SMS Spike 1.5 Text Processing Service Documentation

About SMS Spike 1.5

SMS Spike 1.5 **Text Processing Service** edition is a special edition to help small businesses take advantage of remote text message based content query and data gathering. This is similar to what major mobile organizations do with short codes like "text your name to 33444". An example is the Big Brother TV show asking you to vote for your favourite housemate by sending your vote as text message. Such text messages are not collated manually, computer software will automatically process the text messages and analysis is drawn. Using DabarObjects SMS Spike Personal **Text Processing Service** Edition, you have a chance of setting up your text messages based service without paying an extra fee to the telecoms company for a special short code.

Differences in the setting up of SMS Spike Text Processing Service and Mobile Operators Short Code Service

SMS Spike Text Processing Service	Mobile Operators Based Short Code Service
Requires Your Desktop, A Compatible Handset, A SIM Card	Requires Your Desktop, A Special Online Server, A Special Account With Telecom Gateway Operators, A connection between your server and telecom gateway, a connection between your desktop and your server
Each Message Costs Your Customers Typical SMS rates	Each Message Costs Your Customers 50 naira or more
You can setup in one day without leaving your office	Takes more than weeks to setup and you will leave your office
Does not require any technical expertise to setup	Requires some technical expertise to setup

Uses a Phone Line in the format of 080XXXXXXXX as the accessing code making it actually a longer code ☺	Uses a special code in the format of XXXXX as the short code

Limitations of System

SMS Spike **Text Processing Service** cannot be used in a situation where you intend to share revenue with telecom operators over every message sent to your service

Areas where Users may utilize SMS Spike Text Processing System

1. SMS based registration for a subscription where users or customers won't have to fill any forms to get on board
2. Querying For Results in Schools or other result collation agencies where customers, students or users can simply get what they are looking for by simply sending a text message
3. Searching a store inventory for interested items before customers even reach the shop
4. Data Survey gathering using text message
5. Remote Area information gathering
6. NEPA Pin loading System
7. Banking transaction management
8. SMS Systems Control Systems and Triggering Systems

Getting Started With SMS Spike 1.5 Text Processing Service

Figure 1 a typical setup of Text Processing System using SMS Spike and a Sony Ericsson Handset with a SIM Card. The number of the SIM card will be the service short code line

Requirements of SMS Spike Text Processing System

1. **SMS Spike 1.5** Installation of **Text Processing Service** Edition
2. A Dedicated Desktop or a Laptop With USB Ports
3. A Dedicated Sony Ericsson W595 series range With Phone PC Suite CD
4. A USB Cable (comes with Handset Pack)
5. A Dedicated SIM Card
6. An Internet Connection

Bundled Embedded Service Processors in SMS Spike Text Processing System

1. Remote Bulk Message Drafting – ability to draft a text message for bulk messaging. These drafts can later be accessed from the draft section for bulk delivery.
2. Chat Service – A chat service allows you to send SMS and receive the response displayed as a chatting conversation through your phone line
3. Database Record Entry – Can be used to populate the database from SMS based record entry. Services that intend to take advantage of automatic registrations using SMS can leverage this option

4. Database Query Service – can be used to auto query a database using parameters sent via SMS. Services like check school results via can be setup using this option
5. SMS to Email – a special service to make it possible to draft a short email via SMS. Useful for very remote reporting systems that have to be sent via Emails
6. Web Script Call – a special service that allows SMS Spike pass incoming sms messages to a script using the message parameters

