_INVOKE_IP	IP Anti-phishing checks illegal IP

4.3.4.2 System Errors

When system error occurs, please contact Alipay technology support to assist the error repair..

Returned result	Description
SYSTEM_ERROR	Alipay system error
SESSION_TIMEOUT	Session timeout
ILLEGAL_TARGET_SERVICE	Wrong target service
ILLEGAL_ACCESS_SWITCH_SYSTEM	Merchant is not allowed to visit system of this type.
EXTERFACE_IS_CLOSED	The interface has been closed.

4.3.4.3 Payment Type

Type	Description
01	Coupon Fee Pre-payment
02	Coupon Fee Payment
03	Reminding Payment
04	Automatic Sending Goods
1	Merchandise
2	Service Purchase
3	Online Auction
4	Donation
5	Post Fee Compensation
6	Bonus
7	Funds Purchase
8	Air Ticket
9	Go Dutch
10	Group Purchase
11	Electronic Ticket
12	Lottery Ticket
13	Auction
14	Mobile Payment
15	Flowers & Gifts
16	Agent Electronic Ticket
17	Party Membership Dues

Type	Description
18	Foreign Exchange
19	Automatic Charge
20	Refund of Overseas Payment
21	Refund of Instant Payment
22	Business Deposit
24	Cash Gift
25	Rent
26	Motopay
23	Shopping Cart
27	Escrow Payment of Group Purchase

4.3.4.4 Logistics Status

Status
INITIAL_STATUS
WAIT_LOGISTICS_FETCH_GOODS
LOGISTICS_FAILURE
GOODS_RECEIVED
WAIT_RECEIVER_CONFIRM_GOODS
LOGISTICS_SENDING

4.3.4.5 Transaction Status

Status	Description
WAIT_BUYER_PAY	Transaction awaits user payment.
WAIT_SELLER_SEND_GOODS	Transaction awaits seller sending goods.

Status	Description
WAIT_BUYER_CONFIRM_GOODS	Transaction awaits buyer confirming goods.
TRADE_FINISHED	Transaction is finished successfully.
TRADE_CLOSED	Transaction is closed during processing (finished, not successfully)
WAIT_SYS_CONFIRM_PAY	Transaction awaits system conforming payment, please do not send goods.
WAIT_SYS_PAY_SELLER	Buyer confirm goods, transaction awaits system paying to seller.
TRADE_REFUSE	Transaction refused.
TRADE_REFUSE_DEALING	Transaction refusing.
TRADE_CANCEL	Transaction canceled.
TRADE_PENDING	Pending Transaction.
TRADE_SUCCESS	Transaction complete, and available for refund
BUYER_PRE_AUTH	Buyer has paid. (IVR Payment)
COD_WAIT_SELLER_SEND_GOODS	Transaction awaits seller sending goods. (COD)
COD_WAIT_BUYER_PAY	Transaction awaits user payment. (COD)
COD_WAIT_SYS_PAY_SELLER	Buyer confirm goods, transaction awaits system paying to seller. (COD)

4.3.4.6 Additional Trade Status

Status	Description
ZHIFUBAO_CONFIRM	Custom Service confirms goods for buyer.
ZHIFUBAO_CANCEL_FP	Custom Service cancels instant payment for buyer.
DAEMON_CONFIRM_CANCEL_PRE_AUTH	Expiration Program cancels pre authorization.
DAEMON_CONFIRM_CLOSE	Expiration Program cancels transaction as buyer did not pay.

4.3.4.7 Refund Status

Status	Description
WAIT_SELLER_AGREE	Refund awaits seller agreeing.
SELLER_REFUSE_BUYER	Refund awaits buyer modifying as seller refuses refund.
WAIT_BUYER_RETURN_GOODS	Refund awaits buyer returning goods.
WAIT_SELLER_CONFIRM_GOODS	Refund awaits seller confirming goods.
REFUND_SUCCESS	Refund complete.
REFUND_CLOSED	Refund is closed.
WAIT_ALIPAY_REFUND	Waiting Alipay to refund.
ACTIVE_REFUND	Refunding for querying.
OVERED_REFUND	Finished refund.
ALL_REFUND_STATUS	All refund status for querying.

4.3.4.8 Expiration Type

Type	Description
CLOSE_TRADE_ACTION	Close transaction.
ALLOW_REFUND_ACTION	Allow buyer to apply refund.
SUGGEST_REFUND_ACTION	Suggest refund.
AUTO_FINISH_TRADE_ACTION	Transaction finished automatically – “Buyer Confirm Goods” in foreground.
AUTO_PAY_SELLER_ACTION	Pay to seller automatically.
CANCEL_PRE_AUTH_ACTION	Cancel the pre authorization.
AGREE_REFUND_NO_ANSWER_ACTION	System agrees refund for seller as no response since buyer launch refund.
CLOSE_REFUND_NO_ANSWER_ACTION	System closes refund for buyer as seller did not agree refund protocol and buyer did not modify.

Type	Description
CLOSE_REFUND_NO_RETURN_ACTION	System closes refund for buyer as seller agrees refund protocol but buyer did not return goods.
FINISH_REFUND_NO_CONFIRM_ACTION	System confirms returning goods for seller as buyer returned goods but seller did not confirm goods.
CLOSE_REFUND_NO_VOUCHER_ACTION	System closes refund for buyer as buyer did not upload voucher.
FINISH_REFUND_NO_VOUCHER_ACTION	System agrees refund for seller as seller did not upload voucher.
FORCE_BUYER_UPLOAD_VOUCHER_ACTION	Force buyer upload voucher.
FORCE_SELLER_UPLOAD_VOUCHER_ACTION	Force seller upload voucher.
REFUND_WAIT_TO_CHECK_ACTION	System closes the voucher uploading function.
FINISH_FP_ACTION	Finish the instant payment.
REMIND_TIMEOUT_ACTION	Expiration reminding SMS.
FAST_PAY_REFUND_ACTION	15 days automatic refund of instant payment.
ALLOW_SELLER_CANCEL_FAST_PAY_ACTION	Allow seller to cancel instant payment as seller had not verified the payment for 7 days.
FINISH_FAST_PAY_ACTION	Finish the instant payment as seller had not verified the payment for 90 days
ALLOW_CLOSE_TRADE_ACTION	Allow buyer to cancel the trade.
VIC_TIME_TASK_APPLY_SMS_PAY_ACTION	Timed task applies to SMS payment.
REMIND_UNCERTIFY_TRADE_ACTION	Expiration action of third party business.

4.4 Forex_compare_file

From time to time, the merchant needs to reconcile the transactions. This interface enables the merchants to download the transaction list in a specific time span to reconcile the transactions.

