

# OZEKI NG - SMS GATEWAY

*/Product Guide/*

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## Prerequisites

**This page provides detailed information about the hardware and software requirements for your computer to be able to send and receive SMS messages using the Ozeki NG - SMS Gateway software.**

To run the Ozeki NG - SMS Gateway software on your computer, you have to meet some essential hardware and software requirements.

### Minimum hardware requirements

- CPU: Intel Pentium III, 450 Mhz
- RAM: 512 Mb
- Hard disk space: 50 Mb
- Ports: RS232 and/or USB (if you use a GSM modem)
- Network: Internet connection (if you use IP SMS connection)

### Recommended hardware requirements

- CPU: Intel P4D 3Ghz
- RAM: 2 GB
- Hard disk space: 500 Mb (SATA or SCSI)
- Ports: RS232 and/or USB (if you use a GSM modem)
- Phone-to-PC data cable ([USB](#) or [RS232](#)) or
- Network: Internet connection (if you use IP SMS connection)

If you wish to use a GSM modem attached to the PC with a phone-to-PC data cable for SMS messaging, you need a suitable device. For more information about suitable telephones for SMS messaging, check out the [Recommended SMS Hardware](#) guide.

### Software requirements

Ozeki NG - SMS Gateway runs on one of the following operating systems:

- Windows 2000
- Windows XP
- Windows 2003
- Windows Vista

The following updates should be installed:

- .NET Framework 3.0
- Windows Installer 3.0
- Windows XP Service Pack 2.0 (if you use Windows XP)

You can download Ozeki NG - SMS Gateway and the programs listed in the software requirements on the [Download](#) page (<http://www.ozekisms.com/index.php?owpn=112>). You should always download and use the latest version of Ozeki NG.

## Download Information

You can download the Ozeki NG - SMS Gateway software and the necessary prerequisites from the [Download](#) page.

The download page URL is:

<http://www.ozekisms.com/index.php?owpn=112>

You need to download the following packages:

- NET Framework 3.0 - redistributable package
- Windows Installer 3.0
- Windows XP Service Pack 2.0  
and the latest version of
- Ozeki NG - SMS Gateway

To start downloading, click the download link. You can decide whether to open or save the program. If you open it, the installation process will start immediately (Figure 1).

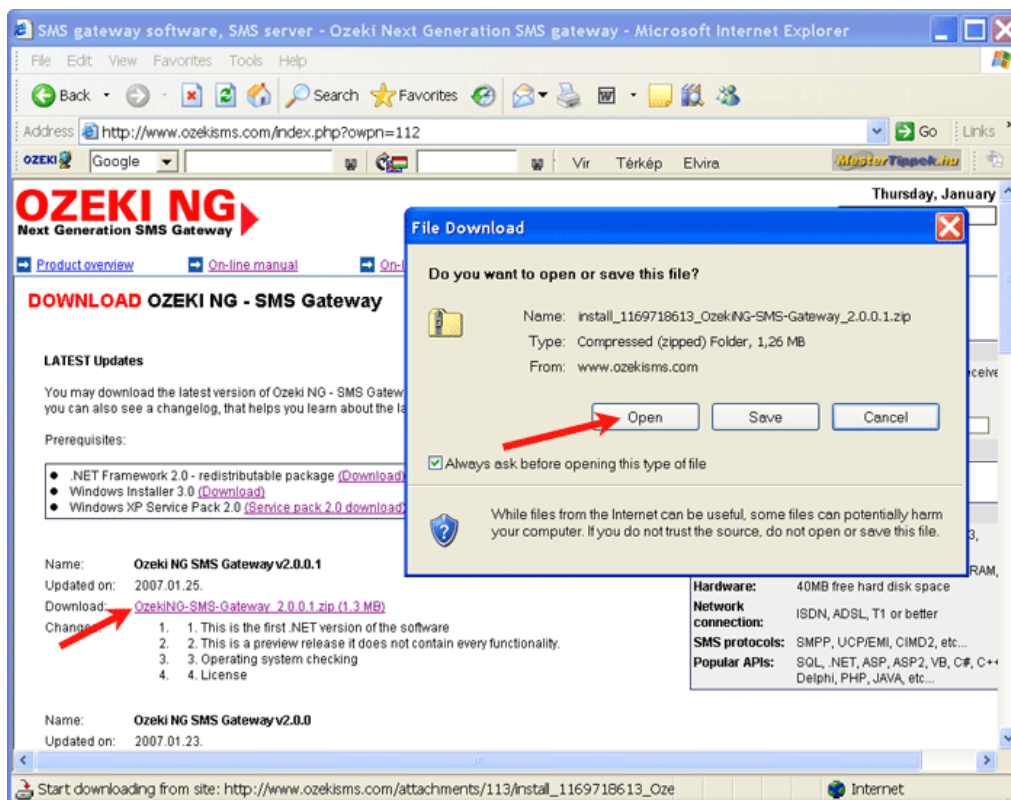


Figure 1 - Downloading the software

To find out how to install the program, check out the [Installation Steps](#) in the next chapter.



## Installation Steps

In this guide you can learn how to install the Ozeki NG - SMS Gateway software. You will be instructed what to do in each dialogue box of the Ozeki NG - SMS Gateway Setup Wizard to successfully finish the installation.

After you have [downloaded](#) the Ozeki NG - SMS Gateway software, you need to install it.

Take the following installation steps:

Double-click the setup.exe file in the installation directory.

This will open a dialog box briefly informing you about the software you are going to install. Click **Next** to continue (Figure 1).

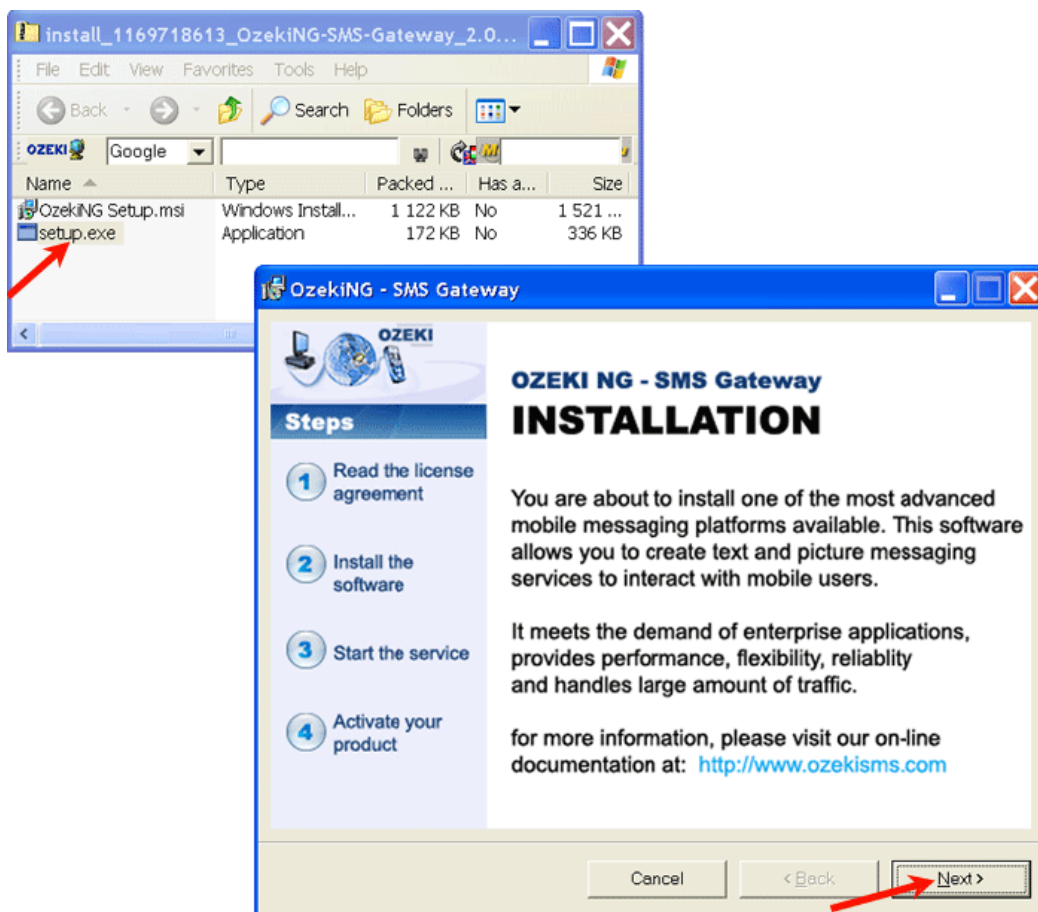


Figure 1 - Preparing the installation

The next dialog box contains the License Agreement. It informs you about the terms and conditions under which you can use the software. Read the license agreement carefully. If you accept the terms and conditions, click the **I agree** radio button and **Next** to continue (Figure 2).

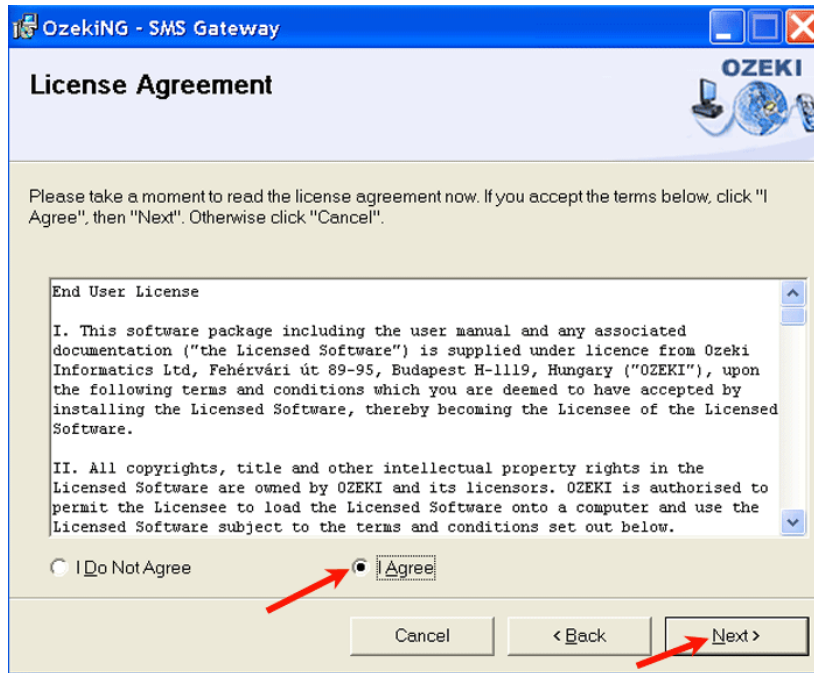


Figure 2 - Accepting the terms and conditions

In the next dialog box you can select the folder you wish to install the program in. To install it in the folder the installation wizard offers, click **Next**. Its access path is displayed in the **Folder** field. To install it in a different folder, enter the access path in the **Folder** field, or click the **Browser** button to start browsing for the folder of your choice. After selecting the folder, click **Next** to continue (Figure 3).

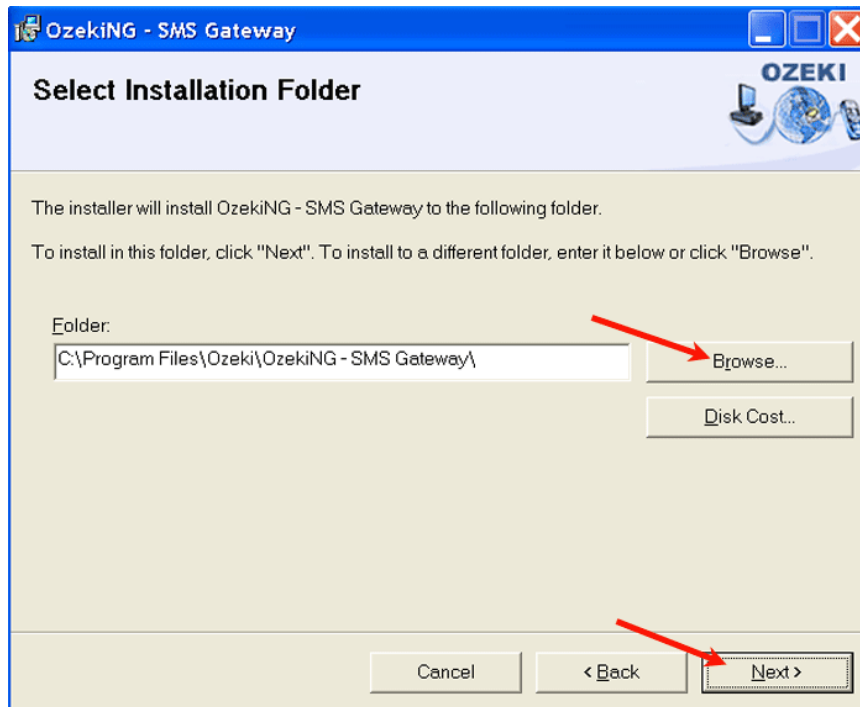


Figure 3 - Selecting the folder for the program installation

Next, the **Confirm Installation** dialog box expects you to confirm that you wish to install the Ozeki NG - SMS Gateway software. Click **Next** to continue.

The next dialog box informs you that the Ozeki NG - SMS Gateway software is being installed. Wait for the installation to finish (Figure 4).

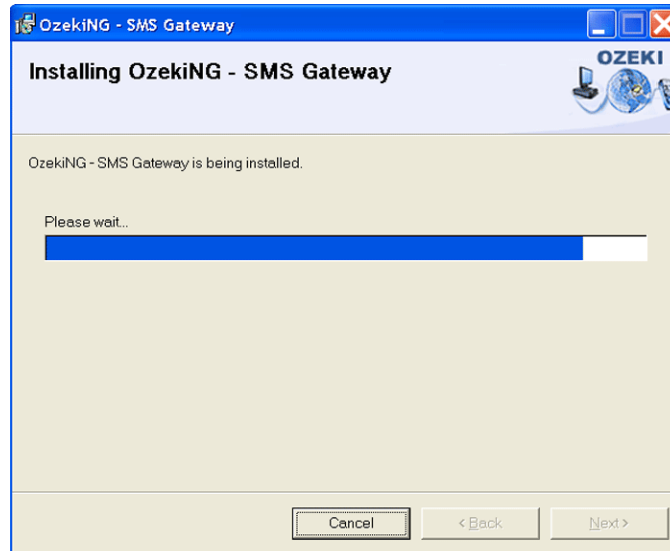
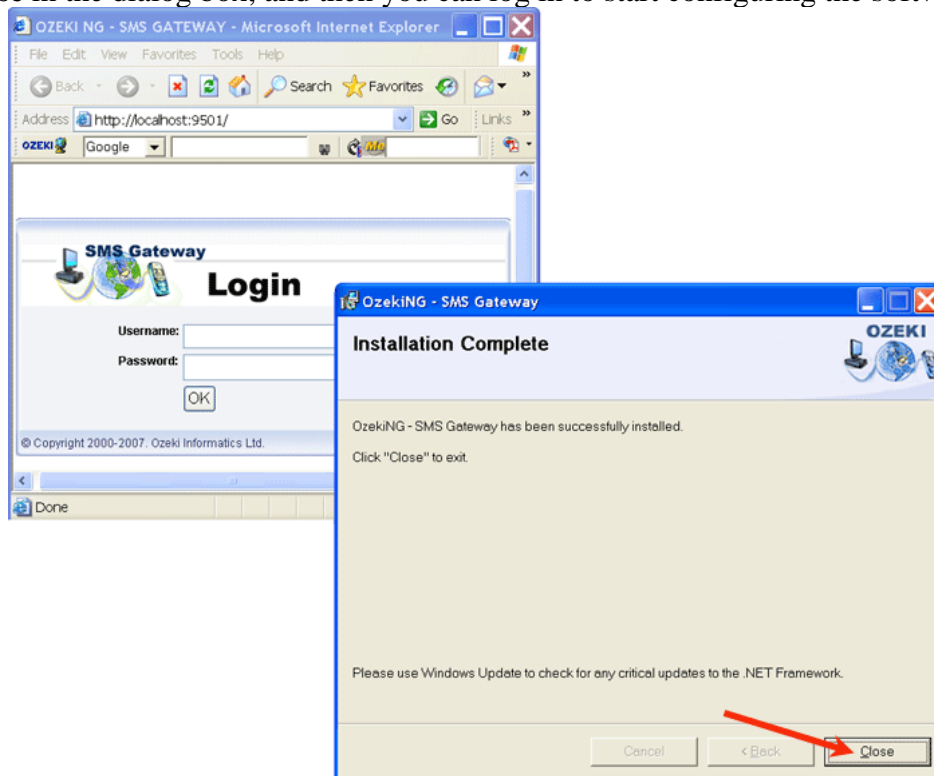


Figure 4 - Installation in progress

After the installation finishes, both the **Installation Complete** dialog box and the login window will show up.