Configuring SMS Spike Text Processing Service

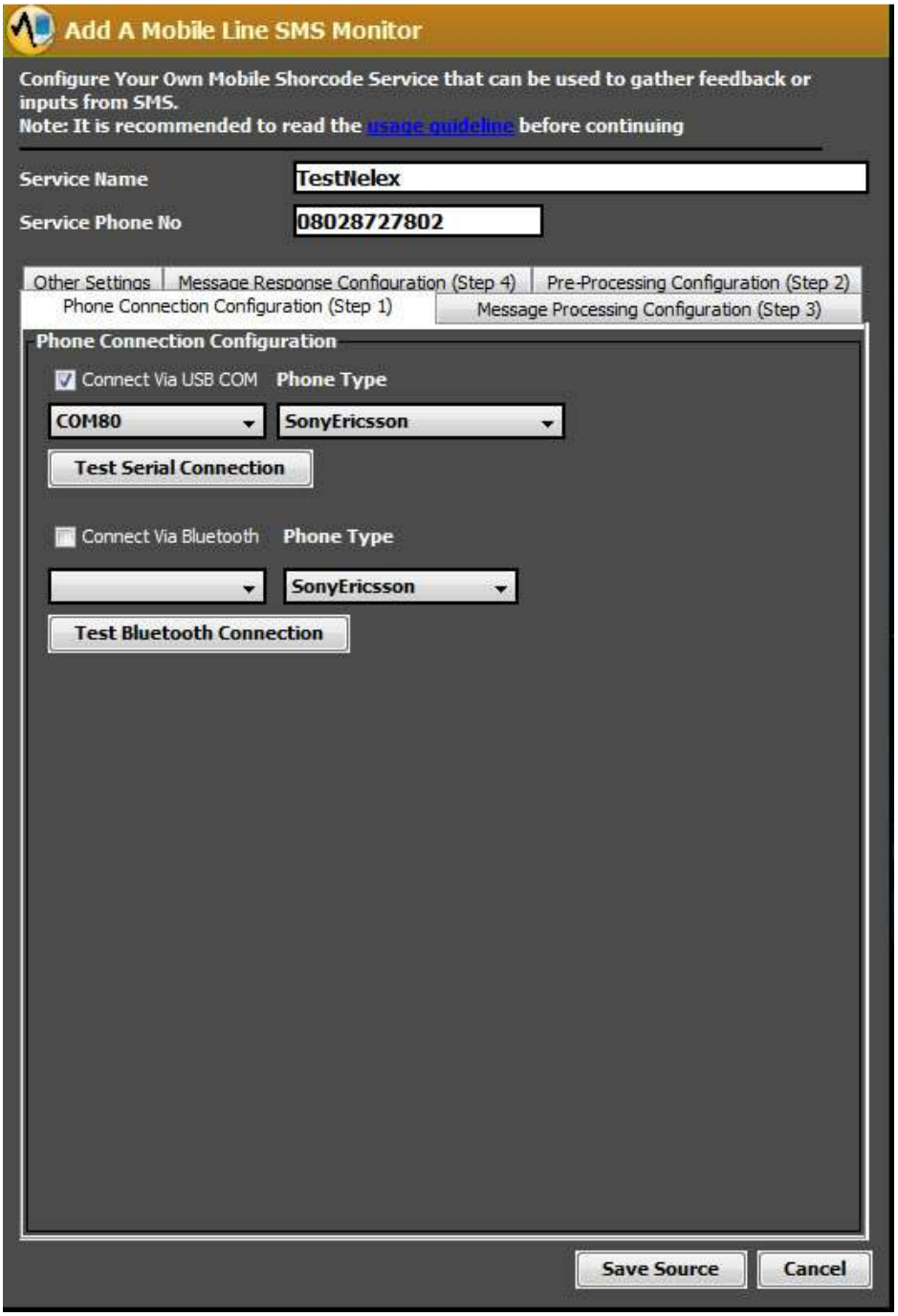
To understand how to configure Spike SMS Processing Service, you will need to understand the lifecycle of the process.

Every Spike Mobile Process Has a Life Cycle

1. Message Reception - Receives Incoming Message From Handset
2. Message Processor Selection - Loads a Text Message Processing Logic e.g. DATA INSERT
3. Message Auto Response Operation – Prepares an initial response to the sender for default acknowledgement
4. Message Processing Parameterization – Breaks the message into parts and assigns each part into various parameters. During parameter substitution, LCM (life cycle manager) will make substitutions in the processing tips (e.g. queries for database processes) that will be used to process the incoming message. For example **#sender** parameter is replaced with the sender mobile etc. For example, the processing tip for a DATABASE INSERT operation could be *INSERT INTO customerTable values ('#sender','#message')* assuming your table columns are *gsm (varchar),name(varchar)* respectively. Consult your database admin for more info on database. Spike will recreate the database insert instruction above as *INSERT INTO customerTable values ('08043920202','Maurice Igu')*
5. Message Processing Validation – Spike now validates the content of the message based on some inbuilt validation rules mainly contact filtering and message pattern validation. Other validation rules will be supported. Once validation is successful, messages are passed to Processing Options for processing
6. Message Processing – Message is processed for results and feedback is prepared. For example, a DATABASE INSERT will make a call to the database using Database Connection settings.