4.4.1 Request Parameters

Parameter	Type (length in bytes)	Description	Optional	Example
Basic Parameter				
service	String	Service Name	N	forex_compare_file
partner	String(16)	Partner ID. Composed of 16 digits beginning with 2088.	N	2088001159940003
sign_type	String	Signature method. The following are supported. Must be uppercase. DSA, RSA, and MD5.	N	RSA
sign	String	Signature value.	N	e5815a4556db338ed237f7d3fd222184
Business Parameter				
start_date	String	The start date of the reconciliation period, formatted as YYYYMMDD	N	
end_date	String	The end date of the reconciliation period, formatted as YYYYMMDD	N	

Remarks:

- The starting and end dates should be within a 10-day interval.
- There is a time delay such that the transactions in the current day will not be listed in the return of this API call.
- Currently the interface only supports .TXT file to be downloaded. The file contains no headings for data fields. Each data field is separated by "|", following the order given in the specification.

4.4.2 Sync Response

4.4.2.1 Response format

The responses could be in different formats for different use cases

- It is in XML format if there is error caught by the Gateway
- It could in plain text error message if it is the error from the biz logic

- It is a file to download if the call is successful.

4.4.2.2 File Format for the Transaction Report file in the Response

Order	Field name	Type	Description
1.	Partner transaction ID	String(32)	The Unique transaction ID passed by the merchants in the payment transaction
2.	Amount	Number(8,2)	The amount of fund in foreign currency.
3.	Currency	String(10)	Abbreviated currency names.
4.	Payment Time	String(14)	YYYYMMDDHHMMSS Empty if the status being "failed" or "waiting".
5.	Settlement Time	String(14)	YYYYMMDDHHMMSS Empty if unliquidated
6.	Transaction type	String(1)	Normal transaction: P Refund transaction: R
7.	Service charge	Number(8,2)	The amount of service charge.
8.	Status	String(1)	Normal transaction: P : Payment made L: Liquidated Refund transaction : F: Failed L: Liquidated
9.	Remark	String(50)	An optional field. If the transaction is refund, the time of the refund request

			should be added into the remark field in YYYYMMDDHHMMSS format.
--	--	--	---

4.4.3 Samples

4.4.3.1 Request Sample

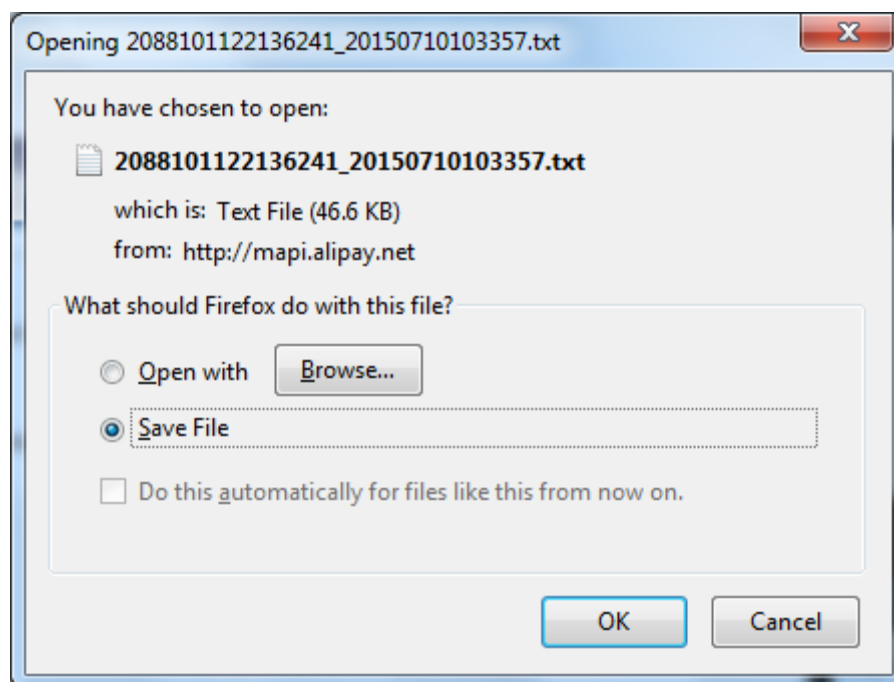
http://mapi.alipay.net/cooperate/gateway.do?sign_type=MD5&sign=bb4c92c7cb7fc8a5280fe5f9f7ac309c&input_charset=UTF-8&end_date=20150524&service=forex_compare_file&partner=2088002007018916&start_date=20150520

4.4.3.2 Response Samples

4.4.3.2.1 Success response

The response is HTTP response with an attached file, which is the reconciliation file with the transactions included.

The sample is for illustration of the browser download.



4.4.3.2.2 Error response from the biz logic:

File download failed: Over 10 days to Date period

4.4.3.3 Error response from the Gateway:

```
<?xml version="1.0" encoding="UTF-8"?>

<alipay>

<is_success>F</is_success>

<error>ILLEGAL_SIGN</error>

</alipay>
```

4.4.3.4 A sample of transaction report file

```
23342347424|112.11|USD|20070616090001||P|2.24|P|Unliquidated
23342343423|102.32|USD|20070615090001|2007622090001|P|2.04|L|Liquidated
```

4.4.4 Error Codes

For the system API calls, in general, the validations are being done at two levels on Alipay side.

The first level is at the API gateway level, where it does certain sanity checks such as verifying the signature, verifying if the partner ID is valid or whether the partner has permission to call this particular API, etc. If the validation fails, Alipay would return the appropriate error codes which are classified as the 'API Gateway Error Codes' as in the below.

Once it passes the validations at the API gateway level, the API request would be dispatched to the internal system for further processing, which it would be subjected to the validations of the business logic. The corresponding error codes returned are classified as the 'Business Error Codes'.

4.4.4.1 Business Logic Errors

Returned result	Description
Over limit balance amount record	Exceed the maximum entries : 100000
System exception	System exception
Merchant ID incorrect	Incorrect partner ID
Finish date not ahead of today	The end date could not be the future time
No balance amount data in the period	Do not have any trade during the period
Over 10 days to date period	Over 10 day limit for the request time span

Finish date ahead of begin date	The end date needs to be later than the begin date
Illegal date period	Null in date field
Date format incorrect YYYYMMDD	Incorrect format of the date ,YYYYMMDD
Internet connected exception ,please try later	Network exception

4.4.4.2 Access Errors / Common Errors with MAPI Gateway

If the calling parameters have error in it, Alipay MAPI gateway will capture it and display the errors. However, the control flow will stay at the Alipay side and will **NOT** return to the merchant's site.

Returned result	Description
SYSTEM_EXCEPTION	Alipay system error
ILLEGAL_ARGUMENT	Incorrect parameter
ILLEGAL_SIGN	Illegal signature
ILLEGAL_SERVICE	Service Parameter is incorrect
ILLEGAL_PARTNER	Incorrect Partner ID
ILLEGAL_SIGN_TYPE	Signature is of wrong type.
ILLEGAL_PARTNER_EXTERFACE	Service is not activated for this account
ILLEGAL_DYN_MD5_KEY	Dynamic key information is incorrect
ILLEGAL_ENCRYPT	Encryption is incorrect.
ILLEGAL_USER	User ID is incorrect.
ILLEGAL_EXTERFACE	Interface configuration is incorrect.
ILLEGAL_AGENT	Agency ID is incorrect.
HAS_NO_PRIVILEGE	Has no right to visit.