Click **Close** in the dialog box, and then you can log in to start configuring the software



(Figure 5).

Figure 5 - Closing the installation

## Service Provider Connections

**This chapter explains service provider connectivity and provides information detailing how to configure different service provider connections for SMS messaging using the Ozeki NG - SMS Gateway software.**

In SMS messaging using Ozeki NG - SMS Gateway, a service provider is an entity that is responsible for sending and delivering SMS messages from users/applications of the program to recipient mobile phones, and responsible for sending SMS messages from mobile phones to Ozeki NG - SMS Gateway, which will deliver them to users/applications of the program.

To be able to send and receive SMS messages using Ozeki NG - SMS Gateway, you need to pay one or more GSM service providers for the service described above, and you have to connect Ozeki NG - SMS Gateway to the SMS Center of one or more service providers.

You can do this in two ways:

- You can connect directly to the SMS Center of a GSM service provider over the Internet. In this case, you need to make a contract with the service provider. In compensation for your subscription, the GSM service provider will provide you with the information required for connecting to the SMS Center over the Internet (hostname, port, username, password).
- You can connect to the SMS Center using a GSM modem attached to the PC with a phone-to-PC data cable. In this case you pay for the service by buying a SIM card from the service provider.

Direct connection to the SMS Center by setting up an IP SMS account with one or more GSM service providers has several advantages, including a greater speed and reliability.

For SMS messaging with a GSM modem, you need to use a suitable GSM device. For more information, check out the following guide: [Recommended hardware / GSM modems](#)

The format of SMS messages exchanged between Ozeki NG - SMS Gateway and the SMS Center of the GSM service provider is governed by an SMS protocol. When you install a service provider connection, you have to select the appropriate protocol. The service provider will tell you which protocol to use and will give you the protocol-specific parameters, such as the username and password, IP address etc.

Ozeki NG - SMS Gateway allows the installation and configuration of the following protocols / service provider connections:

- [GSM Modem service provider connection](#)
- [UCP IP SMS service provider connection](#)
- [SMPP IP SMS service provider connection](#)
- [CIMD2 IP SMS service provider connection](#)
- [HTTP Server service provider connection](#)
- [HTTP Client service provider connection](#)

## GSM Modem Connectivity

In this chapter you can learn how to install and configure GSM modem connectivity for SMS messaging using the Ozeki NG - SMS Gateway software.

### Introduction

If you plan to send and receive fewer than 15 000 SMS messages per day, you can use a suitable GSM device (phone or modem) attached to your computer with a phone-to-PC data cable. For information about suitable phones, check out the [Supported Phones](#) page. The GSM device has to be equipped with a SIM card that charges (preferably) low rates for SMS messages.

With this setup you can use a computer program such as Ozeki NG - SMS Gateway to send and receive SMS messages. In this case, the software uses the attached device to communicate with the GSM network. If a message is sent out by the gateway running on the computer, it is first sent to the attached GSM device. Then the GSM device transmits it to the SMS Center (SMSC) of the GSM service provider, using a wireless link (Figure 1).

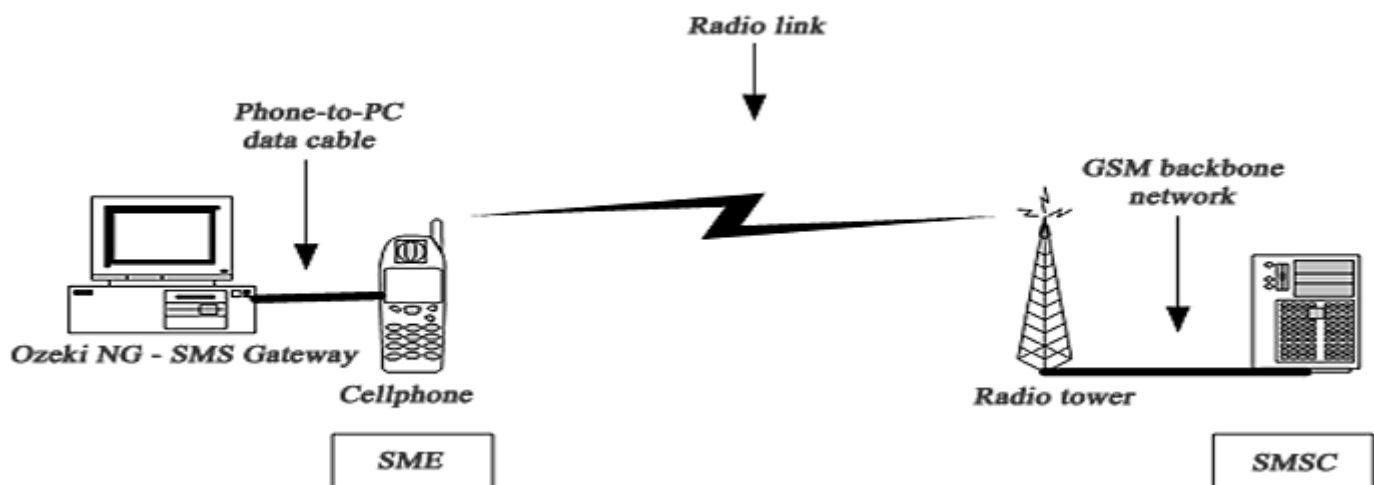


Figure 1 - GSM modem connectivity for SMS messaging

When a message is received, the GSM device stores the message in its memory or on the SIM card, and sends a notification to Ozeki NG - SMS Gateway. When the program receives this notification, it retrieves (reads) the message from the respective memory cell, and then deletes the message from the device to make room for the next incoming message.

The advantage of using a cellular modem is that you do not need Internet connection for SMS messaging. Sending an SMS message using a cellphone takes about 5-6 seconds. Receiving takes about the same time. Good software, such as Ozeki NG - SMS Gateway allows you to attach more than one device to your PC and to use them simultaneously to increase capacity.

The best option to connect a phone to the PC is to use a standard RS232 serial cable. To find out more about it, check out the [RS232 Serial Cable and Industrial Modems](#) page. USB

cables, InfraRed and BlueTooth connections are not as reliable. For information about attaching the GSM device with a USB cable, visit the [USB Cable](#) page.

## Configuration of the GSM modem connectivity

When you have installed a GSM modem driver on your computer, you can start to install and configure the GSM modem connectivity.

You can install and configure this connection using the [graphical user interface](#) of Ozeki NG - SMS Gateway. To start the installation, click the **Add** button in the top right-hand corner of the **Service providers** panel on the left of the **Management Console** interface. (To find out how to open this interface, check out the [QuickStart Guide](#).)

You can also add a service provider connection by clicking the **Add service provider** item in the **Service providers** menu. (To find out more about the menu, visit the [Menu](#) page.)

After you have clicked one of these, the **Add service provider** panel will show up on the right of the interface. The panel contains a list of protocols you can install and use for communication with an SMS service provider.

To select the GSM Modem protocol, click the **Install** link in the respective entry in the list (Figure 2).

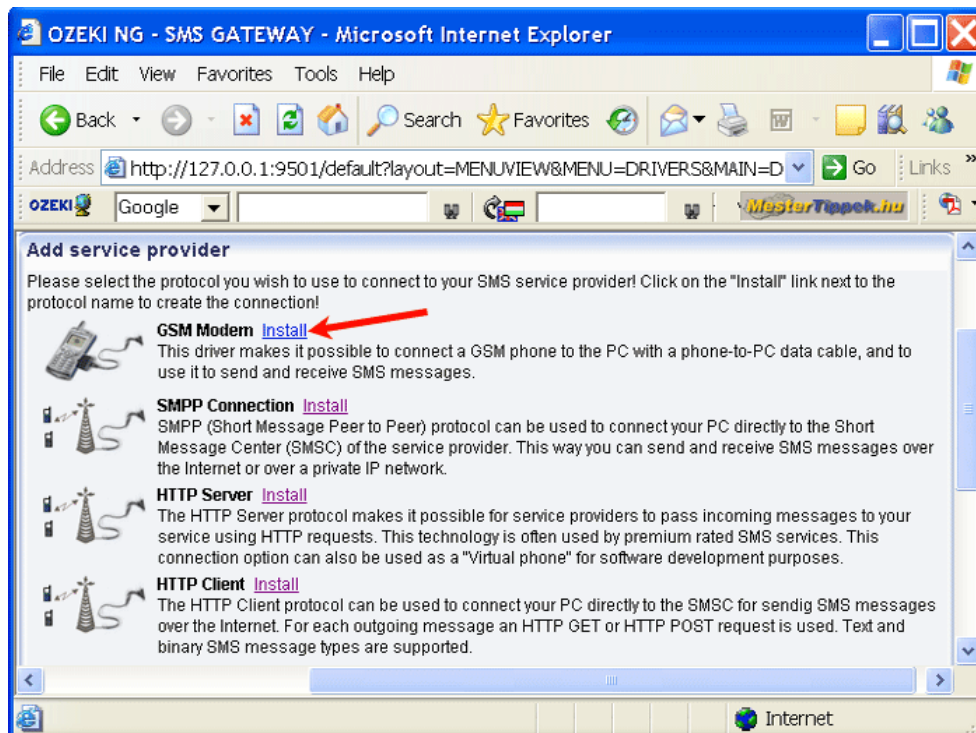


Figure 2 - Starting to install the GSM Modem connection



When you have installed the **GSM Modem** protocol, the **Configuration** panel will show up on the right of the interface. The first tab of the panel is the **Device settings** tab, which consists of a **Connection** and an **Identification** section (Figure 3).

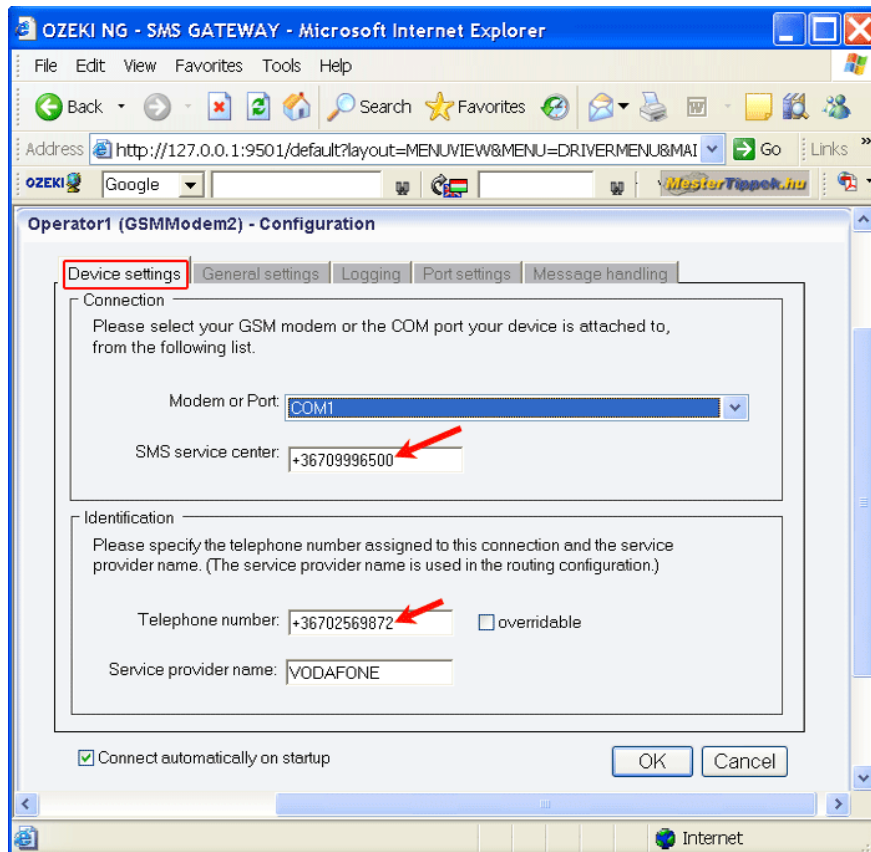


Figure 3 - The Device settings tab

In the **Modem or Port** dropdown menu in the **Connection** section, select your GSM modem or the COM port your device is attached to.

In the **SMS service center** edit box, specify the phone number of the SMS center of the GSM service provider you connect to. This address is provided by your GSM service provider. Some SMSC addresses are listed in this documentation. If you do not know the service center address of your GSM service provider, you can check out [Appendix C](#).

In the **Identification** section, specify the telephone number assigned to this connection (the phone number of your GSM device) and the service provider name in the respective edit boxes.

Note that the phone number to be specified in the **Telephone number** edit box is a mandatory value. If you leave the edit box blank, the sending will be unsuccessful.

To facilitate identification and to avoid confusion, you should name the connection after the GSM service provider. E.g., if you have set up a GSM Modem connection with Vodafone, it is advisable to name it "Vodafone". Also, note that different connections should be given different names. If you have different connections from the same service provider, you can use different but similar names for them, e.g.: "Vodafone1", "Vodafone2" (or something of

the like). However, some load balancing solutions require an identical name for different connections. For details, visit the [Load Balancing](#) and the [Load Balancing for SMPP v3.3](#) page.

To perform general settings related to sending and receiving SMS messages using this protocol, click the **General Settings** tab. This will open a panel consisting of the **Send, receive and delivery report options** and the **Timeout handling** section.

In the upper section of the panel you can check either or both of the checkboxes. Which one(s) to check depends on what you wish to use this connection for. You can choose to use the connection for only sending or only receiving SMS messages (or both sending and receiving).

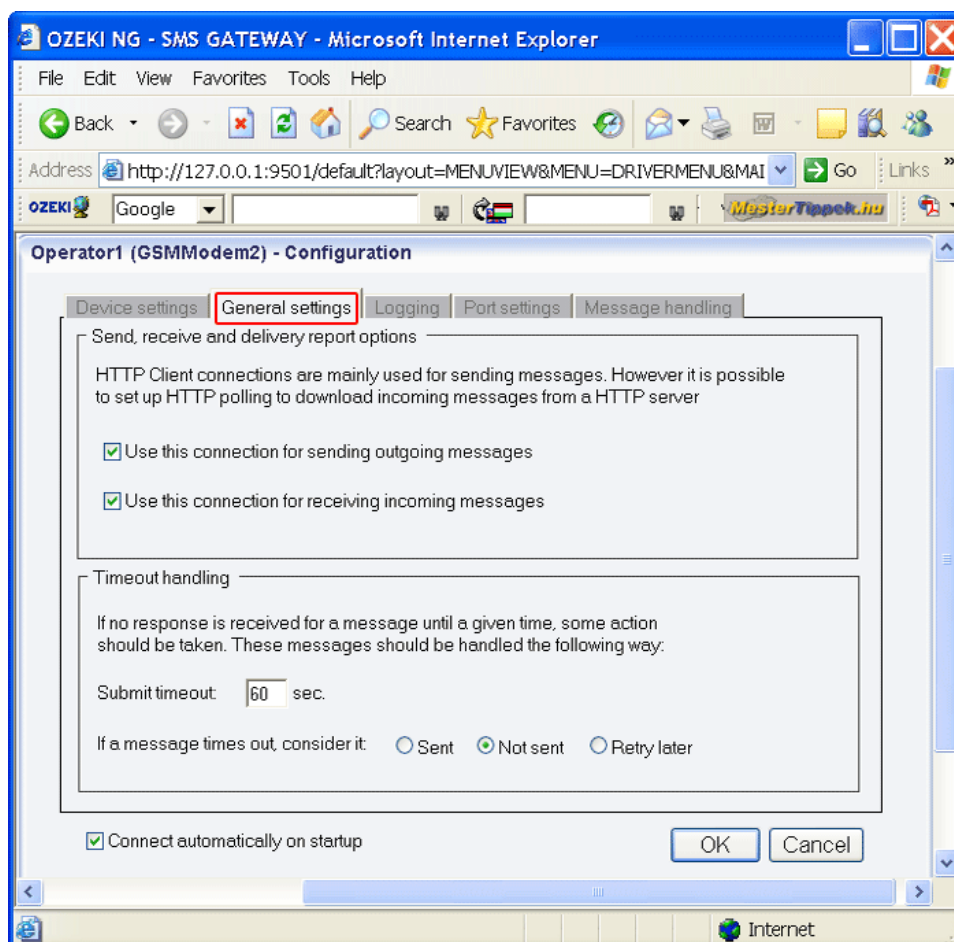


Figure 3 - The General settings tab

In the lower section of the tab you can make choices and specifications to handle your connection to the SMS Center and the status of your SMS messages.

In the **Submit timeout** edit box you can specify the maximum waiting time for an SMS Center response confirming that your message has been successfully submitted. Successful submission means that the SMS Center has accepted the message for delivery. You can specify the waiting time by giving the number of seconds in numerical characters representing any positive whole number. If you are content with the default specification (60 seconds), leave this edit box unchanged.