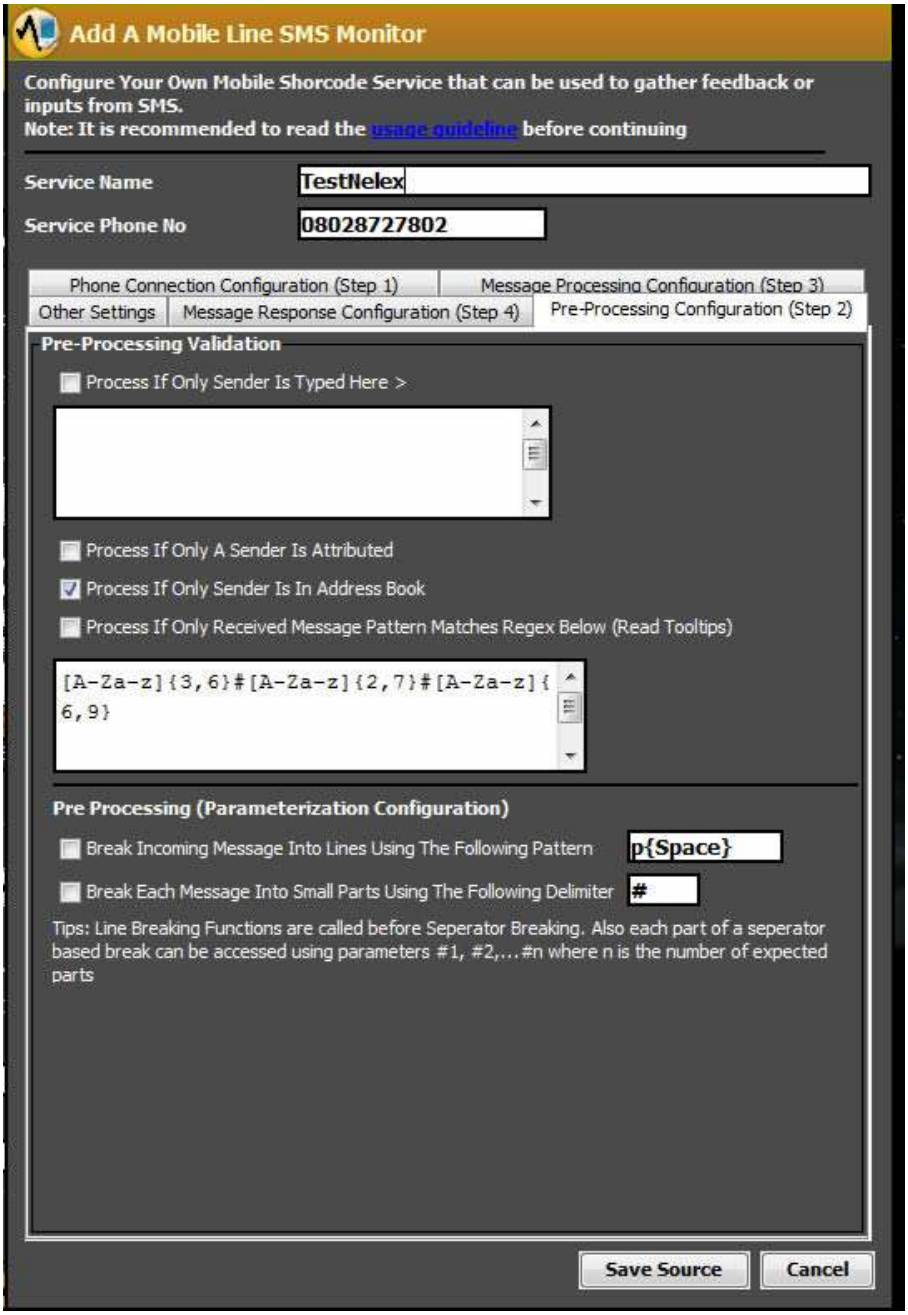
7. Message Processing Feedback – a feedback or response is generated based on the outcome of each processing. Some processing requires no feedback and some processing does.