INVALID_CHARACTER_SET	The character set is invalid.
-----------------------	-------------------------------

4.4.4.3 System Errors

When system error occurs, please contact Alipay technology support to assist the error repair..

Returned result	Description
SYSTEM_ERROR	Alipay system error
SESSION_TIMEOUT	Session timeout
ILLEGAL_TARGET_SERVICE	Wrong target service
ILLEGAL_ACCESS_SWITCH_SYSTEM	Merchant is not allowed to visit system of this type.
EXTERFACE_IS_CLOSED	The interface has been closed.

4.5 Forex_liquidation_file

This interface enables the merchant reconcile the settled transactions with the settlement of the funds in the previous settlement cycle.

4.5.1 Request Parameters

Parameter	Type (length in bytes)	Description	Optional	Example
Basic Parameter				
service	String	Service Name	N	forex_liquidation_file
partner	String(16)	Partner ID. Composed of 16 digits beginning with 2088.	N	2088001159940003
sign_type	String	Signature method. The following are supported. Must be uppercase. DSA, RSA, and MD5.	N	RSA
sign	String	Signature value.	N	e5815a4556db338ed237f7d3fd222184
Business Parameter				

Parameter	Type (length in bytes)	Description	Optional	Example
start_date	String	The start date of the reconciliation period, formatted as YYYYMMDD	N	
end_date	String	The end date of the reconciliation period, formatted as YYYYMMDD	N	

Remarks:

- The starting and end dates should be provided within a 10-day interval.
- There is a time delay such that the transactions in the current day will not be listed in the return of this API call.
- Currently the interface only supports .TXT file to be downloaded. The file contains no headings for data fields. Each data field is separated by “|”, following the order given in the specification.

4.5.2 Sync Response

4.5.2.1 Response format

The responses could be in different formats for different use cases

- It is in XML format if there is error caught by the Gateway
- It could in plain text error message if it is the error from the biz logic
- It is a file to download if the call is successful.

4.5.2.2 File Format for the Settlement file in the Response

Order	Field name	Type	Description
10.	Partner transaction ID	String(32)	The Unique transaction ID passed by the merchants in the payment transaction
11.	Amount	Number(8,2)	The amount of fund in foreign currency.
12.	Currency	String(10)	Abbreviated currency names.

13.	Payment Time	String(14)	YYYYMMDDHHMMSS Empty if the status being “failed” or “waiting”.
14.	Settlement Time	String(14)	YYYYMMDDHHMMSS Empty if unliquidated
15.	Transaction type	String(1)	Normal transaction: P Refund transaction: R
16.	Service charge	Number(8,2)	The amount of service charge.
17.	Status	String(1)	Normal transaction: P : Payment made L: Liquidated Refund transaction : F: Failed L: Liquidated
18.	Remark	String(50)	An optional field. If the transaction is refund, the time of the refund request should be added into the remark field in YYYYMMDDHHMMSS format.

4.5.3 Samples

4.5.3.1 Request Sample

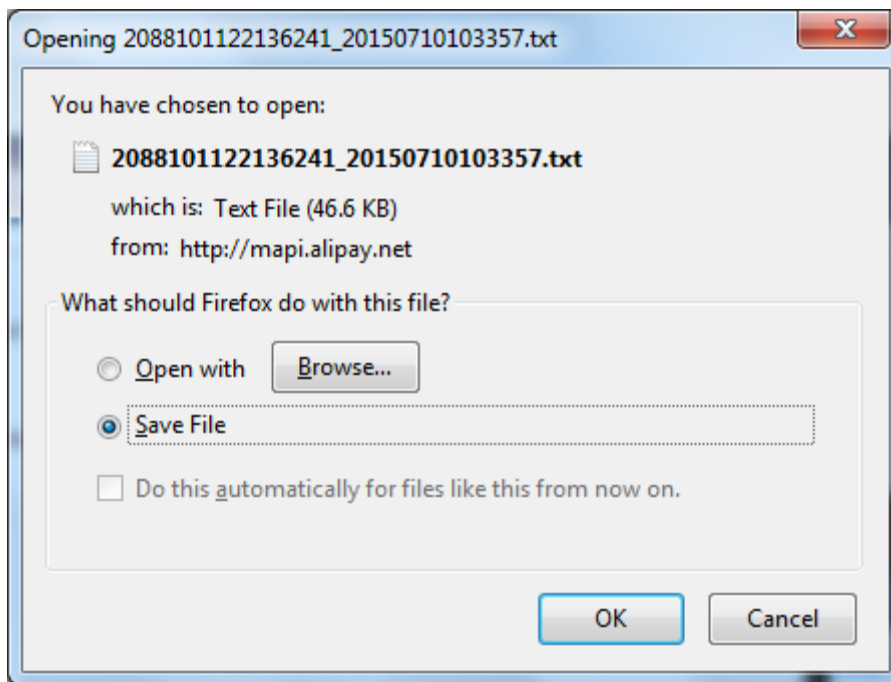
http://mapi.alipay.net/cooperate/gateway.do?sign_type=MD5&sendFormat=normal&sign=bb4c92c7cb7fc8a5280fe5f9f7ac309c&_input_charset=UTF-8&end_date=20150524&service=forex_liquidation_file&partner=2088002007018916&start_date=20150520

4.5.3.2 Response Samples

4.5.3.2.1 Success response

The response is HTTP response with an attached file, which is the reconciliation file with the transactions included.

The sample is for illustration of the browser download.



4.5.3.2.2 Error response from the biz logic:

File download failed: Over 10 days to Date period

4.5.3.2.3 Error response from the Gateway:

```
<?xml version="1.0" encoding="UTF-8"?>
<alipay>
<is_success>F</is_success>
<error>ILLEGAL_SIGN</error>
</alipay>
```

4.5.3.3 A sample of settlement report file

An example of settlement report file:

```
23342343423|102.32|USD|20070615090001|2007622090001|P|2.04|L|Liquidated
```

4.5.4 Error Codes

For the system API calls, in general, the validations are being done at two levels on Alipay side.

The first level is at the API gateway level, where it does certain sanity checks such as verifying the signature, verifying if the partner ID is valid or whether the partner has permission to call this particular API, etc. If the validation fails, Alipay would return the appropriate error codes which are classified as the 'API Gateway Error Codes' as in the below.

Once it passes the validations at the API gateway level, the API request would be dispatched to the internal system for further processing, which it would be subjected to the validations of the business logic. The corresponding error codes returned are classified as the 'Business Error Codes'.