You can choose how to consider a message you have sent if there is no response from the SMS Center after the specified length of time. Select one of the three radio buttons. Select **Sent** to consider a message sent even if there is no response from the SMS Center. Select **Not sent** to consider a message not sent if there is no response from the SMS Center. Select **Retry later** to make the program try to send a message later if the SMS Center has not confirmed its status as sent. Then, the message will be placed last in the outgoing message queue and sent out again when it is its turn.

To configure logging, click the **Logging** tab in the **Configuration** panel.

The tab has a **Logging** and a **Log file settings** section. Here, you can choose whether to make the program write log entries about sent and received messages in human readable format and/or log low level communication. Choosing the latter option will make the program produce logfiles containing binary codes representing the communication data.

You should check at least the **Log sent and received messages in human readable format** checkbox, as logfiles can be useful in debugging communication problems (Figure 4).

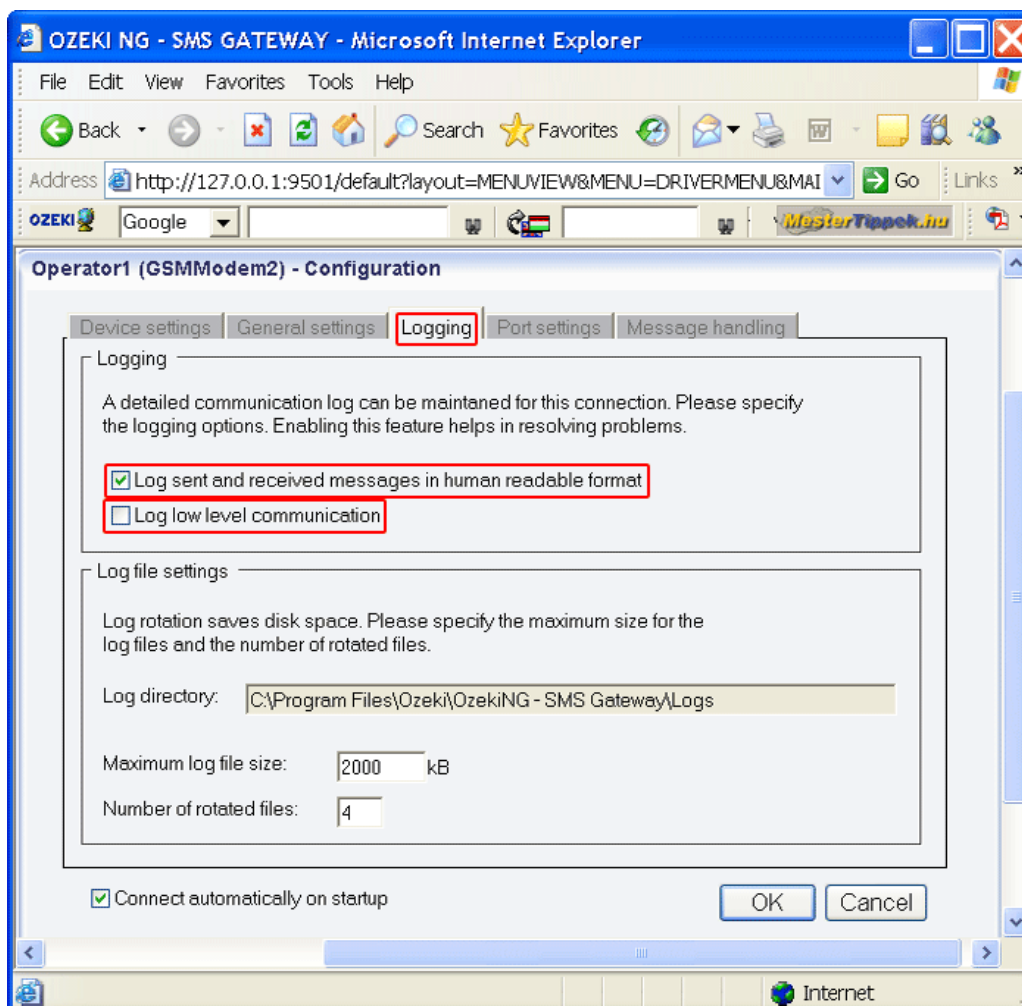


Figure 4 - Logging options

In the **Log file settings** section of the tab, you can make specifications for the size and the number of available logfiles.

Log rotation saves disk space, as it ensures that older (and probably no longer needed) logfiles will be automatically deleted from the log directory, which is specified in the **Log directory**

text box. By default, the access path to the logfiles is: C:\Program Files\Ozeki\OzekiNG - SMS Gateway\Logs

In the **Maximum log file size** text box you can specify the maximum size of a logfile. Once this size is reached, a new logfile will be created. Specify the number of kilobytes for the size of a logfile by entering a positive whole number. By default, the maximum logfile size is 2000 kB.

In the **Number of rotated files** text box, specify the maximum number of rotated logfiles that are saved. Specify this number by entering a positive whole number. By default, the number of logfiles that are saved is 4 (see Figure 4 above).

If you are content with the default specifications, leave the text boxes unchanged.

In the **Port settings** tab, you can modify the port settings and the modem initialization commands. Note, however, that most GSM devices only allow using the default settings you can see in Figure 5.

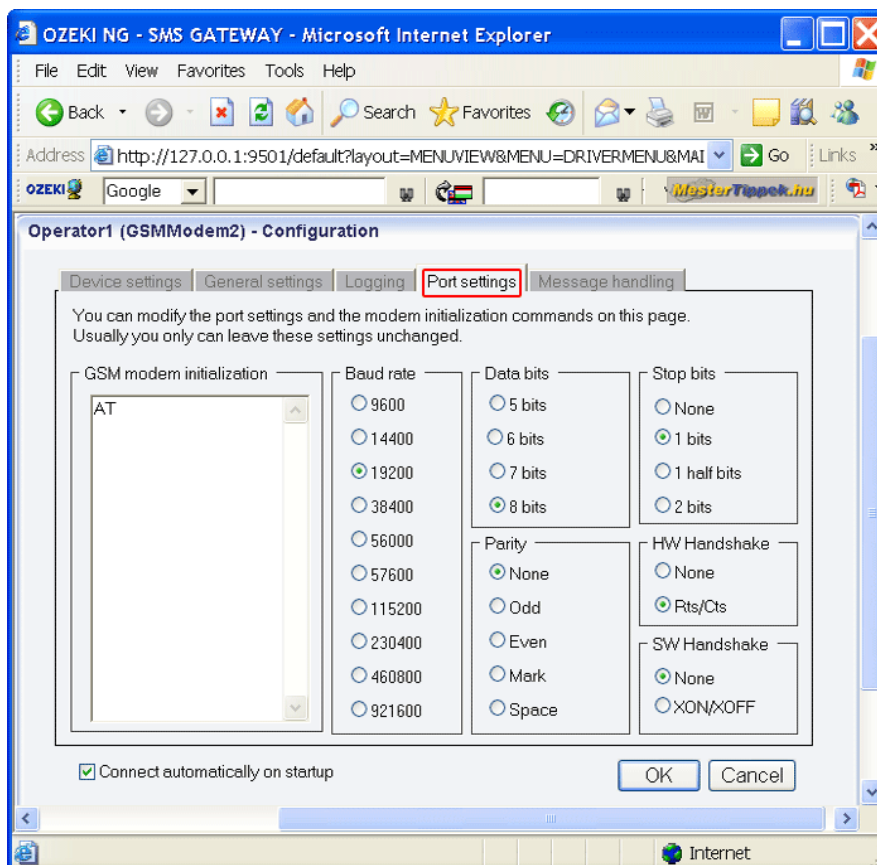


Figure 5 - The Port settings tab

In the **Message handling** tab, you can make settings related to retrieving incoming messages, sending outgoing messages, SMS coding and line feed characters (Figure 6).

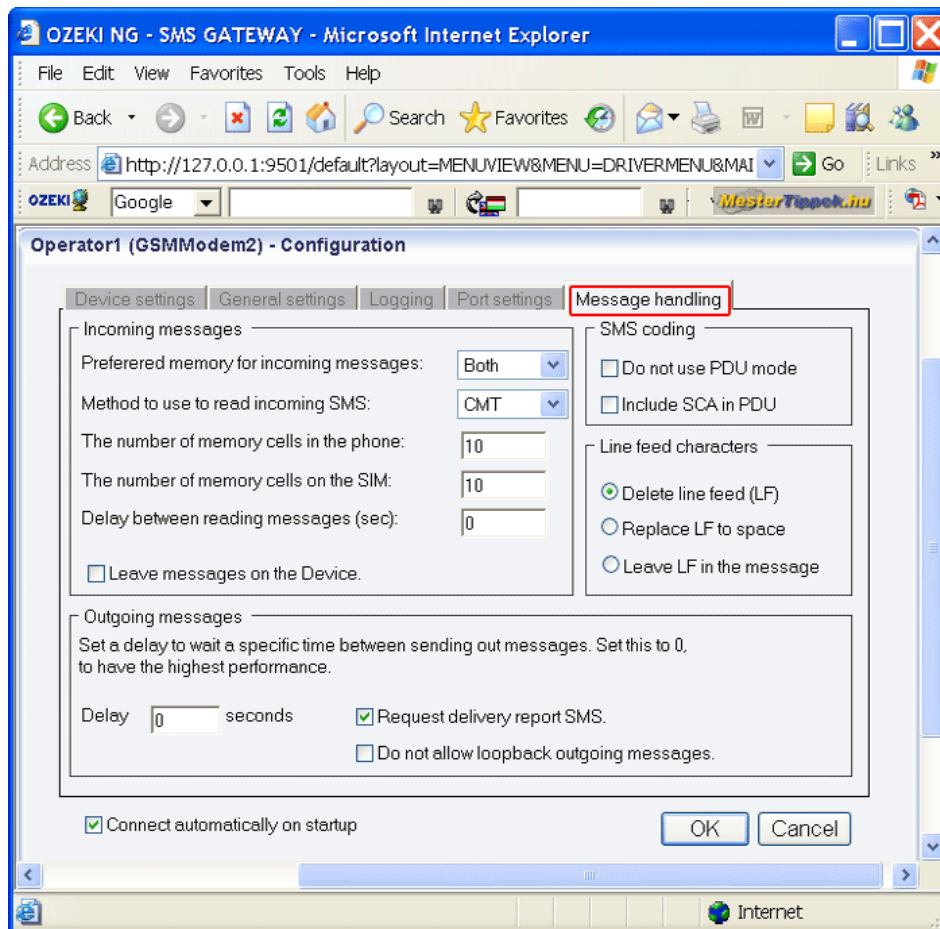


Figure 6 - The Message handling tab

In the **Preferred memory for incoming messages** dropdown menu, you can select where to read incoming messages from: the **SIM** card, the **Device** or **Both**.

The most basic GSM devices are not equipped with device memory; they can only store a limited number of SMS messages on the SIM card. Advanced devices, however, are equipped with additional memory on the device. SMS messages are stored directly on the device memory.

In the **Method to use to read incoming SMS** dropdown menu, you can select which method to use to read incoming messages: **CMT**, **CMGL** or **CMGR**.

Use the CMT method to make the GSM device send a notification about incoming messages.

Use the CMGL method to request the list of incoming messages.

Use the CMGR method to read the content of memory cells one at a time.

The latest standard is CMT.

In the **The number of memory cells in the phone** edit box, you can specify the number of memory cells to be checked for SMS messages in the phone.

Incoming messages are stored in different memory cells in the phone. Ozeki NG - SMS Gateway retrieves incoming messages by reading the memory cells of the phone and/or the SIM card.

The program checks the memory cells for SMS messages one by one. If a cell contains a message, the program retrieves and then deletes it from the cell and goes on to the next cell. When it has finished checking all the cells, it returns to the first cell and starts checking again. The more memory cells the program has to check, the longer it takes to return to the first cell.

If the cells to be checked include a large number of empty ones, a considerable amount of time is wasted. Therefore, the number specified in the edit box should not be too large. When you start using the software, with your phone already containing SMS messages, set this number high enough to read all the messages, and then specify a new number.

Note that if you start using the software with your phone and/or SIM card already containing messages, the program will read and *delete* them unless you check the **Leave messages on the device** checkbox.

With the (optimal) default setting (10), the program will only check the first ten memory cells, and delete the message after reading it in each cell to make space for a new one.

In the **The number of memory cells on the SIM** edit box, you can specify the number of memory cells on the SIM.

In the **Delay between reading messages (sec)** edit box, you can specify, in seconds, a delay to wait for a specific length of time between reading messages. To have the highest performance, set this to 0.

By default, the program deletes incoming messages from the SIM card and/or the phone after they have been read. However, if you check the **Leave messages on the device** checkbox, they will not be deleted.

In the **Outgoing messages** section, there is an edit box in which you can set a delay to wait for a specific length of time between sending out messages. To have the highest performance, set this to 0.

The **Outgoing messages** section also contains two checkboxes. If you check the **Request delivery report SMS** checkbox, the SMS center will send you a delivery report after an SMS message has been delivered to the recipient phone number.

If you check the **Do not allow loopback outgoing messages** checkbox, you can prevent the program from sending SMS messages to yourself, i.e. to the phone number of your SIM card.

The SMS coding section contains the **Do not use PDU mode** and the **Include SCA in PDU** checkbox.

SMS messages can be received in two ways: by text mode and by protocol description unit (PDU) mode. If PDU mode is used, any encoding can be implemented.

In the Line feed characters section, you can select one of three radio buttons. You can choose whether to **Delete line feed (LF)**, **Replace LF with space** or **Leave LF in the message**.

The **Configuration** panel for service provider connections contains a **Connect automatically on startup** checkbox (in the bottom left-hand corner). If it is checked, Ozeki NG - SMS Gateway will automatically initiate a connection with the SMS Center when the program has

started.

If this checkbox is not checked, the connection has to be initiated manually.

You can connect a service provider connection by clicking the green play button beside its name in the panel of installed service provider connections (Figure 6). To disconnect a service provider connection, click the red disconnect button next to the green button.

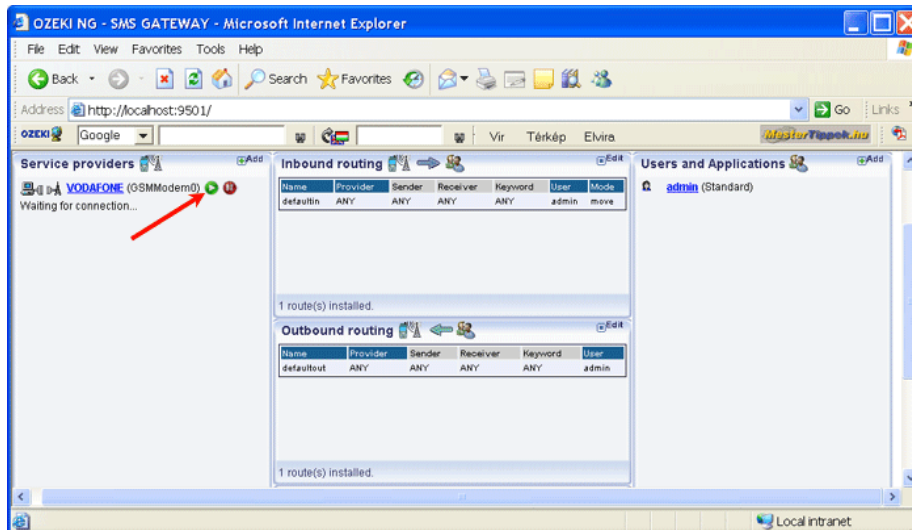


Figure 6 - Connecting the service provider connection

You can also initiate the connection manually by clicking the **Connect** link in the panel of the service provider connection (Figure 7).