Configuring a Simple DATABASE INSERT



Step 1 - Phone Connection Configuration – this is the first Step where a user sets the phone connection to be used for the service

1. Connection can be initiated via Bluetooth or via USB Cable.
    a. Connecting via Bluetooth – Phone Bluetooth must be switched on and the laptop running SMS Spike must have Bluetooth enabled device. Firstly pair both devices. Once both devices are paired, Spike will detect the device for connection
    b. Connecting Via USB Cable – Phone Modem Drivers inside the Phone Software CD must be installed during PC Suite installation. A special COM Port is automatically created for Handset
2. Click on Test Buttons for either of the options selected. A successful test will show the basic information about the phone e.g. battery level or signal level



Step 2 – Pre Processing Configuration

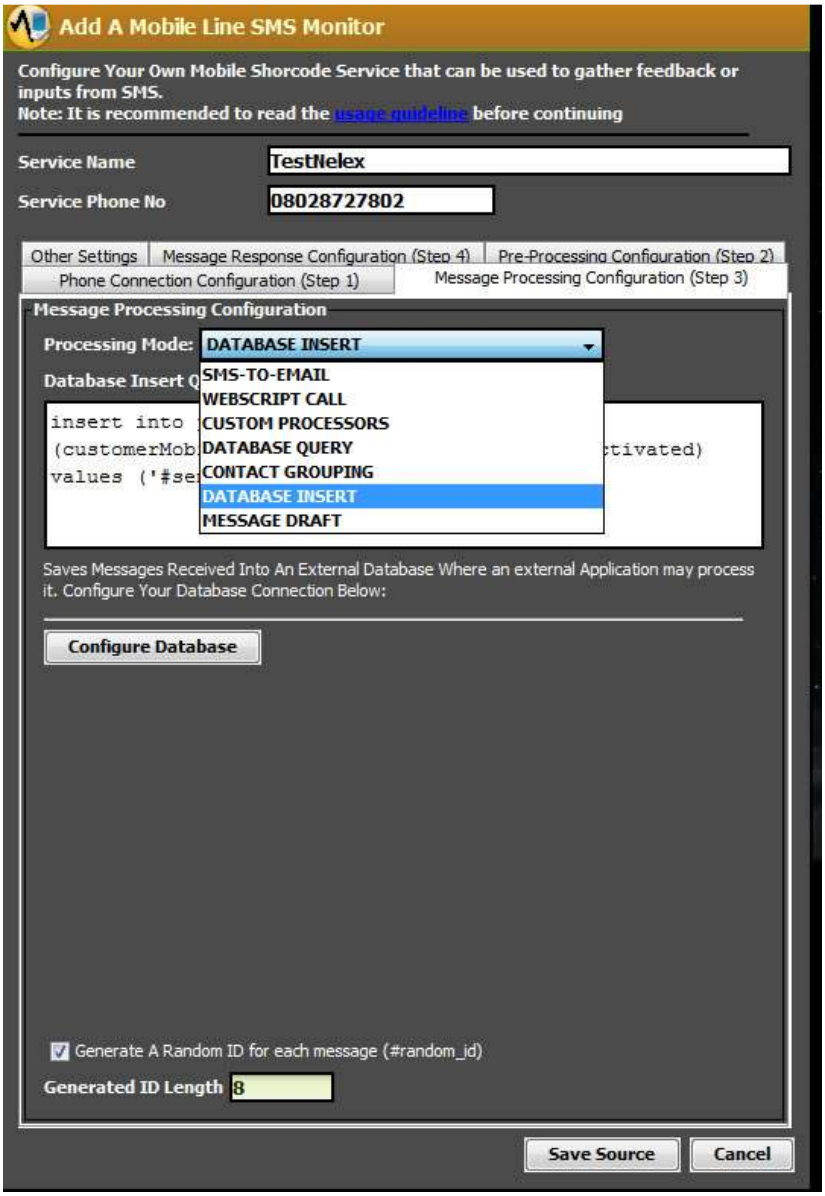
These settings will determine 4 things:

Validation Pre-Processing

1. If the number of the sender should be filtered
2. If the content of the incoming message should be filtered basic on a pattern expression e.g. if messages must contain say, INFO to be processed, the pattern language will look like INFO* where * can be anything

Advanced Parameterization Pre-processing

1. Message content can be split into parts depending on service rules



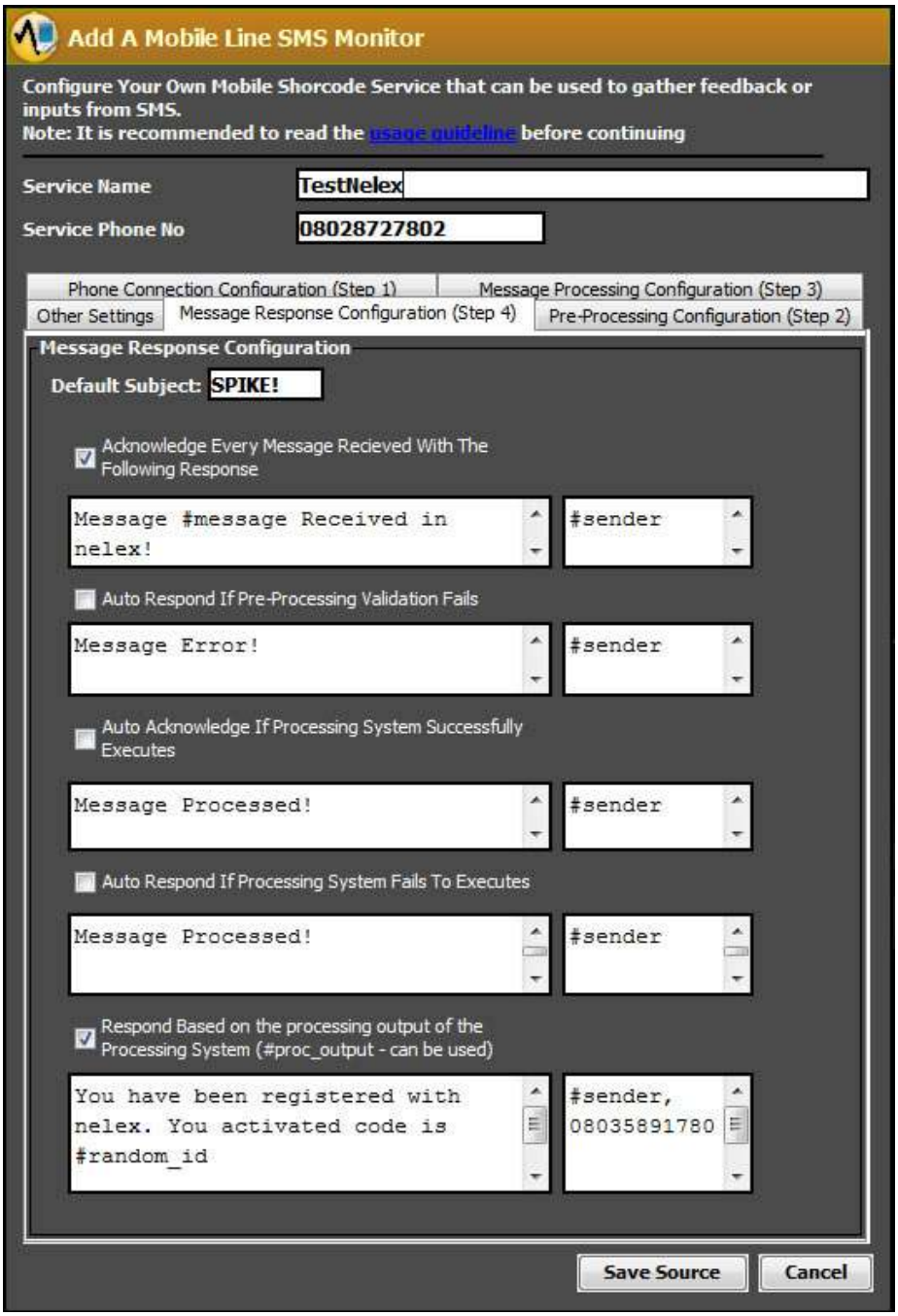
Step 3 – Message Processing Configuration

In this step, the Message Processing Type or Mode is selected. This option which is a drop down will determine the type of processing system that is loaded for each message received.

