**Developing a SMS Gateway by Using PHP with SMS Engine**

**Guide for System Integrator & Software Developer**

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Developing a SMS Gateway by Using PHP with SMS Engine
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<th>ISSUED DATE</th>
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<tr>
<td>1st</td>
<td>13th of August, 2007</td>
<td>Initial release</td>
</tr>
<tr>
<td>2nd</td>
<td>26th of September, 2007</td>
<td>Revised</td>
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INTRODUCTION

SMS Engine is a Windows application that sends and receives SMS. System integrator and software developer (SI/SD) do not need to write any code to build a SMS Gateway. The SMS Engine uses MS Access database – “SMSEngine3.mdb” to store incoming SMS, and to check if there is any pending SMS to be send out. SI/SD only needs to insert record into database to send out SMS, and retrieve record from database to read SMS. The SMS Engine has taken care all SMS transactions.

PHP programmers can develop a SMS Gateway or SMS application by using PHP with SMS Engine. PHP programmers need only to interact with the database via ODBC to send and read SMS. A sample code written in PHP is provided with the SMS Engine. PHP programmers can freely use, or modify the code.

REQUIREMENTS

1. SI/SD must posses knowledge of PHP, database programming and SQL statement
2. SMS ENGINE version 3
3. PHP version 5
4. Web Server – IIS or Apache
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SYSTEM ARCHITECTURE DIAGRAM

SMS Engine.exe

SMS Engine will check for any new records in Outbox Table, and then will send SMS out via GSM modem.

SMS Engine will automatically retrieve incoming SMS received by GSM modem, and then insert a new record into SMSEngine3.mdb-Inbox Table.

SMTP Engine3.mdb

All incoming SMS will be automatically stored in SMSEngine3.mdb-Inbox Table.

To send SMS out, the PHP Application will insert a record into SMSEngine3.mdb-Outbox Table.

To read SMS, the PHP Application will query SMSEngine3.mdb-Inbox Table for any new records.

PHP Application
manage the flow of SMS

MS SQL, MY SQL

Enterprise System
ERP, Accounting System, SCADA

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INSTALLATION GUIDE – PHP WITH IIS

You can either install PHP with IIS or PHP with Apache. This section will guide you on the installation of PHP with IIS.

a) Web Server Installation (IIS Web Server)
To install IIS, add optional components, or remove optional components
1. Click Start, click Control Panel, and click Add or Remove Program.
2. Click Add/Remove Windows Components. The Windows Components Wizard appears.
3. Follow the on-screen instructions to install the IIS.
Refer link below for details explanation:

b) PHP version 5 Installation
1. Run the set-up "php-5.2.3-win32-installer.msi".
2. Click on Next button.

Welcome to the PHP 5.2.3 Setup Wizard

The Setup Wizard will install PHP 5.2.3 on your computer. Click Next to continue or Cancel to exit the Setup Wizard. Please disable any virus detection software you may have running during this installation.
2. Check the Check Box in order to accept the license agreement then click on Next button.

3. Browse the directory in order to save the PHP file then click on Next button.
4. Select **IIS ISAPI module**

5. Click on **Next** button.
6. Click on **Install** button.

![Image of PHP 5.2.3 Setup](image)

7. Click on **Finish** button.

![Image of PHP 5.2.3 Setup](image)
c) Add a new folder
Add a new folder in “C:\Inetpub\wwwroot”, call it “PHPSMS”, e.g. “C:\Inetpub\wwwroot\PHPSMS”

d) SMS Engine version 3 Installation
1. Run the “Setup.exe”.
2. **DO NOT install the SMS Engine version 3 at the default location** - “C:\Program Files”. The engine must be installed on the web server’s directory.
3. Change the default destination folder for SMS Engine by click on **Browse button**.
4. Browse the path and save it inside "C:\Inetpub\wwwroot\PHPSMS".

5. Then, a new destination folder will be created.
6. Click on **Install button**.
e) ODBC Configuration (IIS Web Server)

1. Click **Start**, click **Settings**, and click **Control Panel**.

2. Click on **Administrative Tools**.
3. Then, click on **Data Sources (ODBC)**

4. Choose System DSN tab, then click on **Add button**.
5. Find the **Microsoft Access Driver** (*.mdb) then click **Finish button**.

6. Type “**SMSEngine3**” into a field provided then click on **Select button**.
7. Locate the directories of the database in **SMS Engine3**.

8. After found it, just click on **OK** button.
9. The directory of the database SMSEngine3 will appear. Then click on **OK** button.