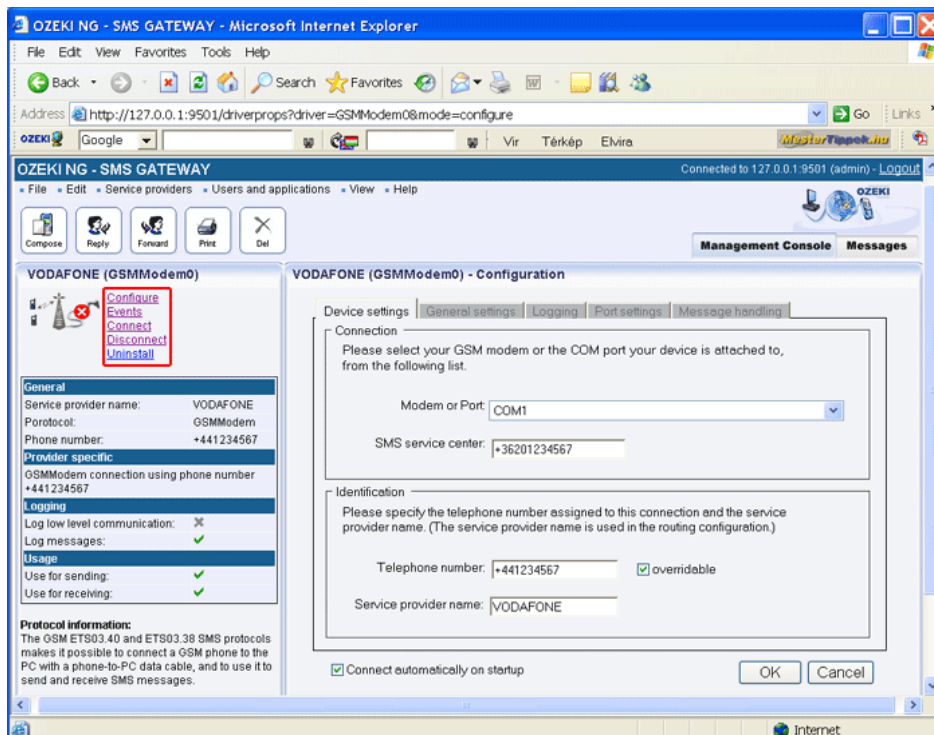


Figure 7 - Links to operations



You can open the panel of a service provider connection by clicking the name of the service provider connection in the **Service providers** panel in the **Management Console**.

The panel of a service provider connection consists of three sections.

In the upper section you can find the name of the service provider connection (with the name of its protocol in brackets).

You can see an icon showing if the service provider connection is connected. If it is not, the icon is marked with an "x".

To the right of the icon you can find links to perform different operations.

**Configure:** to configure or modify the configuration of an installed service provider connection. Clicking this link will take you back to the **Configuration** panel.

**Events:** to view the logging of the latest server events related to the service provider connection. Clicking it will bring up the **Events** panel containing the logging of the latest server events.

**Connect:** to connect the service provider connection with the SMS Center.

**Disconnect:** to disconnect the service provider connection from the SMS Center.

**Uninstall:** to uninstall the service provider connection.

In the middle section of the panel you can see some of the most important configuration information.

The options that have been (re)activated during the configuration are marked with a tick.

The options that have not been activated or those that have been deactivated during the configuration are marked with an "x".

In the lower section of the panel of the service provider connection you can read some information about its protocol.

## **Installation of a Wavecom Modem**

**On this page you can learn how to attach a Wavecom modem to the computer and how to install a standard modem driver for SMS messaging using a GSM modem connection with the Ozeki NG - SMS Gateway software.**

For SMS messaging using GSM modem connectivity with Ozeki NG - SMS Gateway, you need a suitable GSM device attached to your computer with a phone-to-PC data cable. You also need a modem driver installed on your Windows Operating system. (See the [Prerequisites](#) page.)

If performance, reliability and continuous operation are important, you should use an industrial GSM modem for SMS messaging. The Wavecom Fastrack industrial GSM modem (Figure 1) is one of the most reliable devices for this purpose.



Figure 1 - Wavecom Fastrack

You can attach it to the computer with an RS232 serial cable, and you can install a standard modem driver to allow communication between the computer and the modem.

To attach the modem and to install the modem driver, follow the instructions below.

In Figure 2 below you can clearly see that the Wavecom Fastrack modem has a data cable that can be attached to a serial port, a SIM card slot and a SIM card. A network adapter also belongs to the modem. However, it is not included in the figure because of its large size.



Figure 2 - Wavecom GSM Modem with accessories

Attach the serial data cable and the power cable to the Wavecom, with the SIM card already inserted (Figure 3).

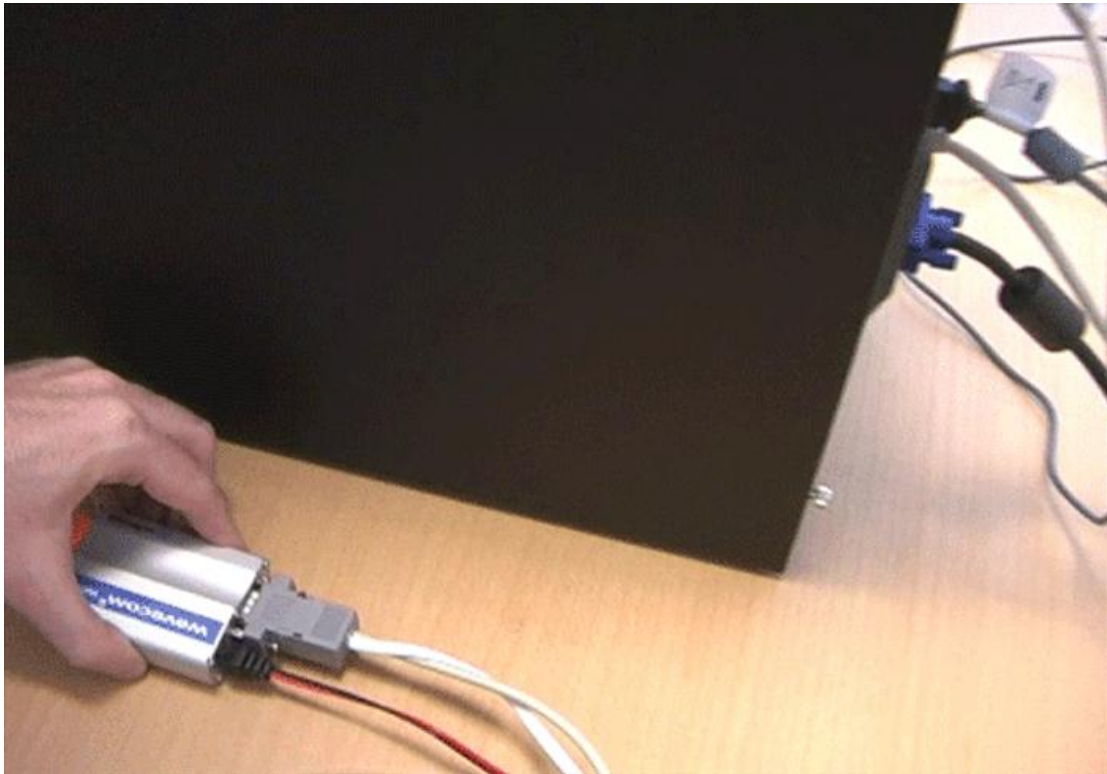


Figure 3 - Attaching the data cable and the power cable to the modem

Attach the data cable to the computer.



Figure 4 - Attaching the data cable to the computer



Make sure the modem works. In Figure 4 you can see the Wavecom modem attached to the computer. If you have inserted the SIM card in the modem, a red LED (light-emitting diode) is supposed to flash at the front (Figure 5).

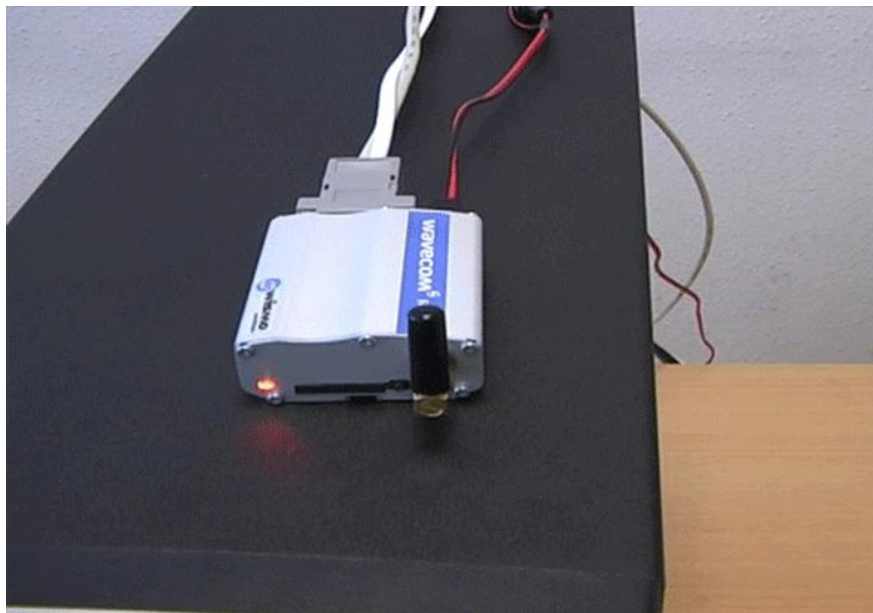
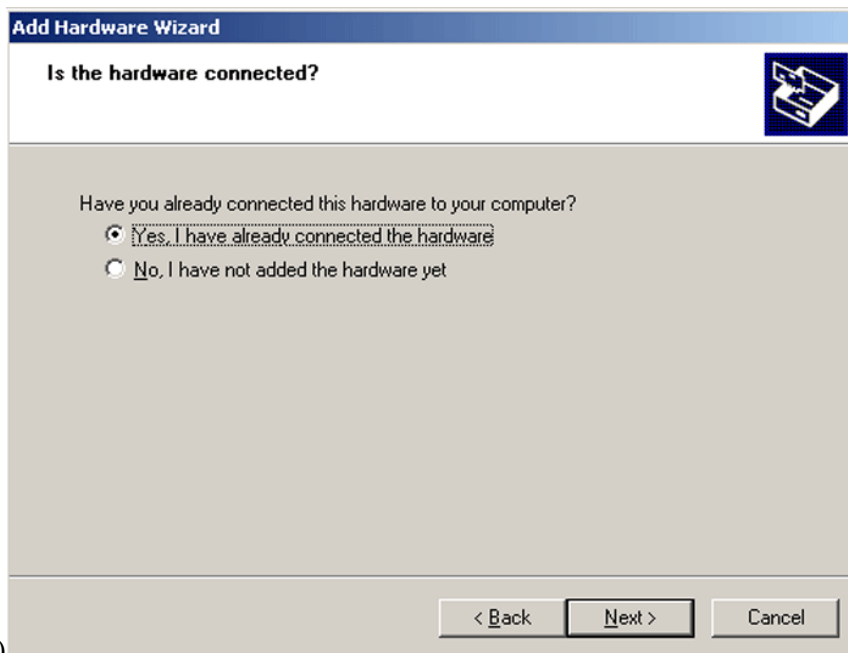


Figure 5 - The Wavecom with a flashing red LED

When you have attached the modem to the computer, you can install the GSM modem driver on your computer's operating system.

Professional, high quality modems allow a simple installation of the modem driver. For the Wavecom modem, for instance, a Standard 56000 modem driver can be installed. If you have a different sort of modem, the steps described below will be more complicated. Then you will have to select the driver provided by the manufacturer of the mobile phone or data cable when selecting the driver during the installation procedure.

Select **Start Menu / Settings / Control Panel / Add hardware** to open the **Add Hardware**



**Wizard** window (Figure 6)

Figure 6 - Add Hardware Wizard

Continue to install the standard modem driver by selecting **Add a new hardware device** (Figure 7).

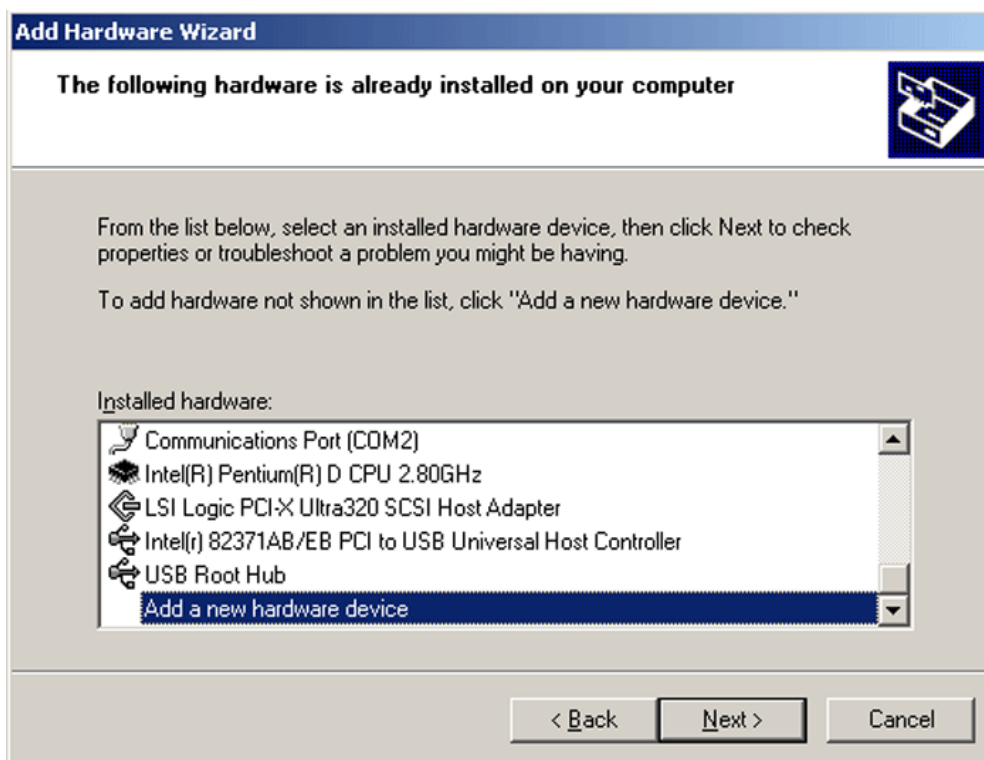


Figure 7 - Selecting Add a new hardware device

Select the **Advanced** mode (**Install the hardware that I manually select from a list**). See Figure 8.

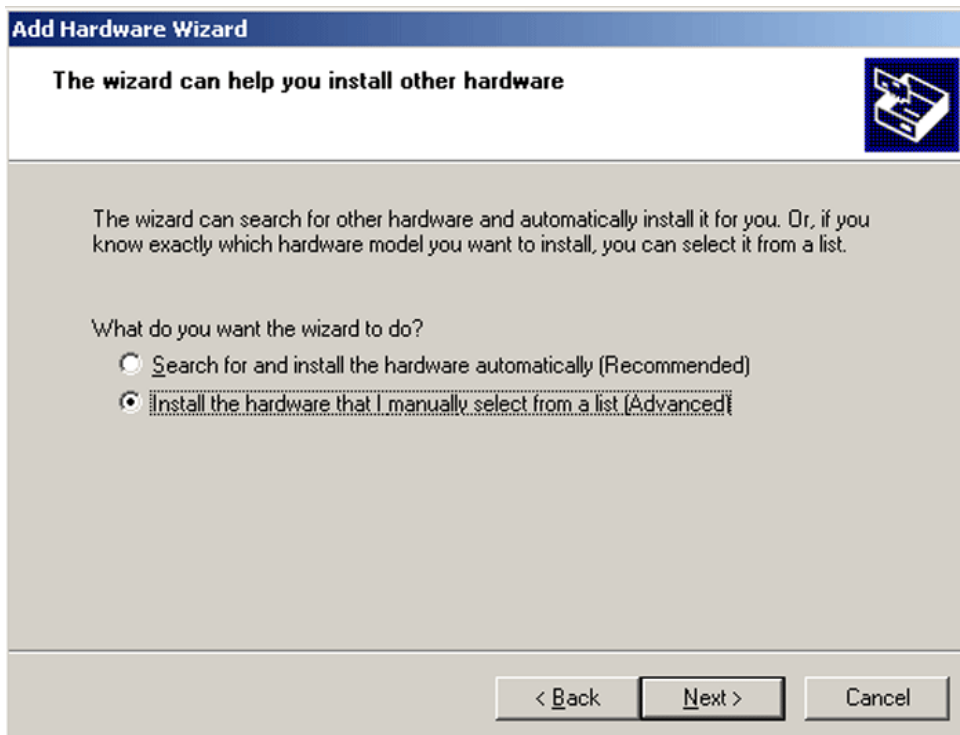


Figure 8 - Selecting Install the hardware that I manually select from a list (Advanced)

Select the **Modems** item (Figure 9).