4.5.4.1 Business Logic Errors

Returned result	Description
Over limit balance amount record	Exceed the maximum entries: 100000
System exception	System exception
Merchant ID incorrect	Incorrect partner ID
Finish date not ahead of today	The end date could not be the future time
No balance amount data in the period	Do not have any trade during the period
Over 10 days to date period	Over 10 day limit for the request time span
Finish date ahead of begin date	The end date needs to be later than the begin date
Illegal date period	Null in date field
Date format incorrect YYYYMMDD	Incorrect format of the date ,YYYYMMDD
Internet connected exception ,please try later	Network exception

4.5.4.2 Access Errors / Common Errors with MAPI Gateway

If the calling parameters have error in it, Alipay MAPI gateway will capture it and display the errors. However, the control flow will stay at the Alipay side and will **NOT** return to the merchant's site.

Returned result	Description
SYSTEM_EXCEPTION	Alipay system error
ILLEGAL_ARGUMENT	Incorrect parameter
ILLEGAL_SIGN	Illegal signature
ILLEGAL_SERVICE	Service Parameter is incorrect
ILLEGAL_PARTNER	Incorrect Partner ID
ILLEGAL_SIGN_TYPE	Signature is of wrong type.
ILLEGAL_PARTNER_EXTERFACE	Service is not activated for this account
ILLEGAL_DYN_MD5_KEY	Dynamic key information is incorrect
ILLEGAL_ENCRYPT	Encryption is incorrect.
ILLEGAL_USER	User ID is incorrect.
ILLEGAL_EXTERFACE	Interface configuration is incorrect.
ILLEGAL_AGENT	Agency ID is incorrect.
HAS_NO_PRIVILEGE	Has no right to visit.
INVALID_CHARACTER_SET	The character set is invalid.

4.5.4.3 System Errors

When system error occurs, please contact Alipay technology support to assist the error repair..

Returned result	Description
SYSTEM_ERROR	Alipay system error
SESSION_TIMEOUT	Session timeout
ILLEGAL_TARGET_SERVICE	Wrong target service
ILLEGAL_ACCESS_SWITCH_SYSTEM	Merchant is not allowed to visit system of this type.

EXTERFACE_IS_CLOSED

The interface has been closed.

4.6 Forex_rate_file

To get the exchange rate from Alipay, the partners can call this API.

4.6.1 Request Parameters

Parameter	Type (length in bytes)	Description	Optional	Example
Basic Parameter				
service	String	Service Name	N	forex_rate_file
partner	String(16)	Partner ID. Composed of 16 digits beginning with 2088.	N	2088001159940003
sign_type	String	Signature method. The following are supported. Must be uppercase. DSA, RSA, and MD5.	N	RSA
sign	String	Signature value.	N	e5815a4556db338ed237f7d3fd222184

Remarks:

- Currently the interface only supports .txt file to be downloaded.
- The file contains no headings for data fields, and each data field is separated by “|”
- The data is just for current day’s exchange rate.
- This exchange rate is ONLY for reference. The real exchange rate is shown on the payment page for each transaction.

4.6.2 Sync Response

4.6.2.1 Response format

The responses could be in different formats for different use cases

- It is in XML format if there is error caught by the Gateway
- It could in plain text error message if it is the error from the biz logic
- It is a file to download if the call is successful.

4.6.2.2 File Format for the Transaction Report file in the Response

Order	Field name	Type	Description
1	Date	String(8)	Rate releasing date: YYYYMMDD
2	Time	String(6)	Rate releasing time: HHMMSS
3	Currency	String(3)	Abbreviated currency names.
4	Rate	String(10)	

4.6.3 Samples

4.6.3.1 Request Sample

http://mapi.alipay.net/gateway.do?sign_type=MD5&sendFormat=normal&sign=590a9fbbed8a5b9a86b426795445f9f0&service=forex_rate_file&partner=2088101122136241

4.6.3.2 An example of the rate file:

```

20160504|100030|CHF|6.829600|
20160504|100030|EUR|7.491500|
20160504|100030|THB|0.185877|
20160504|100030|DKK|1.007800|
20160504|100030|SGD|4.815600|
20160504|100030|GBP|9.476100|
20160504|100030|HKD|0.838800|
20160504|100030|NOK|0.803000|
20160504|100030|CAD|5.124900|
20160504|100030|KRW|0.005814|
20160504|100030|NZD|4.496100|
20160504|100030|JPY|0.060934|
20160504|100030|AUD|4.877600|
20160504|100030|SEK|0.809800|

```

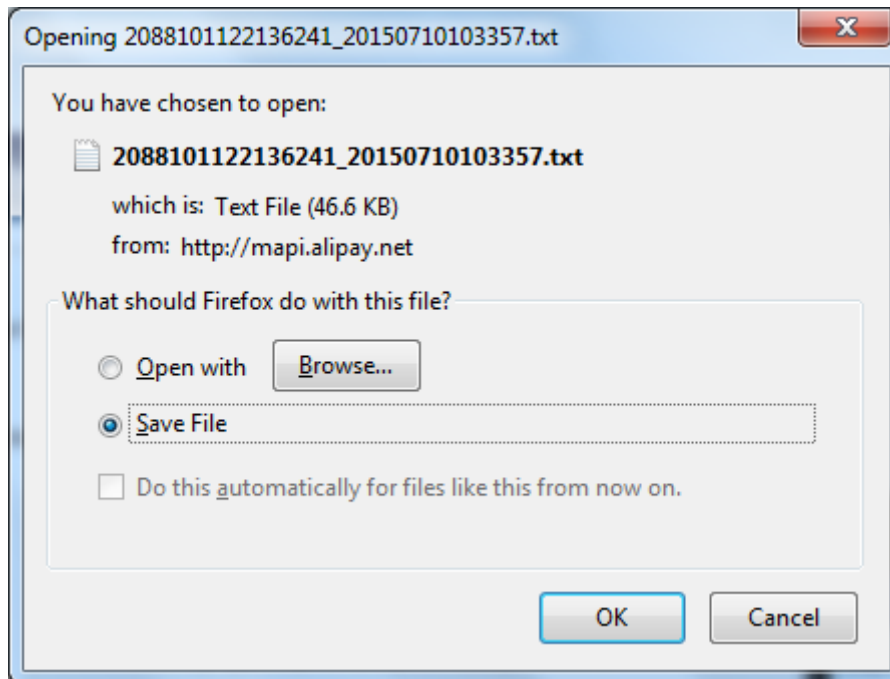
20160504|090530|USD|6.534600|

4.6.3.3 Response Samples

4.6.3.3.1 Success response

The response is HTTP response with an attached file, which is the FX rate file with the FX included.

The sample is for illustration of the browser download.