10. After completed, click on **OK** button.
f) Installing PHP code

1. Copy these files to the directory -- “C:\Inetpub\wwwroot\PHPSMS”:
   a) Index.htm
   b) Outbox.htm
   c) Outbox.php
   d) ReadAllSMS.php
   e) ReadNewSMS.php
   f) SendSMS.php
INSTALATION GUIDE – PHP WITH APACHE

You can either install PHP with IIS or PHP with Apache. This section will guide you on the installation of PHP with Apache. In this guide, we will use WAMP (http://www.wampserver.com/en/download.php) to install PHP and Apache.

a) Apache Web Server Installation (WAMP)

1. Run the “wamp5_1.7.2.exe”.
2. Follow the on-screen instructions to install the WAMP Server.
   Note: WAMP is bundle package included with PHP version 5, so doesn’t required to install PHP.

b) Add a new folder

Add a new folder in “C:\wamp\www\”, and name it as “PHPSMS”. E.g. “C:\wamp\www\PHPSMS”

c) SMS Engine version 3 Installation

1. Run the “Setup.exe”.
2. DO NOT install the SMS Engine version 3 at the default location - “C:\Program Files”. The engine must be installed on the web server’s directory.
3. Change the default destination folder for SMS Engine by click on Browse button.
4. Browse the path and save it inside "C:\wamp\www\PHPSMS".

5. Then, a new destination folder will be created.
d) ODBC Configuration (WAMP Web Server)

1. Click Start, click **Settings**, and click **Control Panel**.

2. Click on Administrative Tools.
3. Then, click on **Data Sources (ODBC)**

4. Choose System DSN tab, then click on **Add button**.
5. Find the Microsoft Access Driver (*.mdb) then click **Finish button**.

![Image of Microsoft Access Driver Selection](image)

6. Type “SMSEngine3” into a field provided then click on **Select button**.

![Image of Microsoft Access Setup](image)
7. Locate the directories of the database in SMS Engine3.

8. After found it, just click on **OK button**.

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Private and Confidential edition no. 2
9. The directory of the database SMSEngine3 will be appear. Then click on **OK button**.

10. After completed, click on **OK button**.
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e) Installing PHP code  
1. Copy these files to the directory -- “C:\wamp\www\PHPSMS”:  
   a) Index.htm  
   b) Outbox.htm  
   c) Outbox.php  
   d) ReadAllSMS.php  
   e) ReadNewSMS.php  
   f) SendSMS.php
TESTING THE SMS GATEWAY

1. Run the SMS Engine

2. Click on Setting then choose SMS Modem Setting.
3. After finish up configure the GSM modem, click on **Save Setting button.**

**SIM Setting**
- **SIM Card no:** also known as MSISDN
- **PIN:** to unlock SIM operator depending on the number

**Modem**
- **COM:** Enter the port number which the GSM Modem is connected to the PC
- **Poll:** Set how frequent the SMS Engine should access the database. If you set it to 3 seconds, then the SMS Engine will read incoming SMS, store into Inbox and query the Outbox to send out SMS in every 3 seconds.
- **Delivery Status Report:** If checked, SMS Engine will check for the report for each outgoing SMS.

**Routing:**
- Check “All” to instruct SMS Engine to send SMS to all mobile numbers or checked the appropriate box to instruct SMS Engine to send out SMS selective numbers only. If you set to Maxis (012), then the SMS Engine will only send SMS to mobile numbers starting with 012 only.

**Direction:**
- Set the GSM modem to 2 way, 1 way read only, or 1 way send only. If you set it to 1 way read, the SMS Engine will only read incoming SMS and will not send out.
4. Click on **Start button**.
5. After that, run a web browser e.g. Internet Explorer then type “http://localhost/PHPSMS/Index.htm”.

6. To read a new SMS, just click on Read New SMS link.
7. The new incoming SMS will display in this page.

![New SMS page]

8. In order to view all the incoming SMS that have been read, click on **Read ALL SMS link**.

![All SMS reads page]

**READ NEW SMS**

- Message: Testing sms engine3-php code +60129673561
- Date: 2007-08-23 20:37:50
- Status: New
9. The status message is changed from "NEW" to "READ".

<table>
<thead>
<tr>
<th>Message</th>
<th>Mobile</th>
<th>Date/Time</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ok got it</td>
<td>+60163311600 2007-08-23 13:06:37</td>
<td>READ</td>
<td></td>
</tr>
<tr>
<td>Testing sms engine3-php code</td>
<td>+60129873561 2007-08-23 20:37:50</td>
<td>READ</td>
<td></td>
</tr>
</tbody>
</table>

10. In order to send the SMS to any recipient, click on **Send SMS link**.
11. Type the mobile and the message in the text box provided. Then, click **Send button**.