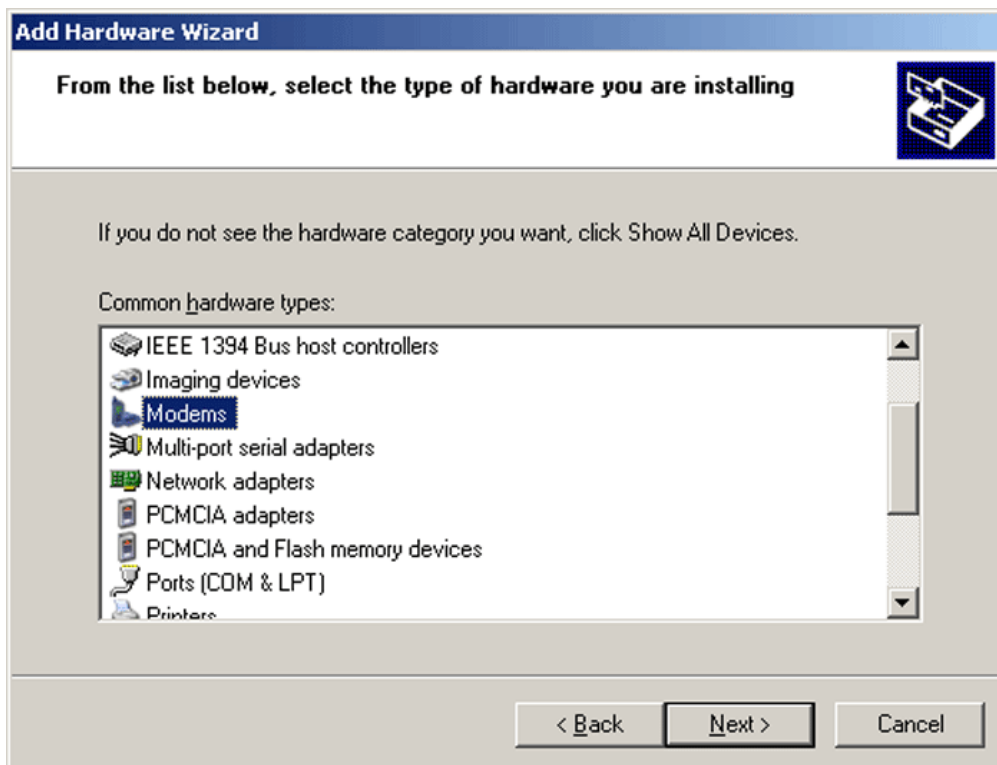


Figure 9 - Selecting the Modems option

Select **Don't detect my modem; I will select it from a list** (Figure 10).

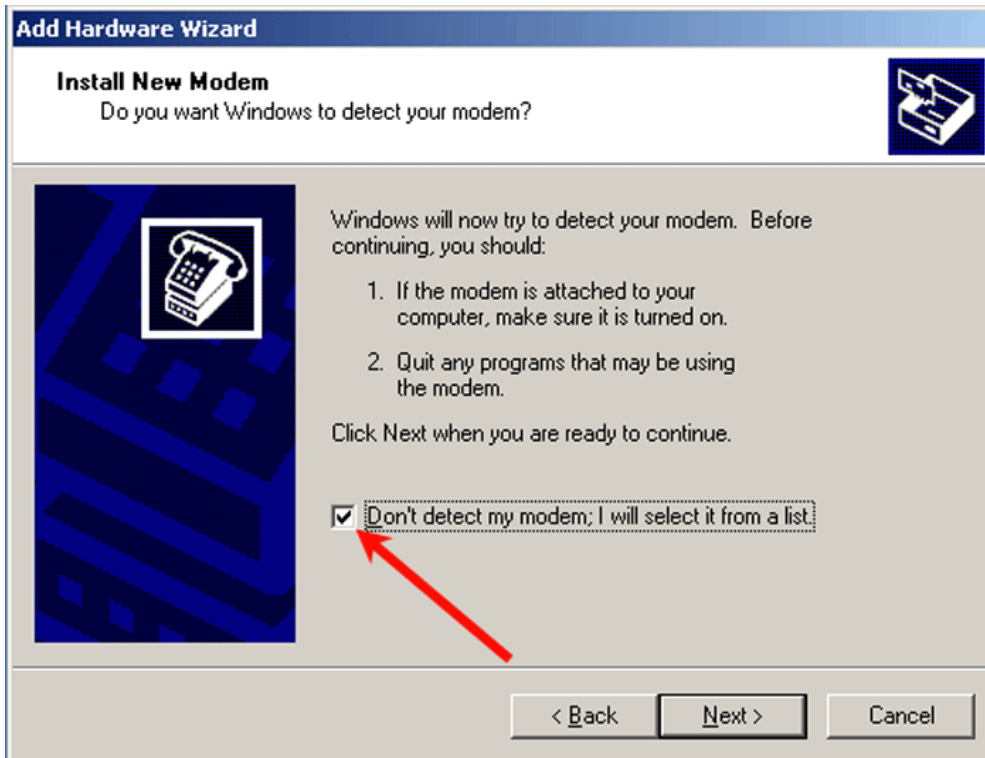


Figure 10 - Preventing autodetection

Select the modem driver (Figure 11).

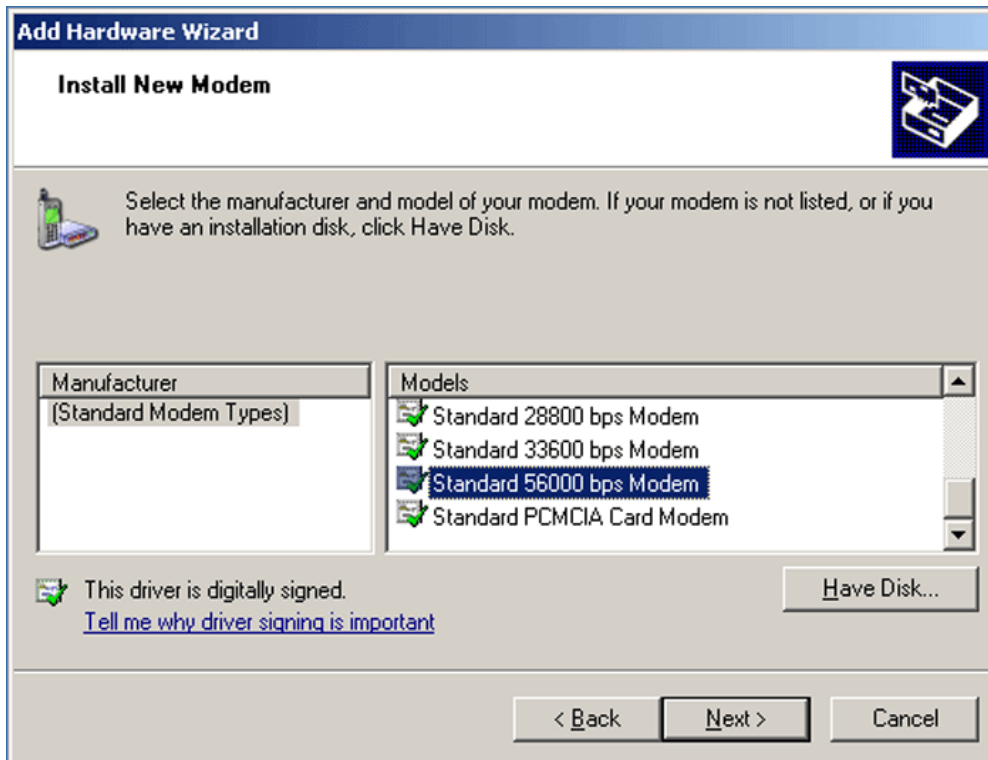


Figure 11 - Selecting the modem driver

Select the port for the modem to be installed (Figure 12).

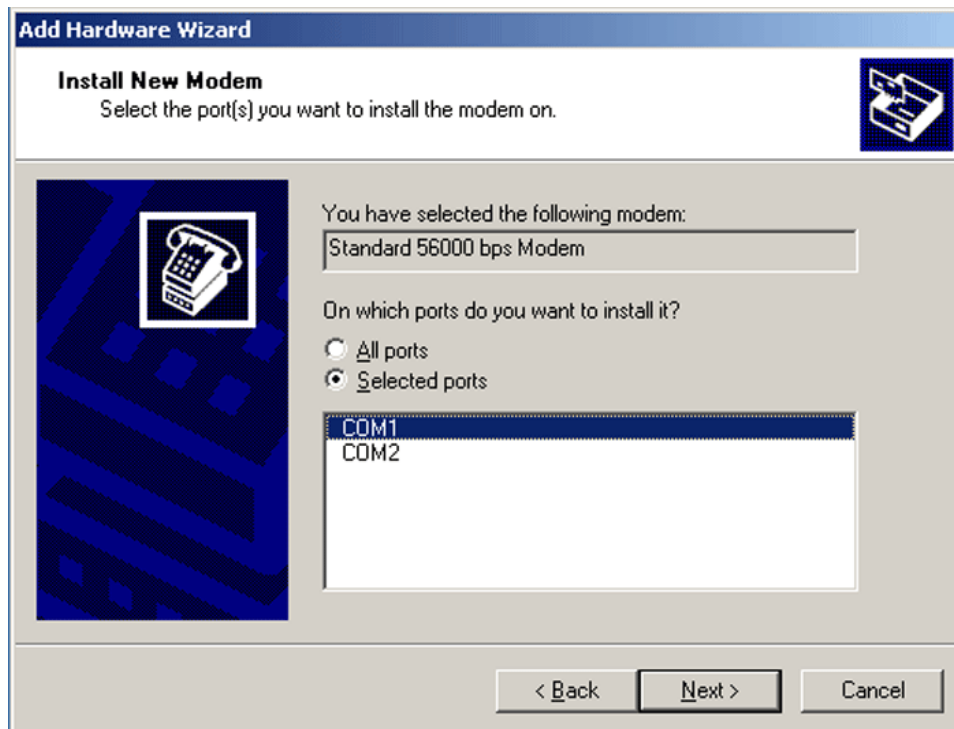


Figure 12 - Selecting the port

After you have selected the port for the modem, you can start to install and configure the GSM Modem protocol.

You can find the installation and configuration instructions on the [GSM Modem Connectivity](#) page.

One of the steps you need to take is to select the GSM modem or the COM port your device is attached to (Figure 13).

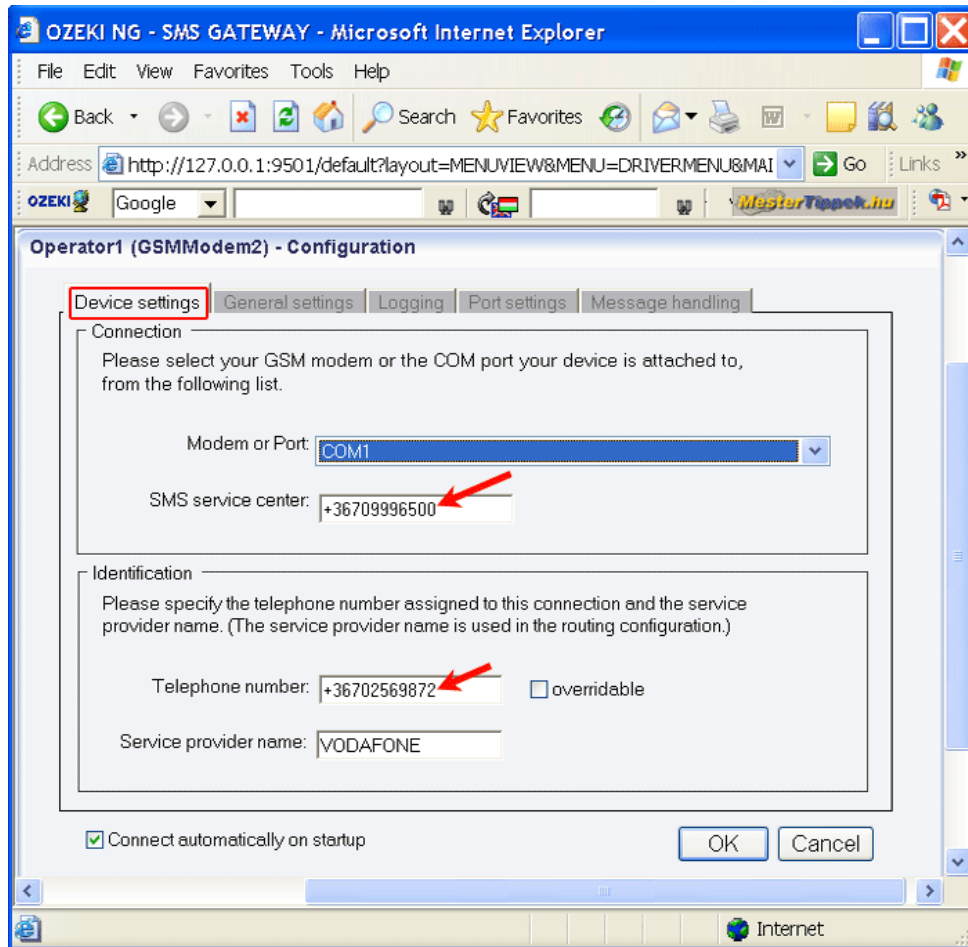


Figure 13 - Selecting the port in the Device settings tab

### Send SMS with GSM Modem - CMS Error codes

**If you are trying to send an SMS messages with a GSM modem, the modem can return an error code in case there is a problem. The following table lists the possible error codes**

CMS ERROR 1	"Unassigned (unallocated) number" This cause indicates that the destination requested by the Mobile Station cannot be reached because, although the number is in a valid format, it is not currently assigned (allocated).
CMS ERROR 8	"Operator determined barring" This cause indicates that the MS has tried to send a mobile originating short message when the MS's network operator or service provider has forbidden such transactions.
CMS ERROR 10	"Call barred" This cause indicates that the outgoing call barred service applies to the short message service for the called destination.
CMS ERROR 17	"Network failure". This cause is sent to the MS if the MSC cannot service an MS generated request because of PLMN failures, e.g. problems in MAP.
CMS ERROR 21	"Short message transfer rejected" This cause indicates that the equipment sending this cause does not wish to accept this short



	message, although it could have accepted the short message since the equipment sending this cause is neither busy nor incompatible.
CMS ERROR 22	"Congestion". This cause is sent if the service request cannot be actioned because of congestion (e.g. no channel, facility busy/congested etc.).
CMS ERROR 27	"Destination out of service" This cause indicates that the destination indicated by the Mobile Station cannot be reached because the interface to the destination is not functioning correctly. The term "not functioning correctly" indicates that a signalling message was unable to be delivered to the remote user; e.g., a physical layer or data link layer failure at the remote user, user equipment off line, etc.
CMS ERROR 28	"Unidentified subscriber" This cause indicates that the subscriber is not registered in the PLMN (i.e. IMSI not known).
CMS ERROR 29	"Facility rejected" This cause indicates that the facility requested by the Mobile Station is not supported by the PLMN.
CMS ERROR 30	"Unknown subscriber" This cause indicates that the subscriber is not registered in the HLR (i.e. IMSI or directory number is not allocated to a subscriber).
CMS ERROR 38	"Network out of order" This cause indicates that the network is not functioning correctly and that the condition is likely to last a relatively long period of time; e.g., immediately reattempting the short message transfer is not likely to be successful.
CMS ERROR 41	"Temporary failure" This cause indicates that the network is not functioning correctly and that the condition is not likely to last a long period of time; e.g., the Mobile Station may wish to try another short message transfer attempt almost immediately.
CMS ERROR 42	"Congestion" This cause indicates that the short message service cannot be serviced because of high traffic.
CMS ERROR 47	"Resources unavailable, unspecified" This cause is used to report a resource unavailable event only when no other cause applies.
CMS ERROR 50	"Requested facility not subscribed" This cause indicates that the requested short message service could not be provided by the network because the user has not completed the necessary administrative arrangements with its supporting networks.
CMS ERROR 69	"Requested facility not implemented" This cause indicates that the network is unable to provide the requested short message service.
CMS ERROR 81	"Invalid short message transfer reference value" This cause indicates that the equipment sending this cause has received a message with a short message reference which is not currently in use on the MS network interface.
CMS ERROR 95	"Invalid message, unspecified" This cause is used to report an invalid message event only when no other cause in the invalid message class applies.
CMS ERROR 96	"Invalid mandatory information" This cause indicates that the equipment sending this cause has received a message where a

	mandatory information element is missing and/or has a content error (the two cases are indistinguishable).
CMS ERROR 97	"Message type non existent or not implemented" This cause indicates that the equipment sending this cause has received a message with a message type it does not recognize either because this is a message not defined or defined but not implemented by the equipment sending this cause.
CMS ERROR 98	"Message not compatible with short message protocol state" This cause indicates that the equipment sending this cause has received a message such that the procedures do not indicate that this is a permissible message to receive while in the short message transfer state.
CMS ERROR 99	"Information element non existent or not implemented" This cause indicates that the equipment sending this cause has received a message which includes information elements not recognized because the information element identifier is not defined or it is defined but not implemented by the equipment sending the cause. However, the information element is not required to be present in the message in order for the equipment sending the cause to process the message.
CMS ERROR 111	"Protocol error, unspecified" This cause is used to report a protocol error event only when no other cause applies.
CMS ERROR 127	"Interworking, unspecified" This cause indicates that there has been interworking with a network which does not provide causes for actions it takes; thus, the precise cause for a message which is being send cannot be ascertained.
CMS ERROR 128	Telematic interworking not supported x
CMS ERROR 129	Short message Type 0 not supported x x
CMS ERROR 130	Cannot replace short message x x
CMS ERROR 143	Unspecified TP PID error x x
CMS ERROR 144	Data coding scheme (alphabet) not supported x
CMS ERROR 145	Message class not supported x
CMS ERROR 159	Unspecified TP DCS error x x
CMS ERROR 160	Command cannot be actioned x
CMS ERROR 161	Command unsupported x
CMS ERROR 175	Unspecified TP Command error x
CMS ERROR 176	TPDU not supported x x
CMS ERROR 192	SC busy x
CMS ERROR 193	No SC subscription x
CMS ERROR 194	SC system failure x
CMS ERROR 195	Invalid SME address x
CMS ERROR 196	Destination SME barred x
CMS ERROR 197	SM Rejected Duplicate SM x
CMS ERROR 198	TP VPF not supported X



