

**Safaricom Financial Services
MPESA VAS**

M-PESA Instant Payment Notification Guide

VAS Development

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1. INTRODUCTION

1.1.1 About this Guide

This guide provides technical information about integrating and configuring the M-PESA Instant Payment Notification within your environment.

1.1.2 Intended Audience

This document is intended for developers, integrating M-PESA IPN into their own applications or websites. You will probably require test accounts for which you need to contact Safaricom.

1.1.3 System Overview

MPESA IPN enables Paybill merchants to receive real-time notification to their systems whenever funds are sent to their Paybill. The notifications may be delivered in SMS, EMAIL or HTTP/S as shall be agreed between Safaricom and the Paybill Merchant.

This guide addresses the HTTPS connectivity.

1.1.4 Requirements

To implement M-PESA IPN, the PayBill merchant will require to have the following in place

Requirement	Remarks	Status
Paybill Number	You must have a valid PayBill number assigned by Safaricom	
Business Terminal (MSISDN)	Your PayBill number will be attached to a Business Terminal MSISDN. To make this process faster, it is advisable that you allow Safaricom to provide you an already preconfigured business terminal.	
HTTP/S URL	IPN notifications will be sent to a URL provided by the customer. See below for Parameters.	
IPN ACCOUNT	For your monitoring purpose, you will be provided username and password to view IPN messages.	

2. IMPLEMENTATION

A test account will be provided through which you can make tests.

2.1. POST Parameters

Upon a successful payment to your Paybill by an M-PESA user, the IPN system makes an HTTP call to a URL provided by yourself deliver a notification to your systems. The parameters passed are as follows;

Parameter	Remarks	Example
id	This is the IPN notification unique number	100
orig	This will be source of the notification.	MPESA
dest	This will be same as your business terminal MSISDN.	254722123456
tstamp	This is the timestamp for when the IPN notification was received from MPESA.	2011-04-26 12:47:31.0
text	This is the full text message as received from MPESA.	This is will be the full SMS message.
user	If you provide us a username and password to access your URL this parameter will contain the username	Username for Developer URL
pass	If you provide us a username and password to access your URL this parameter will contain the password.	Password for Developer URL
mpesa_code	The MPESA transaction code.	BI55EQ862
mpesa_acc	The Account as entered by the subscriber	TEST
mpesa_msisdn	The mobile number of the subscriber that has sent the funds	254722507036
mpesa_trx_date	The transaction date	26/4/11
mpesa_trx_time	The transaction time	1:03 PM
mpesa_amt	The transaction amount	50.0
mpesa_sender	The name of the sender (subscriber).	CHRIS KARIKU

The actual POST/GET call is made to your server as follows:

```
https://yourip/yourscript.php?id=2970&orig=MPESA&dest=254700733153&tstamp=2011-07-06+22%3A48%3A56.0&text=BM46ST941+Confirmed.+%0Aon+6%2F7%2F11+at+10%3A49+PM+%0AKsh8%2C723.00+received+from+RONALD+NDALO+254722291067.+%0AAccount+Number+5FML59-01+%0ANew+Utility+balance+is+Ksh6%2C375%2C223.00&customer_id=2&user=123&pass=123&route_method_id=2&route_method_name=HTTP&mpesa_code=BM46ST941&mpesa_acc=5FML59-01&mpesa_msisdn=254722291067&mpesa_trx_date=6%2F7%2F11&mpesa_trx_time=10%3A49+PM&mpesa_amt=8723.0&mpesa_sender=RONALD+NDALO
```

See below without URLencoding

```
https://yourip/yourscript.php?id=2970&orig=MPESA&dest=254700733153&tstamp=2011-07-06 22:48:56.0&text=BM46ST941 Confirmed.on 6/7/11 at 10:49 PM Ksh8,723.00 received from RONALD NDALO 254722291067.Account Number 5FML59-01 New Utility balance is Ksh6,375,223.00&customer_id=2&user=123&pass=123&route_method_id=2&route_method_name=HTTP&mpesa_code=BM46ST941&mpesa_acc=5FML59-01&mpesa_msisdn=254722291067&mpesa_trx_date=6/7/11&mpesa_trx_time=10:49 PM&mpesa_amt=8723.0&mpesa_sender=RONALD NDALO
```

2.2. Response

There are two scenarios for response:

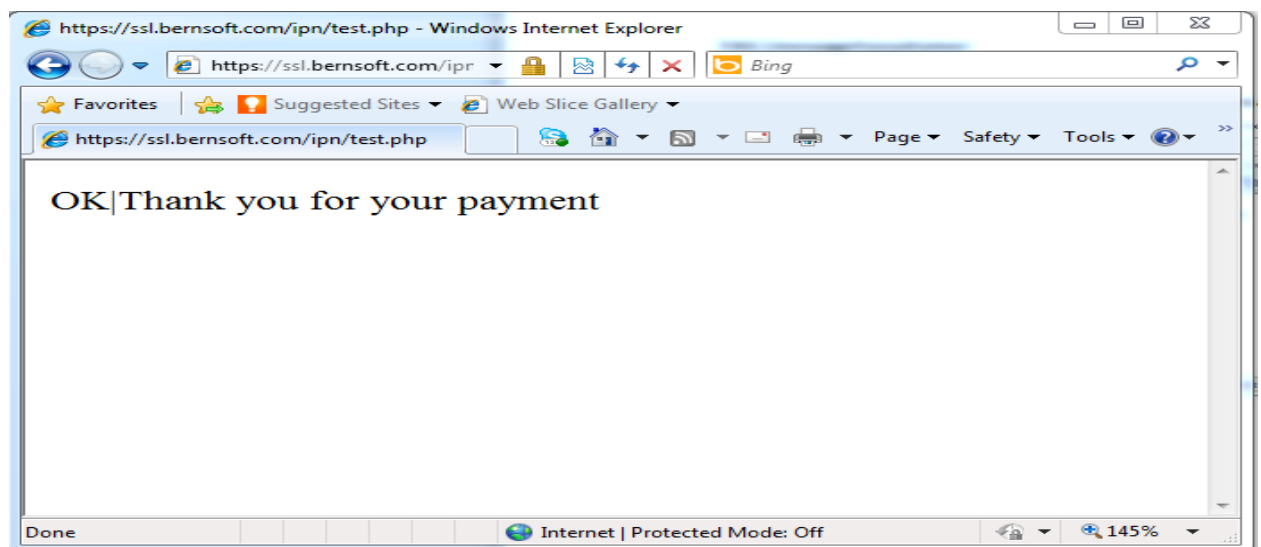
On successful receipt of the IPN, reply as follows;

OK|messagetocustomer

On failure:

FAIL|messagetocustomer

The response should be a plain response text with no formatting see the image below for an example



3. SAMPLE CODE

See below sample PHP code that can be adopted to receive M-PESA transactions. Please note that this code is not secure for production use.

```
<?php
/*
    MPESA IPN Sample

    Please do not use this code for production as it does not address security.

    Copyright (c) 2011

*/

$myFile = "mpesalog.txt";
$fh = fopen($myFile, 'a') or die("can't open file");
fwrite($fh, "=====\n");
foreach ($_REQUEST as $var => $value) {

    fwrite($fh, "$var = $value\n");
}

fwrite($fh, $fmessage);
fclose($fh);
/*
This below is a sample of how this script will be called by M-PESA
https://yourip/yourscript.php?id=2970&orig=MPESA&dest=254700733153&tstamp=2011-07-06
22:48:56.0&text=BM46ST941 Confirmed.on 6/7/11 at 10:49 PM Ksh8,723.00 received from RONALD
NDALO 254722291067.Account Number 5FML59-01 New Utility balance is
Ksh6,375,223.00&customer_id=2&user=123&pass=123&routemethod_id=2&routemethod_name=HTTP&mpesa_c
ode=BM46ST941&mpesa_acc=5FML59-
01&mpesa_msisdn=254722291067&mpesa_trx_date=6/7/11&mpesa_trx_time=10:49
PM&mpesa_amt=8723.0&mpesa_sender=RONALD NDALO
*/

//Save to Database - Commented!
/*
$con = mysql_connect("localhost","root","");
if (!$con)
{
    die('Could not connect: ' . mysql_error());
}
mysql_select_db("mpesaipn", $con);
$id = $_REQUEST['id'];
$moneyfromnumber = $_REQUEST['mpesa_msisdn'];
$moneyfromname = $_REQUEST['mpesa_sender'];
$amount = $_REQUEST['mpesa_amt'];
mysql_query("INSERT INTO tblmpesa (tx_id, tx_sendernumber,tx_sendername, tx_amount)
VALUES ('$id', '$moneyfromnumber', '$moneyfromname', $amount)");
mysql_close($con);
```

```
*/  
echo "OK|Thank you for your payment";  
?>
```

4. DEVELOPER SUPPORT

Developer support is available through email to ipn@safaricom.co.ke