4.6.3.3.2 Error response from the biz logic:

File download failed: Over 10 days to Date period

4.6.3.3.3 Error response from the Gateway:

```
<?xml version="1.0" encoding="UTF-8"?>

<alipay>

<is_success>F</is_success>

<error>ILLEGAL_SIGN</error>

</alipay>
```

In this example, there is no signature (This is the legacy behavior of Alipay's API Gateway).

4.6.4 Error Codes

For the system API calls, in general, the validations are being done at two levels on Alipay side.

The first level is at the API gateway level, where it does certain sanity checks such as verifying the signature, verifying if the partner ID is valid or whether the partner has permission to call this particular API, etc. If the validation fails, Alipay would return the appropriate error codes which are classified as the 'API Gateway Error Codes' as in the below.

Once it passes the validations at the API gateway level, the API request would be dispatched to the internal system for further processing, which it would be subjected to the validations of the business logic. The corresponding error codes returned are classified as the 'Business Error Codes'.

4.6.4.1 Business Logic Errors

Returned result	Description
System exception	Alipay system error
Merchant ID incorrect	Invalid partner ID
File empty	Null content of the file

4.6.4.2 Access Errors / Common Errors with MAPI Gateway

If the calling parameters have error in it, Alipay MAPI gateway will capture it and display the errors. However, the control flow will stay at the Alipay side and will **NOT** return to the merchant's site.

Returned result	Description
ILLEGAL_ARGUMENT	Incorrect parameter
ILLEGAL_SIGN	Illegal signature
ILLEGAL_SERVICE	Service Parameter is incorrect
ILLEGAL_PARTNER	Incorrect Partner ID
ILLEGAL_SIGN_TYPE	Signature is of wrong type.
ILLEGAL_PARTNER_EXTERFACE	Service is not activated for this account
ILLEGAL_DYN_MD5_KEY	Dynamic key information is incorrect
ILLEGAL_ENCRYPT	Encryption is incorrect.

ILLEGAL_USER	User ID is incorrect.
ILLEGAL_EXTERFACE	Interface configuration is incorrect.
ILLEGAL_AGENT	Agency ID is incorrect.
HAS_NO_PRIVILEGE	Has no right to visit.
INVALID_CHARACTER_SET	The character set is invalid.

4.6.4.3 System Errors

When system error occurs, please contact Alipay technology support to assist the error repair..

Returned result	Description
SYSTEM_ERROR	Alipay system error
SESSION_TIMEOUT	Session timeout
ILLEGAL_TARGET_SERVICE	Wrong target service
ILLEGAL_ACCESS_SWITCH_SYSTEM	Merchant is not allowed to visit system of this type.
EXTERFACE_IS_CLOSED	The interface has been closed.

4.7 Notify_verify

- **Purpose**

Validate a notification is from Alipay Server, ensure the authenticity of the response data.

- **Mechanism**

Acquire the parameter notify ID (notify_id), assemble it into a URL according to Alipay requirement, e.g.:

https://mapi.alipay.com/gateway.do?service=notify_verify&partner=2088002396712354¬ify_id=RqPnCoPT3K9%252Fvwbh3I%252BFioE227%252BPfNMI8jwyZqMliXQWxhOCmQ5MQO%252FWd93rvCB%252BaiGg

Through this request URL, partner can acquire result data from Alipay server with the method of programming to simulate the http request interacting with Alipay server.

If returned information is true, verification success, otherwise fail.

4.7.1 Request Parameters

Parameter	Type (length in bytes)	Description	Optional	Example
Basic Parameter				
service	String	Service Name	N	notify_verify
partner	String(16)	Partner ID. Composed of 16 digits beginning with 2088.	N	2088001159940003
Business Parameter				
notify_id	String(34)	The ID of Alipay system's notification.	N	

Remarks:

- The proper event sequence to verify async notification is as the following
 - Receive the notification, do not reply 'Success' yet. Otherwise the reply will impact the system behavior. (Alipay will return false for all the inquiries whose notification has been replied with "success").
 - Verify the notify id through calling this API.
 - If the input parameter is invalid, Alipay will return "Invalid"
 - If the notification is sent by Alipay and the inquiry occurs with the pre-defined time frame, Alipay will return "True".
 - If the notification is not sent by Alipay, Alipay will return "False".
 - If the inquiry occurs out of the pre-defined time frame, Alipay will return "False".
 - If the merchant has replied any of the notification with the response of "true", Alipay will return "False".
 - Once verified, the merchant should reply "Success" to the asynchronous notification. If not, process with the proper business logic.

4.7.2 Sync Response

The response is a string with the status.

4.7.2.1 Response Samples

If the input parameter is invalid, return,

Invalid

If the notification is from Alipay, and inquires in the valid time frame, (1 min)

True

If the notification is not from Alipay, or passes 1 min time frame,

False

4.7.3 Samples

4.7.3.1 Request Sample

https://intlmapapi.alipay.com/gateway.do?service=notify_verify&partner=2088101122136241¬ify_id=4465b04e84cb6bacc2bd1b52232c0b8gjjg&sign=ciSBXc7gjCfXW8KMBxFiFH2cbMZtFelfTOGKqY2NF7q98RnH3E%2BiF5Cj%2Fu%2BI8py1D%2FOsE%2FAva1Is8A6Tw1MzhG6ideJSgh4FxWmAjEnlczdfLj%2FqzA6qGzxdKGEXaSDFmTGglOembXUqK8g8ajlCD%2BBH7xoxBRY7vtfylEXtojs%3D&sign_type=RSA

4.7.4 Error Codes

For the system API calls, in general, the validations are being done at two levels on Alipay side.

The first level is at the API gateway level, where it does certain sanity checks such as verifying the signature, verifying if the partner ID is valid or whether the partner has permission to call this particular API, etc. If the validation fails, Alipay would return the appropriate error codes which are classified as the 'API Gateway Error Codes' as in the below.

Once it passes the validations at the API gateway level, the API request would be dispatched to the internal system for further processing, which it would be subjected to the validations of the business logic. The corresponding error codes returned are classified as the 'Business Error Codes'.

4.7.4.1 Business Logic Errors

Returned result	Description
SYSTEM_EXCEPTION	Alipay system error
ILLEGAL_ARGUMENT	Incorrect parameter
ILLEGAL_SIGN	Illegal signature
ILLEGAL_SERVICE	Service Parameter is incorrect
ILLEGAL_PARTNER	Incorrect Partner ID
ILLEGAL_SIGN_TYPE	Signature is of wrong type.

4.7.4.2 Access Errors / Common Errors with MAPI Gateway

If the calling parameters have error in it, Alipay MAPI gateway will capture it and display the errors. However, the control flow will stay at the Alipay side and will **NOT** return to the merchant's site.