CMS ERROR 199	TP VP not supported X
CMS ERROR 208	SIM SMS storage full x
CMS ERROR 209	No SMS storage capability in SIM x
CMS ERROR 210	Error in MS x
CMS ERROR 211	Memory Capacity Exceeded X
CMS ERROR 212	SIM Application Toolkit Busy x x
CMS ERROR 255	Unspecified error cause
128...255	Other values in this range are reserved, defined by GSM 03.40 subclause 9.2.3.22 values
CMS ERROR 300	ME failure
CMS ERROR 301	SMS service of ME reserved
CMS ERROR 302	operation not allowed
CMS ERROR 303	operation not supported
CMS ERROR 304	invalid PDU mode parameter
CMS ERROR 305	invalid text mode parameter
CMS ERROR 310	SIM not inserted
CMS ERROR 311	SIM PIN required
CMS ERROR 312	PH SIM PIN required
CMS ERROR 313	SIM failure
CMS ERROR 314	SIM busy
CMS ERROR 315	SIM wrong
CMS ERROR 316	SIM PUK required
CMS ERROR 317	SIM PIN2 required
CMS ERROR 318	SIM PUK2 required
CMS ERROR 320	memory failure
CMS ERROR 321	invalid memory index
CMS ERROR 330	SMSC address unknown
CMS ERROR 331	no network service
CMS ERROR 332	network timeout
CMS ERROR 340	no +CNMA acknowledgement expected
CMS ERROR 500	unknown error
256...511	Other values in this range are reserved
512...	manufacturer specific

### Send SMS using a GSM modem - Connection problems

**In this page I give some information about what to do if your modem is not recognized by the software.**

In some situations Ozeki NG SMS Gateway will not detect your GSM phone. In this case you can test whether your phone responds using Hyper Terminal. Hyper Terminal is built into Windows. It is a good tool to test modem connectivity.

To start Hyperterminal, select Start->All programs->Accessories->Communications->HyperTerminal. When Hyperterminal starts, you must provide a name for the connection. Type any name you like to get to the "Connect To" form (Figure 1).

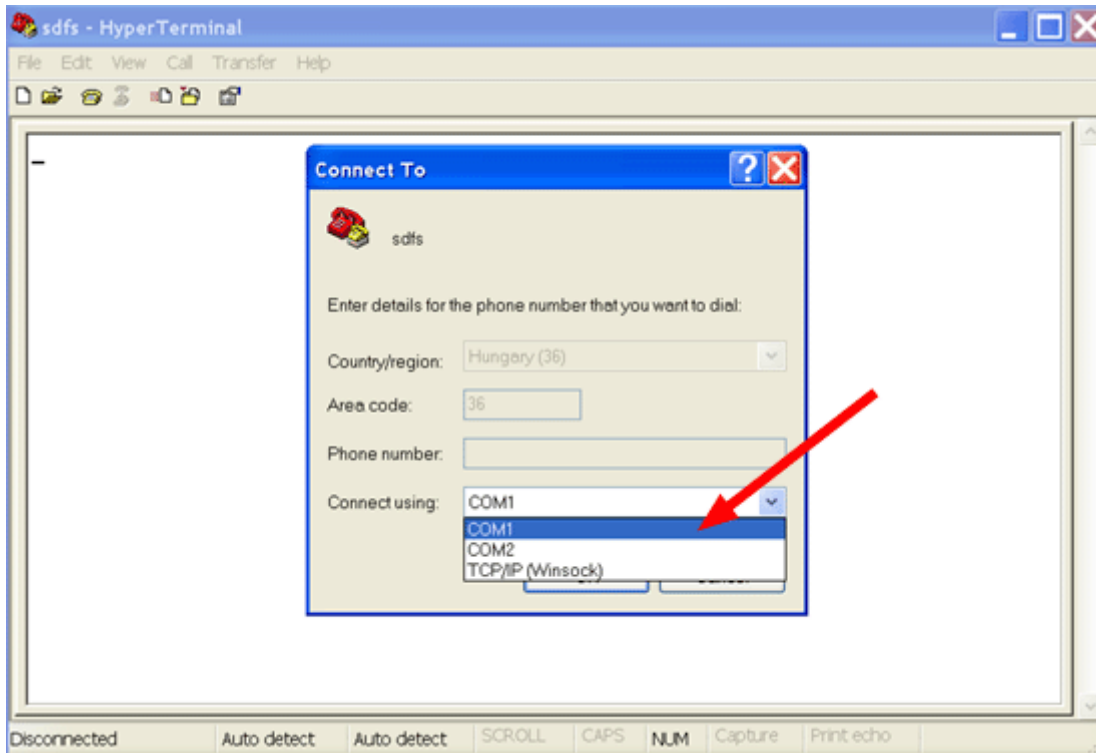


Figure 1 - Hyper Terminal, connect to form

In the "Connect To" configuration form you can select the COM port your device is attached to. If you use a USB cable, a PCMCIA modem, a Bluetooth connection or an Infrared port, you need to install a driver supplied by the manufacturer of the device. The driver will register a virtual serial port. In Hyper Terminal select the virtual port created by the driver of your device.

When the port is selected click Ok, to get to the Port configuration form. On this form specify the port settings. The most common port speeds for GSM phones and modems are 9600, 19200, 57600 and 115200. The Data bits should be set to 8. The Parity to none the Stop bits to 1 and the flow control should be hardware.

After all configurations are made the terminal window will open. You can use this window to test the communication. The communication can be tested by typing AT into the terminal window. If your GSM phone or modem is working the AT will appear and an OK response will be returned. If your GSM phone or modem is not working then you will not see the AT command after typing it in (Figure 2).

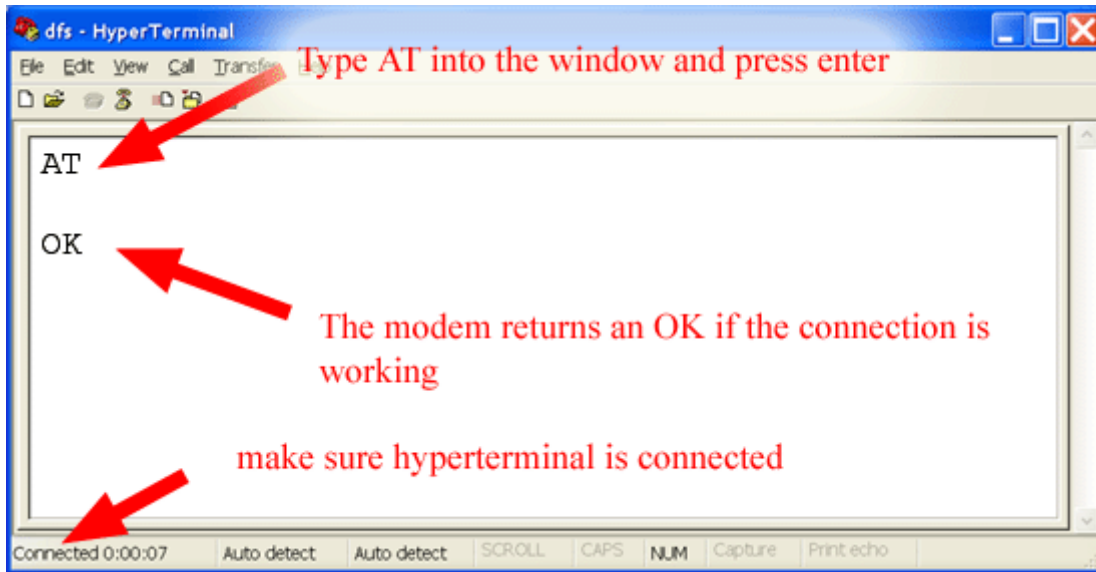


Figure 2 - AT command and OK response

If the test is successful, which means you have seen the OK response from your GSM phone or modem please close HyperTerminal and the "Autodetect" option in Ozeki NG will work.

If the test is not successful, one of the following problems need to be resolved:

- Some other software uses your device. Sometime 3rd party phone manager applications, or SMS solutions block the device. Try to shut down or remove these applications from your system.
- Your device is not a GSM modem. Please check the manual of your device, to see if it has a built in modem and can be operated with AT commands. Ozeki NG uses AT commands to control your device.
- The driver supplied with your device is not working. Try to find another driver.

## SMPP Connection

**This chapter provides detailed instructions on how to install and configure an SMPP service provider connection for SMS messaging using the Ozeki NG - SMS Gateway software.**

As you can read on the [Service Provider Connections](#) page, you need to install and configure one or more service provider connections for SMS messaging using Ozeki NG - SMS Gateway. One of the service provider connections supported by the software is the Short Message Peer-to-Peer (SMPP) connection.

The SMPP protocol can be used to connect your computer directly to the Short Message Service Center (SMSC) of the service provider. This way you can send and receive SMS messages over the Internet or over a private IP network.

You can install and configure this connection using the [graphical user interface](#) of Ozeki NG - SMS Gateway.

To start installing and configuring an SMPP connection, click the **Add** button in the top right-hand corner of the **Service providers** panel on the left of the **Management Console** interface. (To find out how to open this interface, check out the [QuickStart Guide](#).)

You can also add a service provider connection by clicking the **Add service provider** item in the **Service providers** menu.

After you have clicked one of these, the **Add service provider** panel will show up on the right of the interface. The panel contains a list of protocols you can install and use for communication with an SMS service provider.

To select the SMPP protocol, click the **Install** link in the respective entry in the list (Figure 1).

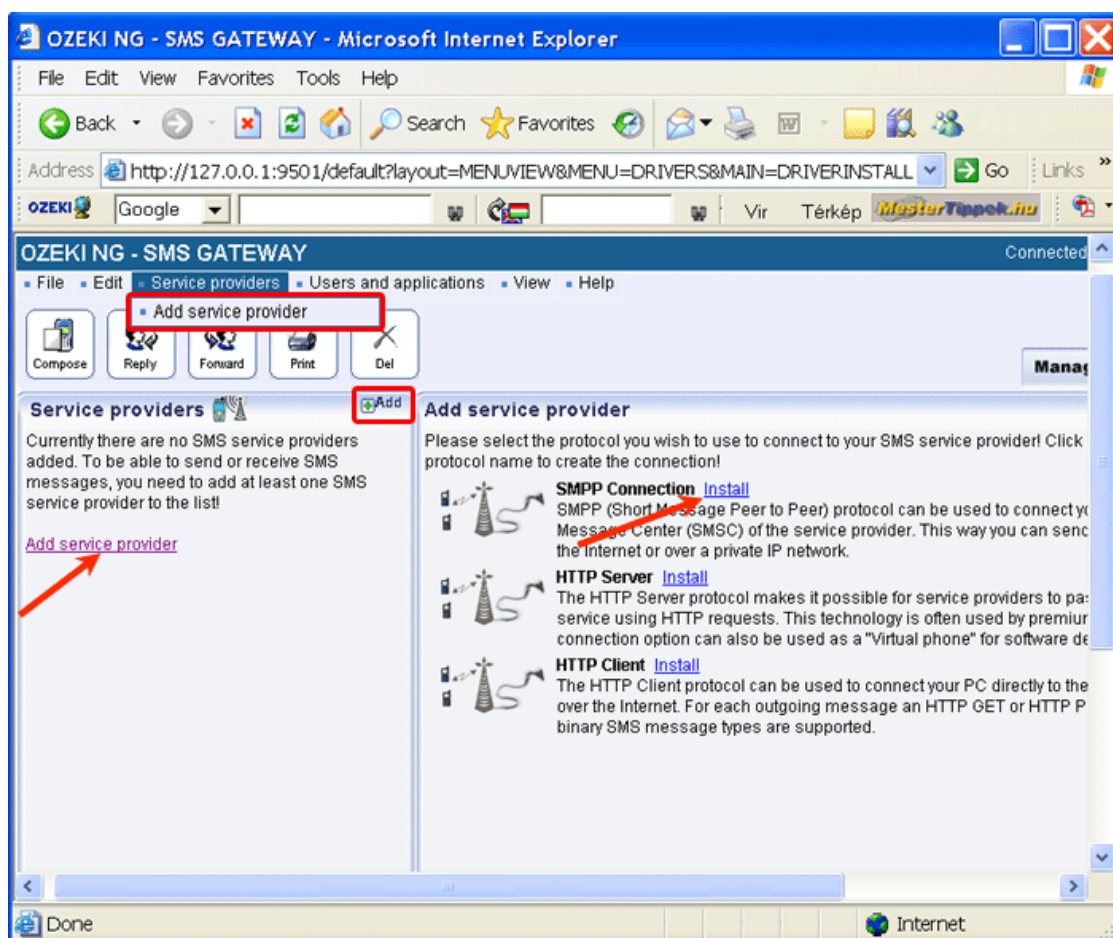


Figure 1 - Starting to install the SMPP connection

When you have installed the **SMPP Connection**, the **Configuration** panel will show up on the right of the interface. The first tab of the panel is the **SMPP settings** tab, which consists of a **Connection** and an **Identification** section.

In the **Connection** section, specify the SMPP server settings. This information is provided by the GSM service provider whose service you have subscribed to. The connection parameters are the host name (sometimes only an IP address is given), the port number, a username and a password. Service providers often use the phone number of the service or the port number as the username. Enter the information in the respective edit boxes (Figure 2).

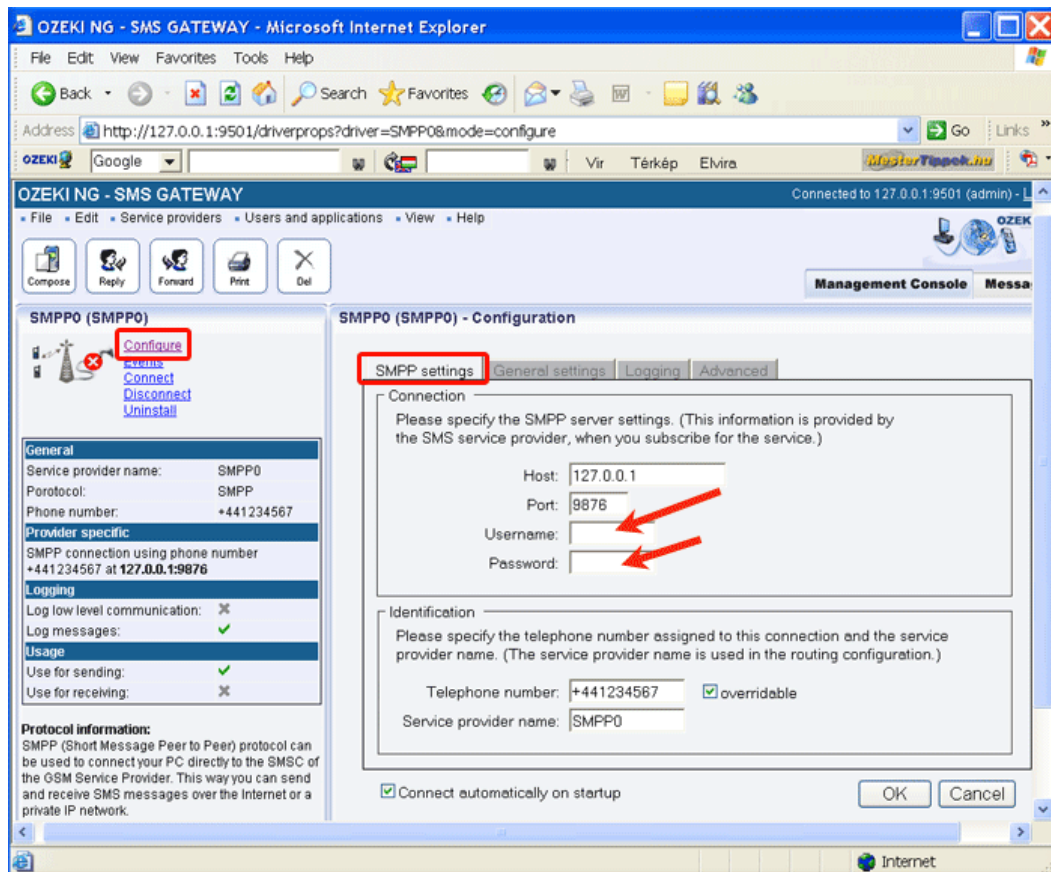


Figure 2 - Specifying the server settings

In the **Identification** section, specify the telephone number assigned to this connection and the service provider connection name. To facilitate identification and to avoid confusion, you should name the connection after the GSM service provider. E.g., if you have set up an SMPP connection with Vodafone, it is advisable to name it "Vodafone". Also, note that different connections should be given different names. If you have different connections from the same service provider, you can use different but similar names for them, e.g.: "Vodafone1", "Vodafone2" (or something of the like). However, some load balancing solutions require an identical name for different connections. For details, visit the [Load Balancing](#) and the [Load Balancing for SMPP v3.3](#) page.