Message Processing & Configuration - Spike can take a number of actions automatically with messages it receives from the mobile phone. This allows chaining the service with another legacy service for SMS based information management. Spike Supports 5 processing actions:

1. MESSAGE DRAFT: Message drafting helps those who intend to draft a bulk message remotely directly from their phone compose screen. This action simply logs all incoming messages within the draft system
    a. Auto Response Options – general acknowledgment, validation failure, process completion
2. CONTACT GROUPING: For marketers who collect mobile no's data during marketing outing, they are able to aggregate contacts into a single group by sending the contacts to a particular mobile line where Spike will automatically pick them for aggregation. Campaigners will appreciate this. Parameters: #gsm_count, #group_name
    a. Auto Response Options – general acknowledgment, validation failure, process completion
3. SMS2EMAIL: SMS to Email takes an incoming SMS and sends it to the specified email in the SMS message. Parameters: #email_address
    a. Auto Response Settings – general acknowledgment, validation failure, process completion, process failure
4. DATABASE INSERT: SMS to Database will take the content of the SMS and insert it into a configured database.
    a. Auto Response Options – general acknowledgment, validation failure, process completion success or failure, process generated id output
5. DATABASE QUERY: The incoming SMS is used as a query parameter against the database. The incoming message is put into the query parameters and used to execute the query. The returned value may be sent back to sender: Static Parameters: #proc_output, #sender, #message,#date,#serviceline
    a. Auto Response Settings – general acknowledgment, validation failure, process completion, process failure, process ouput response
    b. Dynamic Parameters: a set of dynamic parameters are created from the column names of the table record being queried. e.g SELECT name, age from Customers will automatically create #name, #age parameters. Therefore while configuring a response for instance, you may type "Your Details are #name and you are #age years old". #name and #age will be substituted with the results from the query and delivered to the destination number.
6. WEBSCRIPT CALL: Similar to DATABASE QUERY, the incoming SMS is used as parameters to a webscript call. For example. http://myportal.com/smsprocess.asp?sender=#sender&message=#message will pass incoming message parameters to the script and invoke the script.

a. Auto Response Settings – general acknowledgment, validation failure, process completion, process failure, process ouput response
b. Note: Long executing script should be made asynchronous which will not mandate the call to wait for execution completion before return. In such a situation, the script may return a message such as "Your Request is being processed. Please wait". Short time executing scripts may return an execution report immediately that can be used as response report back to the sender