Returned result	Description
SYSTEM_EXCEPTION	Alipay system error
ILLEGAL_ARGUMENT	Incorrect parameter
ILLEGAL_SIGN	Illegal signature

ILLEGAL_SERVICE	Service Parameter is incorrect
ILLEGAL_PARTNER	Incorrect Partner ID
ILLEGAL_SIGN_TYPE	Signature is of wrong type.
ILLEGAL_PARTNER_EXTERFACE	Service is not activated for this account
ILLEGAL_DYN_MD5_KEY	Dynamic key information is incorrect
ILLEGAL_ENCRYPT	Encryption is incorrect.
ILLEGAL_USER	User ID is incorrect.
ILLEGAL_EXTERFACE	Interface configuration is incorrect.
ILLEGAL_AGENT	Agency ID is incorrect.
HAS_NO_PRIVILEGE	Has no right to visit.
INVALID_CHARACTER_SET	The character set is invalid.

4.7.4.3 System Errors

When system error occurs, please contact Alipay technology support to assist the error repair..

Returned result	Description
SYSTEM_ERROR	Alipay system error
SESSION_TIMEOUT	Session timeout
ILLEGAL_TARGET_SERVICE	Wrong target service
ILLEGAL_ACCESS_SWITCH_SYSTEM	Merchant is not allowed to visit system of this type.
EXTERFACE_IS_CLOSED	The interface has been closed.

5 FAQ

5.1 Signature Algorithms

5.1.1 Generate Pre-sign string

5.1.1.1 Parameters to sign

In the list of request parameters, all of them need to be signed except sign、sign_type . (in some case even sign_type also need to be signed)

In the list of response parameters, all of them need to be signed except sign、sign_type.

5.1.1.2 Generate Pre-sign string

For following data set:

```
string[] parameters={  
  
    "service=create_forex_trade",  
  
    "partner=2088101568338364",  
  
    "_input_charset=gbk",  
  
    "return_url= http://www.test.com/alipay/return_url.asp",  
  
    "out_trade_no=6741334835157966",  
  
    "subject=test",  
  
    "payment_type=1 ",  
  
    "seller_email=alipay-test01@alipay.com",  
  
    "total_fee=100"  
  
};
```

Rearrange parameters in the data set alphabetically

And connect rearranged parameters with &:

```
_input_charset=gbk&out_trade_no=6741334835157966&partner=2088101568338364&  
payment_type=1&return_url=http://www.test.com/alipay/return_url.asp&seller  
_email=alipay-test01@alipay.com&service=create_direct_pay_by_user&subject=  
贝尔金护腕式&total_fee=100
```

This is the pre-sign string



Notice:

Notice:

- Parameters without a value, can be excluded from sign;
- Charset in sign must be consistent with the charset used previously
- If `_input_charset` is passed, it also shall be signed.
- According to HTTP protocol, special character like `&`, `@` needs to do URL encoding, therefore the request receiver can get correct value. In this situation, pre-sign string shall be the original value instead of encoded one. For example: calling a particular API need to sign the parameter email, the pre-sign string shall be [email=test@msn.com, rather](#) than `email=test%40msn.com`.

5.1.2 Signature Generation

5.1.2.1 MD5 Signature

Private Key is necessary for MD5 signature. The MD5 private key is the 32-byte string which is composed of English letters and numbers. Partner can log on the Merchant Service Center (<https://global.alipay.com>) to check the private key.

- Sign for request

After the partner receives the pre-sign string during requesting, the private key should be appended to the pre-sign string to generate the new string. Then this new string would be calculated with the MD5 signature algorithm by the MD5 signature function. Thus, the result 32-byte string is the signature result string. (the value is given to parameter "sign")

- Signature Verification for response

After receiving the pre-sign string during responding from Alipay system, the next step is the same as the procedure of Sign for request. When the 32-byte signature result string is generated, it should be verified whether the value is equal to the value of the parameter "sign". If equal, the verification would be passed.

5.1.2.2 DSA, RSA Signature

Both private key and public key are necessary for DSA or RSA signature. Both private key and public key are generated with OPENSSL by partner.

Partner and Alipay need to exchange their own public key. Therefore, partner uses Alipay public key and partner private key.

- Sign for request

After the partner receives the pre-sign string during requesting, the partner private key and the pre-sign string are used in the RSA or DSA signature algorithm by the RSA or DSA signature function to get the result string. (the value is given to parameter “sign”)

- Signature Verification for response

After receiving the pre-sign string during responding from Alipay system, the Alipay public key, the pre-sign string and the parameter “sign” are used in the RSA or DSA signature asymmetric algorithm by the RSA or DSA signature function to accomplish the signature verification.

5.2 RSA Key Generation with OpenSSL

5.2.1 OpenSSL installation

- Linux (Ubuntu)

```
sudo apt-get install openssl
```

- Windows

The developer can download Windows version of OpenSSL from the official site of <https://www.openssl.org/source/>.

5.2.2 RSA key pair generation

- Linux

```
$ openssl
```

```
OpenSSL> genrsa -out rsa_private_key.pem 1024 ##generating private key
```

```
OpenSSL> pkcs8 -topk8 -inform PEM -in rsa_private_key.pem -outform PEM -nocrypt  
##transform private key into PKCS8 format
```

```
OpenSSL> rsa -in rsa_private_key.pem -pubout -out rsa_public_key.pem ##Generate public key
```

```
OpenSSL> exit
```

- Windows operates in cmd window:

```
C:\Users\Hammer>cd C:\OpenSSL-Win32\bin ##enter OpenSSL directory
```



```
C:\OpenSSL-Win32\bin>openssl.exe ##enter OpenSSL
```

```
OpenSSL> genrsa -out rsa_private_key.pem 1024 ##generating private key
```

```
OpenSSL> pkcs8 -topk8 -inform PEM -in rsa_private_key.pem -outform PEM -nocrypt  
##transform private key into PKCS8 format
```

```
OpenSSL> rsa -in rsa_private_key.pem -pubout -out rsa_public_key.pem ##Generate public key
```

```
OpenSSL> exit
```

Remarks:

For Java developers, we need to remove the header, footer, <CR>, and space from the pkcs8 private key output in the console. For .NET and PHP developer, there is no need for the pkcs8 operation.

After the above steps, the user could see two files under the current folder (C:\OpenSSL-Win32\bin for Windows), rsaprivatekey.pem and rsapublickey.pem.

The former is the private key while the latter is the public key. The merchant should keep the private key and exchange the public key with Alipay for signature verification. The following are the examples on how to use the key pair.