Enter the information in the respective edit boxes. Remember to enter the phone number in international format: starting with "+". You can check the **overridable** checkbox to the right of the **Telephone number** edit box. This ensures that you can replace the phone number specified in the **Telephone number** edit box with a different one to be displayed as the sender of an outgoing message. You can also replace the number with (alphanumeric) text consisting of a maximum of eleven (11) characters. Therefore, when a message is sent out, e.g. using the [Database user](#), you can specify any different phone number or a name to be displayed as the sender of the message.

Note that the phone number to be specified in the **Telephone number** edit box is a mandatory value. If you leave the edit box empty, the sending will be unsuccessful.



To perform general settings related to sending and receiving SMS messages using this protocol, click the **General Settings** tab. This will open a panel consisting of the **Send, receive and delivery report options** and the **Timeout handling** section.

In the upper section of the panel you can check any or all of the checkboxes. Which one(s) to check depends on what you wish to use this connection for and whether you need a delivery report. You can choose to use the connection for only sending or only receiving SMS messages (or both sending and receiving), and you can choose to request a delivery report for outgoing messages (Figure 3).

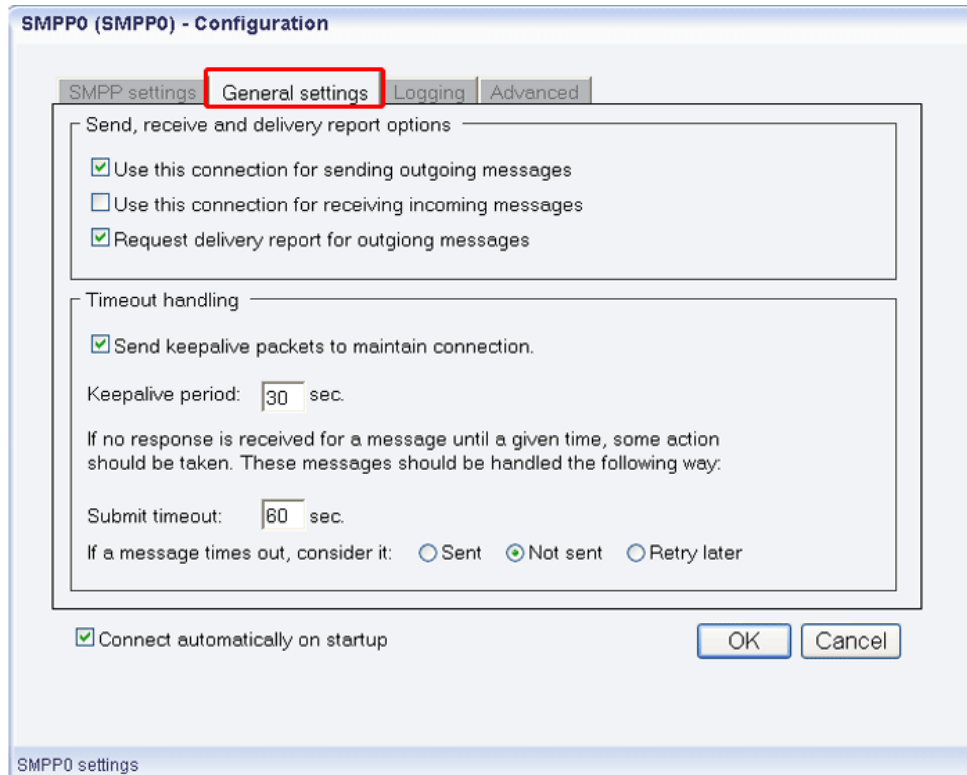


Figure 3 - The General settings tab

In the lower section of the tab you can make choices and specifications to handle your connection to the SMS Center and the status of your SMS messages.

If you check the checkbox at the top of the **Timeout handling** section, you can make the program send keepalive packets to maintain connection. Proxy servers will drop a connection after a short period of time if there is no activity on it. Keepalive packets are sent during idle periods to keep the connection open.

In the **Keepalive period** edit box you can specify the maximum length of idle connection between the Ozeki NG - SMS Gateway and the SMSC. You can specify it by giving the number of seconds in numerical characters representing any positive whole number. If you are content with the default specification (30 seconds), leave this edit box unchanged.

In the **Submit timeout** edit box you can specify the maximum waiting time for an SMS Center response confirming that your message has been successfully submitted. Successful submission means that the SMS Center has accepted the message for delivery. You can

specify the waiting time by giving the number of seconds in numerical characters representing any positive whole number. If you are content with the default specification (60 seconds), leave this edit box unchanged.

You can choose how to consider a message you have sent if there is no response from the SMS Center after the specified length of time. Select one of the three radio buttons. Select **Sent** to consider a message sent even if there is no response from the SMS Center. Select **Not sent** to consider a message not sent if there is no response from the SMS Center. Select **Retry later** to make the program try to send a message later if the SMS Center has not confirmed its status as sent. Then, the message will be placed last in the outgoing message queue and sent out again when it is its turn.

To configure logging, click the **Logging** tab in the **Configuration** panel.

The tab has a **Logging** and a **Log file settings** section. Here, you can choose whether to make the program write log entries about sent and received messages in human readable format and/or log low level communication. Choosing the latter option will make the program produce logfiles containing binary codes representing the communication data.

You should check at least the **Log sent and received messages in human readable format** checkbox, as logfiles can be useful in debugging communication problems (Figure 4).

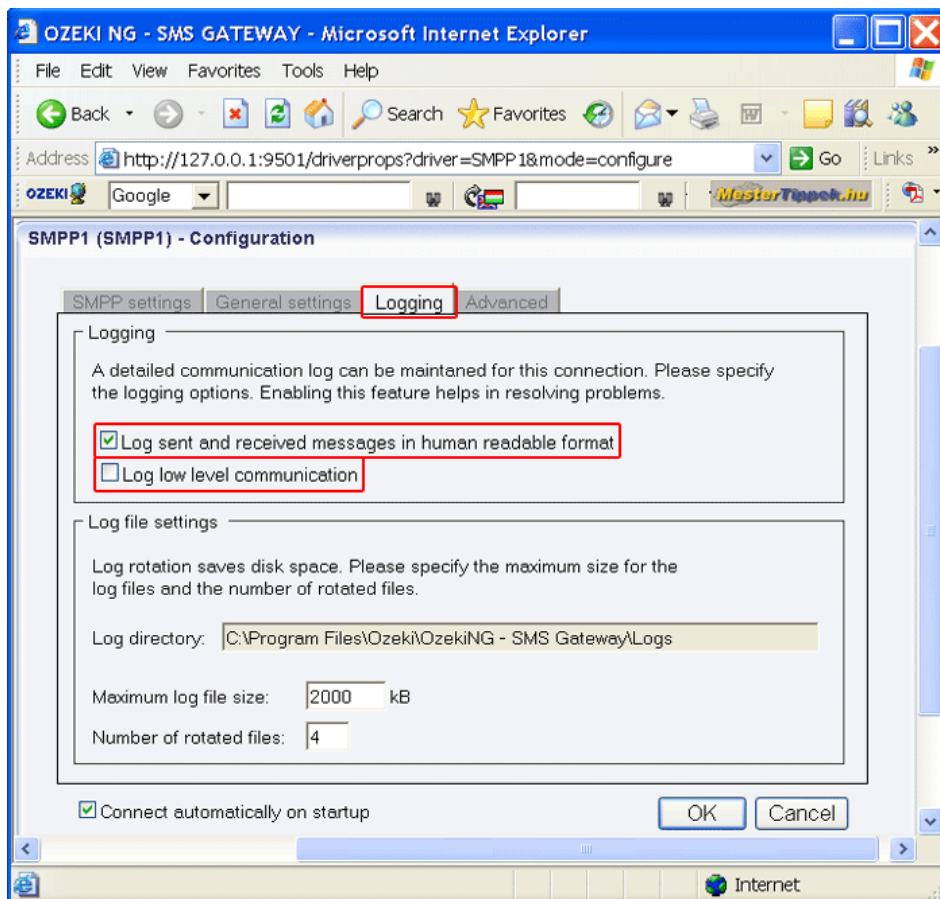


Figure 4 - Logging options

In the **Log file settings** section of the tab, you can make specifications for the size and the number of available logfiles.

Log rotation saves disk space, as it ensures that older (and probably no longer needed) logfiles

will be automatically deleted from the log directory, which is specified in the **Log directory** text box. By default, the access path to the logfiles is: C:\Program Files\Ozeki\OzekiNG - SMS Gateway\Logs

In the **Maximum log file size** text box you can specify the maximum size of a logfile. Once this size is reached, a new logfile will be created. Specify the number of kilobytes for the size of a logfile by entering a positive whole number. By default, the maximum logfile size is 2000 kB.

In the **Number of rotated files** text box, specify the maximum number of rotated logfiles that are saved. Specify this number by entering a positive whole number. By default, the number of logfiles that are saved is 4 (see Figure 4 above).

If you are content with the default specifications, leave the text boxes unchanged.

In the **Advanced** tab of the **Configuration** panel, you can define detailed protocol-specific options (in the left section) and specify NPI and TON settings (in the right section).

Selecting either of the radio buttons (**v3.3** or **v3.4**), you can specify the protocol version.

You can specify the system type by entering its name in the **System type** text box. The system type is for assigning the protocol standard of the other side (SMSC). It is specified by the service provider.

To specify the bind mode, select one of the three radio buttons: **Transmitter**, **Receiver** or **Transceiver**.

The bind mode describes the way of communication between Ozeki NG - SMS Gateway and the SMS Center of a service provider.

Select **Transmitter** if you use this connection only for sending SMS messages.

Select **Receiver** if you use this connection only for receiving messages.

Select **Transceiver** if you use this connection for both sending and receiving messages (Figure 5).

In the **SMSC Charset** dropdown menu, you can select the character set you wish to use for SMS messaging with this connection.

You can check the **Encode text into GSM 7bit** checkbox to make the program encode the text of your SMS messages into text composed of characters of the GSM 7bit character set (Figure 5).



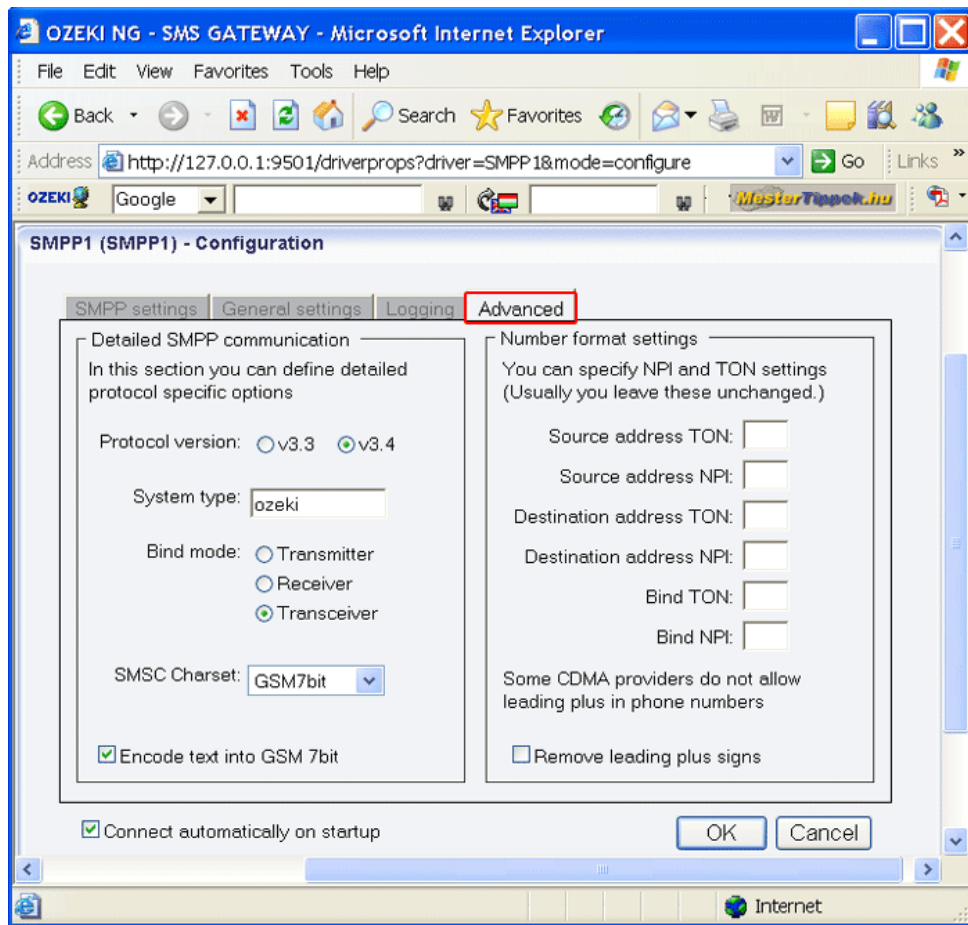


Figure 5 - Advanced configuration settings

In the right section of this configuration panel there are six text boxes for NPI and TON settings. NPI is short for Network Protocol Identification. TON is short for Type Of Number. In each of them, you can enter numbers. This information is provided by the GSM service provider.

In the bottom left-hand corner of this section you can check the **Remove leading plus signs** checkbox to make the program remove "+" at the beginning of phone numbers. It may be necessary, as some CDMA providers do not allow leading plus in phone numbers.

The **Configuration** panel for service provider connections contains a **Connect automatically on startup** checkbox (in the bottom left-hand corner). If it is checked, Ozeki NG - SMS Gateway will automatically initiate a connection with the SMS Center when the program has started.

If this checkbox is not checked, the connection has to be initiated manually.

To initiate the connection manually, click the **Connect** link in the panel of the service provider connection (Figure 6).

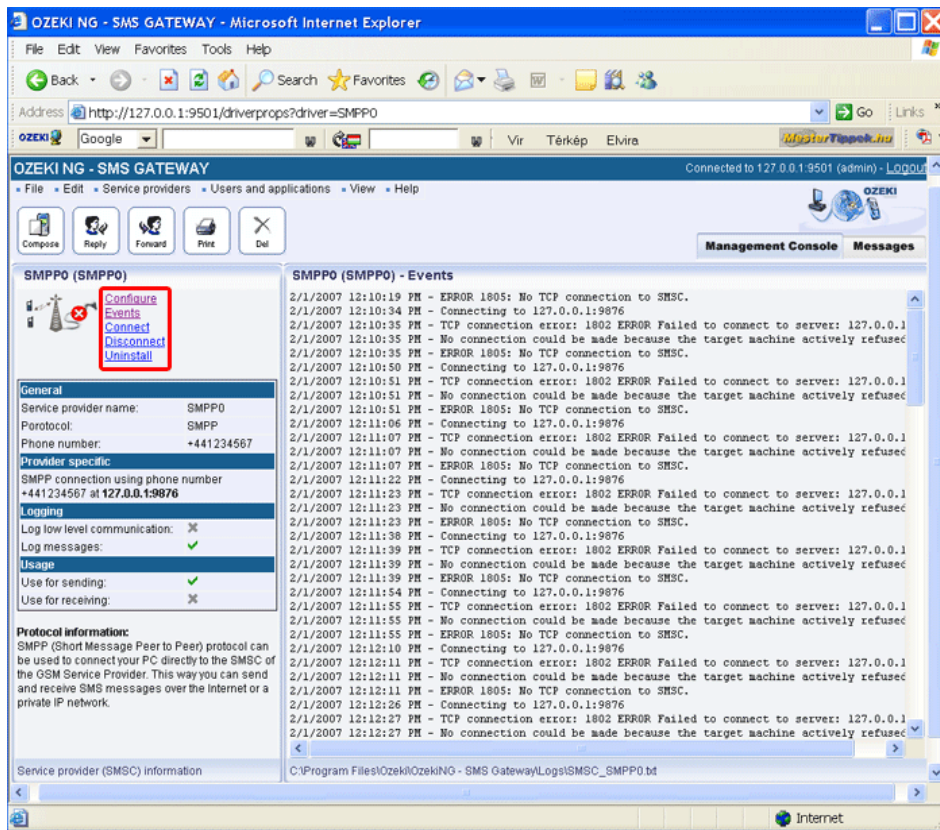


Figure 6 - Links to operations

You can open the panel of a service provider connection by clicking its name in the **Service providers** panel in the **Management Console**.