12. The message will queue at a while and will send soon by the SMS Engine.
Send SMS

Your SMS: Sending SMS using SMS Engine3-PHP to this phone number: 0129875561 is currently being queued
**PHP SOURCE CODE**

**READ ALL INCOMING SMS**

```html
<html>
<head>
<title>Read All INCOMING SMS</title>
</head>

<body bgcolor="white" text="black" link="blue" vlink="purple" alink="red">

<p><b>READ ALL INCOMING SMS</b></p>

<?php

 /************************************************************************

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/************************************************************************

 //the DSN is "SMSEngine3", please rename if your DSN is different
 //establish connection to Access database via ODBC
 $conn=odbc_connect('SMSEngine3','','');
 if (!$conn)

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{exit("Connection Failed: " . $conn);}

//read all incoming SMS and display in a table
$sql="SELECT Message, Mobile, DateTime, Status FROM Inbox ORDER BY DateTime"
$rs=odbc_exec($conn,$sql);
if (!$rs)
    {exit("Error in SQL");}

//---------- display in table -----------------
while (odbc_fetch_row($rs))
{
    $message=odbc_result($rs,"Message");
    $mobile=odbc_result($rs,"Mobile");
    $datetime=odbc_result($rs,"DateTime");
    $status=odbc_result($rs,"Status");

    echo "<tr><td>$message</td>
    echo "<td>$mobile</td>
    echo "<td>$datetime</td>
    echo "<td>$status</td></tr>"
}

echo "</table>
//---------- display in table -----------------
//close connection to database
odbc_close($conn);
READ NEW SMS

<html>
<head>
<title>Read SMS</title>
</head>
<body bgcolor="white" text="black" link="blue" vlink="purple" alink="red">
<p><b>READ NEW SMS</b></p>
<?php
/*
==========================================================================

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==========================================================================*/

//the DSN is "SMSEngine3", please rename if your DSN is different
//establish connection to Access database via ODBC
$conn=odbc_connect('SMSEngine3','','');
if (!$conn)
{exit("Connection Failed: ". $conn);}
</body>
</html>
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//read new incoming SMS
$sql = "SELECT Message, Mobile, DateTime, Status FROM Inbox WHERE STATUS = 'New'";
$rs = odbc_exec($conn, $sql);
if (!$rs)
   {exit("Error in SQL");}

//---------- display in table -----------------
echo "<table><tr>
   <th>Message</th>
   <th>Mobile</th>
   <th>DateTime</th>
   <th>Status</th></tr>"
while (odbc_fetch_row($rs))
{
   $message = odbc_result($rs, "Message");
   $mobile = odbc_result($rs, "Mobile");
   $datetime = odbc_result($rs, "DateTime");
   $status = odbc_result($rs, "Status");
   echo "<tr><td>$message</td>
   <td>$mobile</td>
   <td>$datetime</td>
   <td>$status</td></tr>"
}

echo "</table>";
//---------- display in table -----------------

//change status from "New" to "Read"
$sql = "UPDATE Inbox SET Status = 'Read' WHERE Status = 'New'";
$rs2 = odbc_exec($conn, $sql);
if (!$rs2)
   {exit("Error in SQL");}
//close connection to database
odbc_close($conn);

?>

</body>
</html>
SEND SMS

<html>
<head>
<title>Send SMS</title>
</head>
<body bgcolor="white" text="black" link="blue" vlink="purple" alink="red">
<p> <b>Send SMS </b></p>

<?php
/*
==========================================================================
Acknowledgement: Mr. Mohd Najmi Bin Selamat (student of MULTIMEDIA UNIVERSITY MALAYSIA) has contributed to the development of this programme.

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==========================================================================*/

//the DSN is "SMSEngine3", please rename if your DSN is different
//establish connection to Access database via ODBC
$conn = odbc_connect('SMSEngine3','','

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if (!$conn)
  {exit("Connection Failed: ". $conn);}

//queue outgoing SMS into Outbox table
$sql="INSERT INTO Outbox (Message, Mobile, DateTimeQueue, SentStatus)
VALUES ('$_POST[Message]','$_POST[Mobile]',date(),'P')";
$rs=odbc_exec($conn, $sql);


  //close connection to database
  odbc_close($conn);

?>
</body>
</html>
DISPLAY ALL OUTGOING SMS

<html>
<head>
<title>DISPaly All OUtGOING SMS</title>
</head>
<body bgcolor="white" text="black" link="blue" vlink="purple" alink="red">
<p><b>DISPaly All OUtGOING SMS</b></p>
<?php
/*
* -=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=

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*//*

//the DSN is "SMSEngine3", please rename if your DSN is different
//establish connection to Access database via ODBC
$conn=odbc_connect('SMSEngine3','','');
if (!$conn)
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{exit("Connection Failed: " . $conn);}

// read all incoming SMS and display in a table
$sql="SELECT Message, Mobile, DateTimeSent, SentStatus, DateTimeDeliver, DeliveryStatus FROM Outbox ORDER BY DateTimeSent";
$rs=odbc_exec($conn,$sql);
if (!$rs)
{exit("Error in SQL");}

// display in a table
odbc_result_all($rs);

// close connection to database
odbc_close($conn);
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Acknowledgement: Mr. Mohd Najmi Bin Selamat (student of MULTIMEDIA UNIVERSITY MALAYSIA) has contributed to the development of this source code and programme.

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