- Standard private key file (PHP, .NET)

```
-----BEGIN RSA PRIVATE KEY-----
```

```
MIICXQIBAAKBgQC+L0rfjLl3neHleNMOsYTW8r0QXZ5RVb2p/vvY3fjNNugvJ7lo4+fd  
Bz+LN4mDxTz4MTOhi5e2yeAqx+v3nKpNmPzC5LmDjhHZURhwbqFtlpZD51mOfno  
2c3MDwlrsVi6mTypbNu4uaQzw/TOpwufSLWF7k6p2pLoVmmqJzQiD0QIDAQABAO  
GAakB1risquv9D4zX7hCv9MTFwGyKSfpJOYhklJwKAik7wrNeeqFEbisqv35FpjGq3Q  
1oJpGkem4pxaLVEyZOHONefZ9MGVChT/MNH5b0FJYWl392RZy8KCdq376Vt4gKVl  
ABvaV1DkapL+nLh7LMo/bENudARsxD55IGObMU19lkCQQDwHmzWPMHfc3kdY6A  
qiLrOss+MVIAhQqZOHhDe0aW2gZtwiWeYK1wB/fRxJ5esk1sScOWgzvCN/oGJLhU3k  
ipHAkEAYSNoSdG2oWADxllt4W9kUiiqNgimHGMHPwp4JMxupHMTm7D9XtGULiDij  
ZxunHv3kvktNfWj3Yji0661zHVJwJBAM8TDf077F4NsVc9AXVs8N0sq3xzqwQD/HPF  
zfq6hDR8tVY5yRMb4X7+SX4EDPORKKsgnYcur5lk8MUi7r072iUCQQC8xQvUne+fcd  
pRyrR4StJlQvucogwjTKMbYRBDygXklITJOIorgudFlrKP/HwJDoY4uQNI8gQJb/1LdrK  
wle7FAkBl0TNtfodGrDXBHwBgtN/t3pyi+sz7OpJdUklKE7zMSBuLd1E304JMzvWP9  
wEE7JDb+brjgK4/cxxUHUTkk592
```

```
-----END RSA PRIVATE KEY-----
```

- Standard private key file in PKCS8 format(Java)

```
-----BEGIN PRIVATE KEY-----
```

```
MIICeAIBADANBgkqhkiG9w0BAQEFAASCAmIwggJeAgEAAoGBAN0yqPkLXlnhM+2H
/57aHsYHaHXazr9pFQun907TMvmbR04wHChVsKVgGUF1hC0FN9hfeYT5v2SXg1W
JSg2tSgk7F29SpsF0I36oSLCIszxd7ClO7c22mxEVuCjmYpJdq6XweAZzv4Is661jXP
4PdrCTHRdVTU5zR9xUByiLSVAgMBAAECgYEAhznORRnHylm9oKaygEsqQGkYdB
XbnsOS6busLi6xA+iovEUdbAVIrTCG9t854z2HAgalSoRUKyztJoOtJfl1wJaQU+XL+U3J
lh4jmNx/k5UzJijfvfpT7Cv3ueMtqyAGBJrkLvXjiS7O5ylaCGuB0Qz711bWGkRrVoosP
M3N6ECQQD8hVQUgnHEVHZYtvFqfcoq2g/onPbSqyjdRru35a7PvgDAZx69Mr/XggG
NTgT3jJn7+2XmiGkHM1fd1Ob/3uAdAkEA4D7aE3ZgXG/PQqlm3VbE/+4MvNl8xhjq
OkByBOY2ZFfWKhlRziLEPSSAh16xEJ79WgY9iti+guLRAMravGrs2QJBAOmKWYeaW
KNNxiloF7/4VDgrcpkcSf3uRB44UjFSn8kLnWBUPo6WV+x1FQBdjqrviZ4NFGIP+Kq
rJnFHzNgJhVUCQFzCAukMDV4PLfeQJSmna8PFz2UKva8fvTutTryyEYu+PauaX5laDjy
Qbc4RIEMU0Q29CRX3BA8WDYg7YPGRdTkcCQCG+pjU2FB17ZLuKRlKEdtXNV6zQF
TmFc1TKhlsDTtCkWs/xwkoCfZKstuV3Uc5J4BNJDkQOGm38pDRPcUDUh2/
```

```
-----END PRIVATE KEY-----
```

- Public key file

```
-----BEGIN PUBLIC KEY-----
```

```
MIGfMA0GCSqGSIb3DQEBAQUAA4GNADCBiQKBgQDQWiDVZ7XYxa4CQsZoB3n7bfx
LDkeGKjyQPt2FUtm4TWX9OYrd523iw6UUqnQ+Evfw88JgRnhyXadp+vnPKP7unor
mYQAfsm/CxzrfMoVdtwSiGtIJB4pfyRXjA+KL8nIa2hdQy5nLfgPVGZN4WidfUY/Qpkd
dCVXnZ4bAUaQjXQIDAQAB
```

```
-----END PUBLIC KEY-----
```

5.2.2.1 Upload the public key

Remove the header, footer, <CR>, and space. For example, pem format:

```
-----BEGIN PUBLIC KEY-----
```

```
MIGfMA0GCSqGSIb3DQEBAQUAA4GNADCBiQKBgQDQWiDVZ7XYxa4CQsZoB3n7bfx
LDkeGKjyQPt2FUtm4TWX9OYrd523iw6UUqnQ+Evfw88JgRnhyXadp+vnPKP7unor
mYQAfsm/CxzrfMoVdtwSiGtIJB4pfyRXjA+KL8nIa2hdQy5nLfgPVGZN4WidfUY/Qpkd
dCVXnZ4bAUaQjXQIDAQAB
```

```
-----END PUBLIC KEY-----
```

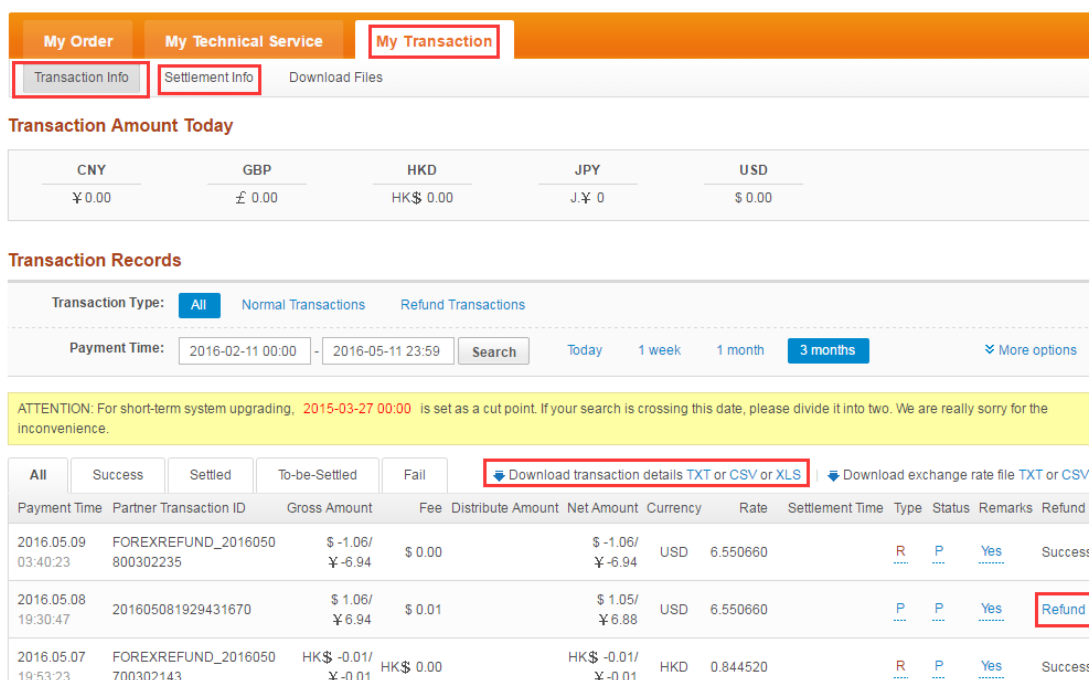
After the processing:

```
MIGfMA0GCSqGSIb3DQEBAQUAA4GNADCBiQKBgQDQWiDVZ7XYxa4CQsZoB3n7bfx
LDkeGKjyQPt2FUtm4TWX90Yrd523iw6UUqnQ+Evfw88JgRnhyXadp+vnPKP7unor
mYQAfsM/CxzrfMoVdtwSiGtIJB4pfyRXjA+KL8nIa2hdQy5nLfgPVGZN4WidfUY/Qpkd
dCVXnZ4bAUaQjXQIDAQAB
```