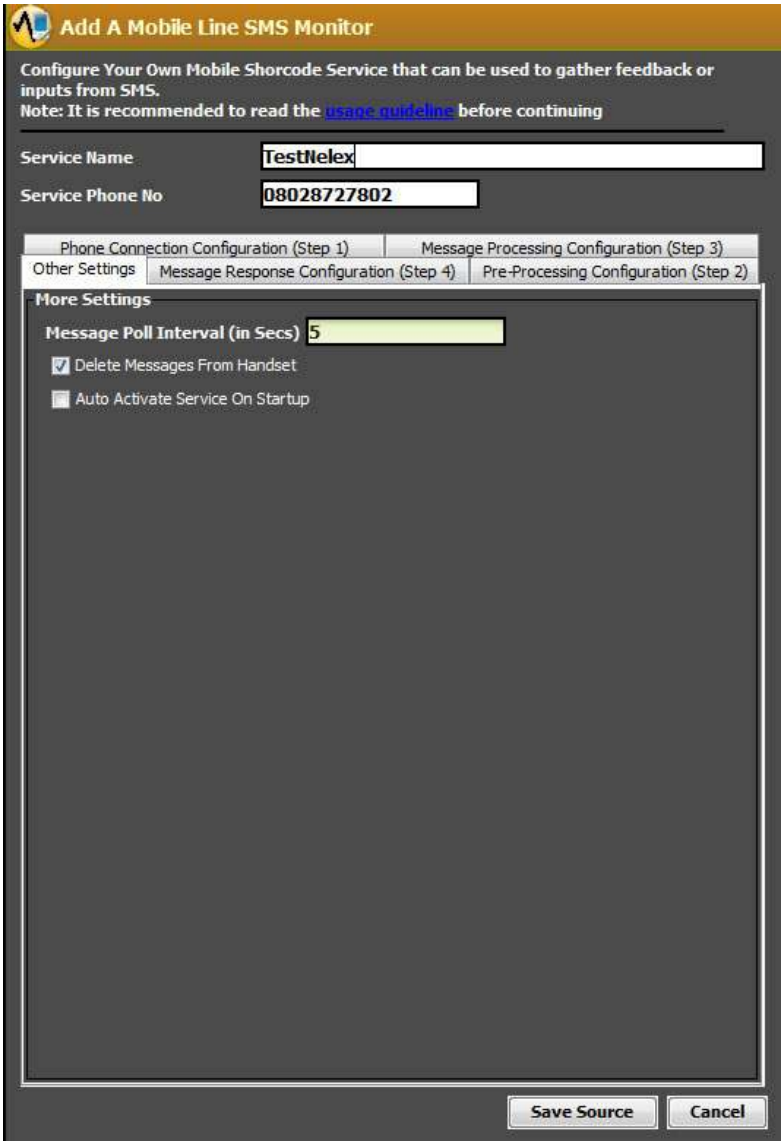


Step 4 – Message Response Configuration

Auto Acknowledge/Response Settings – Spike has auto acknowledge or auto response system to enable adequate feedback on the messages sent. Auto Acknowledge can be in 5 forms:

1. Respond to every message received irrespective of any processing and validating conditions. This means spike will respond to every message it receives informing the sender of successful reception
2. Respond when message Validation fails informing the sender each time if a received message could not be passed on to processing logic due to invalid content or sender
3. Respond when the processing logic executes successfully
4. Respond When Processing Logic Encounters an error during processing and fails to execute
5. Respond When Processing Logic executes successfully and produces an output from the execution which must be delivered back to sender
6. They all carry a default subject
7. Responses can also set to be delivered to specific contacts. Parameters are also supported. For example if you want responses to be sent to the message sender, simply put #sender in the response contacts area. You may also put other contacts. for instance, the error response may be set to go to administrator mobile

Response messages are delivered to the contacts placed in the corresponding text areas to each message areas



Parameterization Operation

Parameters are like variables that are used at runtime. They may be based on the received message input from the mobile phone or output data during or after processing. Parameters are used during message processing and also during processed output feedbacks. There are 2 types of parameters.

1. Static Parameters or Basic Parameters are based on the stated set below.
    1. **#sender** – the processing system will replace/substitute this parameter with the exact number of the incoming message sender. Format is international (+234 for Nigeria)
    2. **#message** – replaces this parameter with the exact content of the message received
    3. **#date** – replaces this parameter with the date the message was received

4. **#serviceline** – replaces this parameter with the mobile line that was used to receive the message
5. **#random_id** – an ID generated automatically for every incoming message and can be passed to processing system to ID the message. This can also be sent back in a response message to help sender track their entry later

Other parameters exist:

1. **#gsmcount** for message grouping
2. **#proc_output** to refer the content that the processing sub system outputs after being called. E.g. if a processing system returns 23 from a database query, that 23 will be available during a response message as a #proc_output parameter. So if for instance a response message is configured as "*Your number is #proc_output*", the message will be delivered as "*Your number is 23*"

Parameters are case sensitive

Parameters can be used during configuration to inform the system on where the substitution should be made.

Line/Separator Parameter configuration – this configuration will make the processing unit break the incoming message into small pieces using a regular pattern e.g [#][,][;] or[/] or any of such and will assign each piece into a dynamic parameter such #1, #2, #3. A line separation is performed first to take care of multiple line entries which will lead into multiple process calls

Database Dynamic Parameters – These parameters are generated from the names of columns in a database table. Useful during SMS QUERY CONFIG