Contact Alipay technical support at overseas_support@service.alibaba.com to upload the public key. Please sign with the matching private key in the key pair.

5.3 Global Portal

Merchants can refund, check/download transaction and settlement info on global.alipay.com:



Transaction Amount Today

CNY	GBP	HKD	JPY	USD
¥ 0.00	£ 0.00	HK\$ 0.00	J.¥ 0	\$ 0.00

Transaction Records

Transaction Type: **All** Normal Transactions Refund Transactions

Payment Time: 2016-02-11 00:00 - 2016-05-11 23:59 **Search** Today 1 week 1 month **3 months** [More options](#)

ATTENTION: For short-term system upgrading, 2015-03-27 00:00 is set as a cut point. If your search is crossing this date, please divide it into two. We are really sorry for the inconvenience.

All	Success	Settled	To-be-Settled	Fail	Download transaction details TXT or CSV or XLS	Download exchange rate file TXT or CSV						
Payment Time	Partner Transaction ID	Gross Amount	Fee	Distribute Amount	Net Amount	Currency	Rate	Settlement Time	Type	Status	Remarks	Refund
2016.05.09 03:40:23	FOREXREFUND_2016050800302235	\$ -1.06/ ¥ -6.94	\$ 0.00		\$ -1.06/ ¥ -6.94	USD	6.550660		R	P	Yes	Success
2016.05.08 19:30:47	201605081929431670	\$ 1.06/ ¥ 6.94	\$ 0.01		\$ 1.05/ ¥ 6.88	USD	6.550660		P	P	Yes	Refund
2016.05.07 19:53:23	FOREXREFUND_2016050700302143	HK\$ -0.01/ ¥ -0.01	HK\$ 0.00		HK\$ -0.01/ ¥ -0.01	HKD	0.844520		R	P	Yes	Success

5.4 Alipay Sandbox

Alipay sandbox gateway URL: <https://openapi.alipaydev.com/gateway.do?>

Merchant account on Sandbox:

PID: 2088101122136241

Email Account: overseas_kgtest@163.com

MD5 KEY

MD5 : 760bdzec6y9goq7ctyx96ezkz78287de

RSA

Private Key:

MIICdwIBADANBgkqhkiG9w0BAQEFAASCAmEwggljAgEAAoGBAI7Xh680MTnfYDxwyzSqKMhK
Wed3UP64YMaDkHgBtgCk3odFjoMcDTDumZqeiC1hVICVFR94blrq1ZhxQnFS+UqhXkPhyzuiPZQV
BGaZ42y8brGuFiGJVjlo7Sf6GMc14a0d+bLD0C13faGK7PV0YQ7A1xaIIn/fn/Uk4qpOWEhhAgMBA
AECgYBO2ZkT1RrLWixWM0lrY/bpQWnJhSrXwU3ip2OLa15dkqUoRPQ7WbPKbBusp5CCchHTSGf
m0CpXYaEOKSBMmXWgwuz767/EEpaJfep3OPmKGD+kGPdA3qDYfTMCGRXSX1J47kjLa9XQX6iB
mUMAzvTrLS9lZLXPKDhmU6bNZdODH1QJBA011/TIcjq7Fd0lwmXigbCs52suZP6/JEVpy6dSVPbZ
ubCnJY3JbG044TN/2Ve4PzMNhmt367k46COpN6Oh1gAMCQQCaG6S2+NL9HTPD2RYmLKF8mX
wcYD20WH2qsEGSVZwZma1CzbiwgY0MCUyXue0T/RabkU+oj0v679qy5AtkuULLAkEAzuliwJveX
9CZYFTrvyBEsrzUac3MI0DB/RIPhaxOEBLiBt4x9bo0aVT21CU+cUUdzRIDtaXmwBgjRg2CF5K+eQ
JAHAW5+dMBzeeSElcG8kV/OC0jzx5PCizgazX39KttoIZ3gInSgHlMoEmapknIfFugQ/l2pNkj9e6f7
m00LZYDQJBAOBCfnJmeppAA07ws2FzfvR880+rYc1gI95BSKK4ZLMO02w+4k/NQ15K6MqlqwFN
zTJq0HbF1MryUcuuASx0sQs=

Public Key:

MIGfMA0GCSqGSIb3DQEBAQUAA4GNADCBiQKBgQCO14evNDE532A8cMs0qijISlnd1D+uGDGg5
B4AbYApN6HRY6DHA0w7pmanogtYVSAlRufeG5a6tWYcUJxUvlKoV5D28s7oj2UFQRmmeNsvG6x
rhYhiVY5a00n+hjHNeGtHfmyw9AtD32hiuz1dGEOWncWiCJ/35/1JOKqTlhIYQIDAQAB

Buyer Accounts:

- 1) douyufua@alitest.com
- 2) alipaytest20091@gmail.com

Captcha Code: 8888

Login Password: 111111

Payment Password on Payment Page: 111111

5.5 Supported Currency List

Abbreviation	Currency	Decimal Number
GBP	British Sterling	2
HKD	Hong Kong Dollar	2
USD	U.S. Dollar	2
CHF	Confederation Helvetica Franc	2
SGD	Singapore Dollar	2
SEK	Swedish Krona	2
DKK	Danish Krone	2
NOK	Norwegian Krone	2
JPY	Japanese Yen	0
CAD	Canada Dollar	2
AUD	Australian Dollar	2
EUR	Euro	2
NZD	New Zealand Dollar	2
KRW	Korea Won	0
THB	Thai Baht	2

6 Contact us

For technical questions, please contact Alipay technical support at overseas_support@service.alibaba.com.

For non-technical questions, like how to sign up with Alipay, please contact global.service@alipay.com.