The panel of a service provider connection consists of three sections.

In the upper section you can find the name of the service provider connection (with the name of its protocol in brackets).

You can see an icon showing if the service provider connection is connected. If it is not, the icon is marked with an "x".

To the right of the icon you can find links to perform different operations.

**Configure:** to configure or modify the configuration of an installed service provider connection. Clicking this link will take you back to the **Configuration** panel.

**Events:** to view the logging of the latest server events related to the service provider connection. Clicking it will bring up the **Events** panel containing the logging of the latest server events.

**Connect:** to connect the service provider connection with the SMS Center.

**Disconnect:** to disconnect the service provider connection from the SMS Center.

**Uninstall:** to uninstall the service provider connection.

In the middle section of the panel you can see some of the most important configuration information.

The options that have been (re)activated during the configuration are marked with a tick.

The options that have not been activated or those that have been deactivated during the configuration are marked with an "x".

In the lower section of the panel of the service provider connection you can read some information about its protocol.

**Flash SMS support in SMPP SMS Services**

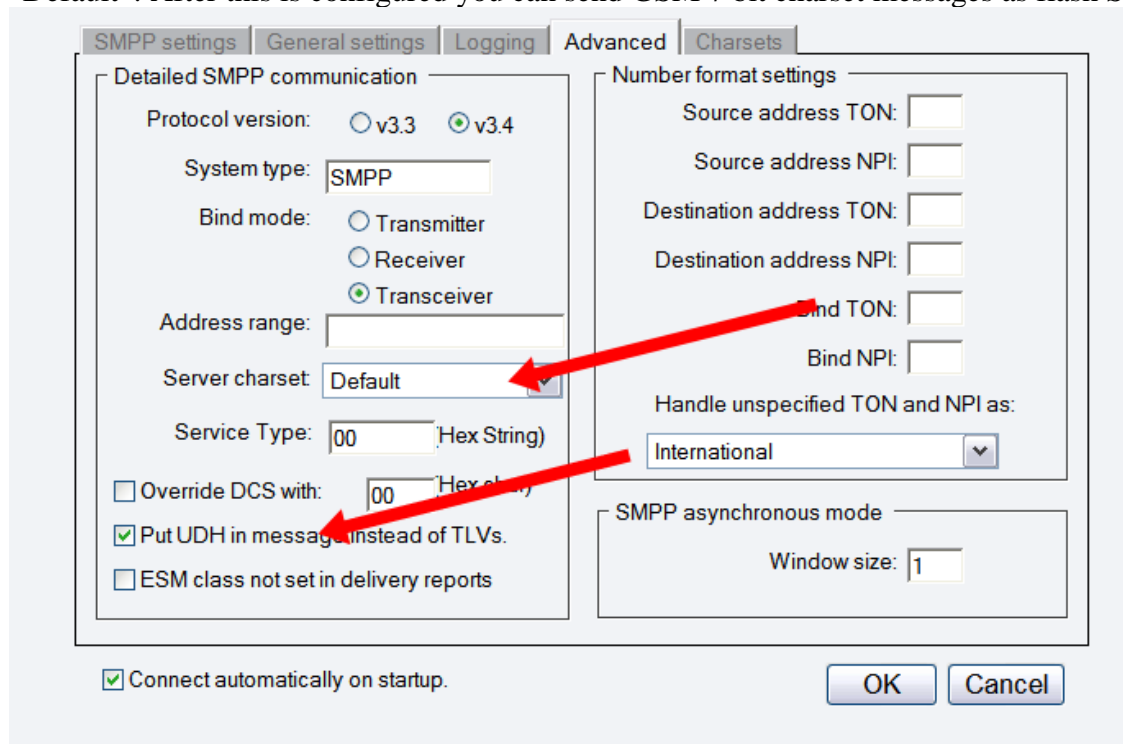
**The FLASH SMS functionality is implemented in Ozeki NG SMS Gateway. If you use the SMPP protocol, you have to configure your SMPP service provider connection to support FLASH SMS messages.**

**Configure your SMPP service provider connection**

You can use FLASH SMS in SMPP connections in two ways:

1.) The first option:

If your SMPP provider does not support TLV fields, you can encode the FLASH SMS message class setting in the DCS field of the SMPP PDU. To use this option, make sure the "Put UDH in message instead of TLVs" checkbox is checked in the Advanced tab of the SMPP service provider connection form. On the same tab set the "Server charset:" to "Default"! After this is configured you can send GSM 7 bit charset messages as flash SMS.



Please note, that if you use UNICODE characters in SMPP 3.3 or SMPP 3.4 the only way you can use FLASH SMS is if your provider supports the TLV fields.

2.) The second option:

If your SMPP provider supports TLV fields, here is what you should do: Make sure the "Put UDH in message instead of TLVs" checkbox is **NOT** checked. If TLVs are supported by your service provider, both GSM 7bit and UCS2 messages can be sent as FLASH.

## UCP connection

**In this chapter you can find out how to install and configure the UCP IP SMS protocol for SMS messaging using the Ozeki NG - SMS Gateway software. In addition to an introduction containing general information about this protocol, this page provides detailed installation and configuration instructions.**

### Introduction

As you can read on the [Service Provider Connections](#) page, you need to install and configure one or more service provider connections for SMS messaging using Ozeki NG - SMS Gateway. One of the service provider connections supported by the software is the Universal Computer Protocol (UCP) connection.

This protocol is often used by GSM service providers for IP SMS connectivity. The currently used protocol versions (v3, v3.5, v4.0) can be used to transfer high volumes of SMS traffic. It is used for both premium rate and normal rate SMS messages.

One of the advantages of using UCP connections is that you can specify the sender address of the message. The sender address can be a custom phone number or a short word containing alphanumeric characters. (See the instructions about the **overridable** checkbox below.) Note, however, that some GSM service providers restrict the use of this option.

Another advantage of UCP is that it allows sending messages of every type the GSM network can carry. It can be used to send binary SMS messages (operator logos, ringtones), WAP Push messages, as well as other types of messages. (Check out the [Appendix](#) for links to pages about different message types.) Concatenated SMS messages and various alphabets can also be used.

In order to use UCP to connect to an SMSC over the Internet or other private TCP/IP network, you need to subscribe to the service of a service provider.

If you wish to use UCP to connect to your service provider, you need the following information from the service provider:

IP address of the SMSC
Port number of the SMSC
User name
Password

Some service providers require you to set up an IPSEC VPN tunnel to connect to their SMSC (Figure 1).

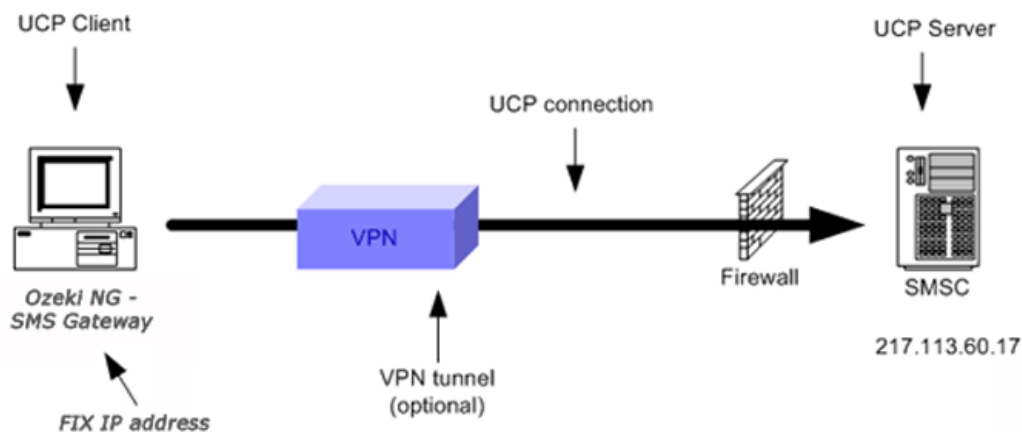


Figure 1 - UCP connection with VPN

In most cases you need a fix IP address, which you have to let the GSM service provider know so that they can give you access through their firewall. In some situations, the service provider does not want you to be able to set up more than one UCP connection from your computer to their service. If this is the case, they might ask you to use a specific source port for the connection.

### Installation and configuration

You can install and configure this connection using the [graphical user interface](#) of Ozeki NG - SMS Gateway.

To start installing and configuring a UCP service provider connection, click the **Add** button in the top right-hand corner of the **Service providers** panel on the left of the **Management Console** interface. (To find out how to open this interface, check out the [QuickStart Guide](#).)

You can also add a service provider connection by clicking the **Add service provider** item in the **Service providers** menu.

After you have clicked one of these, the **Add service provider** panel will show up on the right of the interface. The panel contains a list of protocols you can install and use for communication with an SMS service provider.

To select the UCP protocol, click the **Install** link in the respective entry in the list (Figure 2).



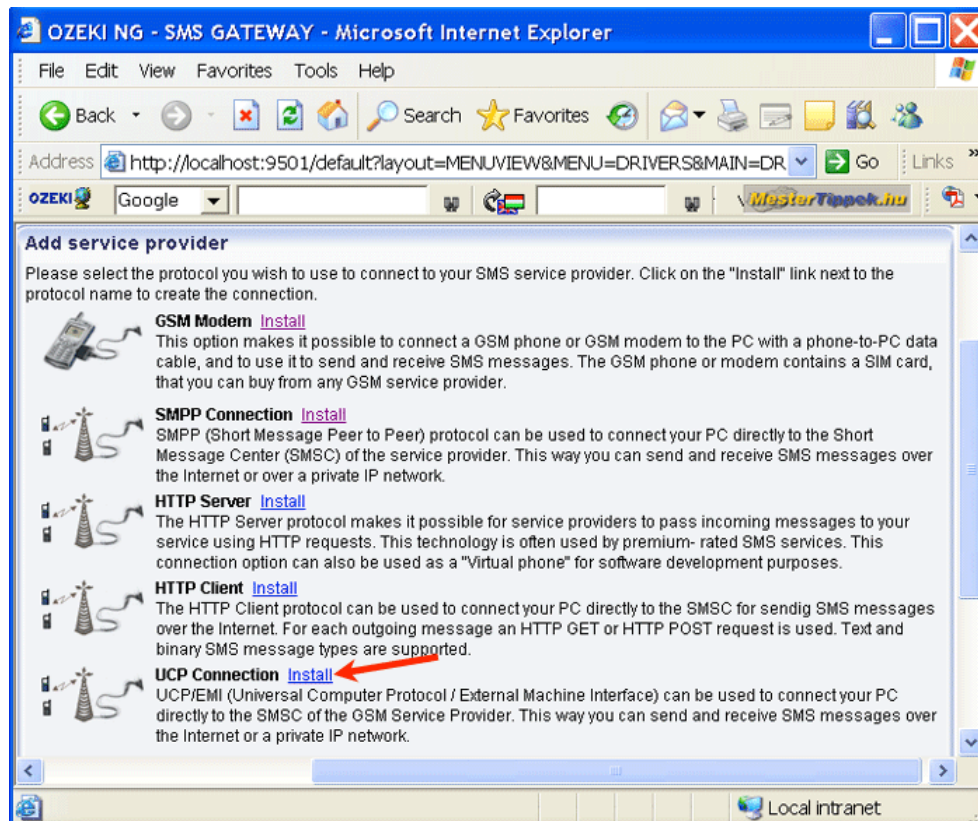


Figure 2 - Starting to install the UCP connection

When you have installed the **UCP Connection**, the **Configuration** panel will show up on the right of the interface. The first tab of the panel is the **UCP settings** tab, which consists of a **Connection** and an **Identification** section.

In the **Connection** section, specify the UCP server settings. This information is provided by the GSM service provider whose service you have subscribed to. The connection parameters are the host name (or IP address), the port number, a username and a password. Service providers often use the phone number of the service or the port number as the username. Enter the information in the respective edit boxes (Figure 3).



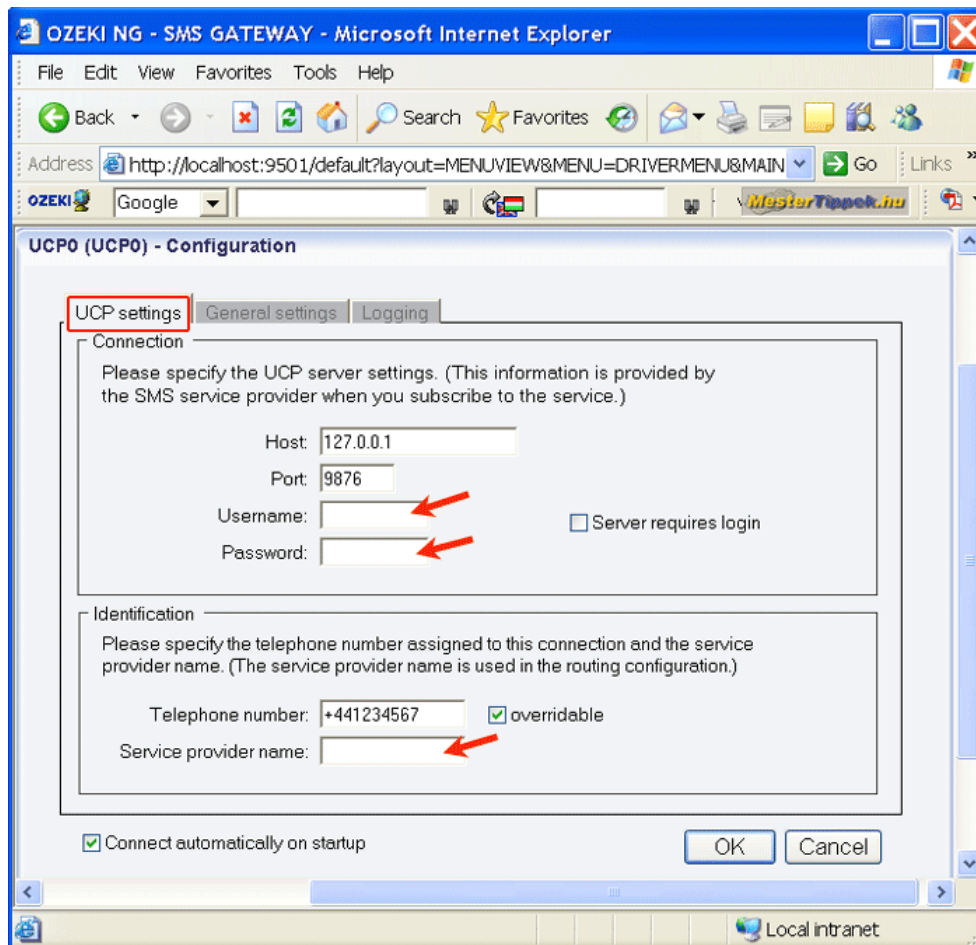


Figure 3 - Specifying the server settings

In the **Identification** section, specify the telephone number assigned to this connection and the service provider name. To facilitate identification and to avoid confusion, you should name the connection after the GSM service provider. E.g., if you have set up an SMPP connection with Vodafone, it is advisable to name it "Vodafone". Also, note that different connections should be given different names. If you have different connections from the same service provider, you can use different but similar names for them, e.g.: "Vodafone1", "Vodafone2" (or something of the like). However, some load balancing solutions require an identical name for different connections. For details, visit the [Load Balancing](#) and the [Load Balancing for SMPP v3.3](#) page.

Some UCP servers require login. If this is the case, check the **Server requires login** checkbox.

Enter the information in the respective edit boxes. Remember to enter the phone number in international format: starting with "+". You can check the **overridable** checkbox to the right of the **Telephone number** edit box. This ensures that you can replace the phone number specified in the **Telephone number** edit box with a different one to be displayed as the sender of an outgoing message. You can also replace the number with (alphanumeric) text consisting of a maximum of eleven (11) characters. Therefore, when a message is sent out, e.g. using the [Database user](#), you can specify any different phone number or a name to be displayed as the sender of the message.

Note that the phone number to be specified in the **Telephone number** edit box is a mandatory value. If you leave the edit box empty, and if the outgoing SMS message does not carry a sender phone number either, the sending will be unsuccessful.

To perform general settings related to sending and receiving SMS messages using this protocol, click the **General Settings** tab. This will open a panel consisting of the **Send, receive and delivery report options** and the **Timeout handling** section.

In the upper section of the panel you can check any or all of the checkboxes. Which one(s) to check depends on what you wish to use this connection for and whether you need a delivery report. You can choose to use the connection for only sending or only receiving SMS messages (or both sending and receiving), and you can choose to request a delivery report for outgoing messages (Figure 4).

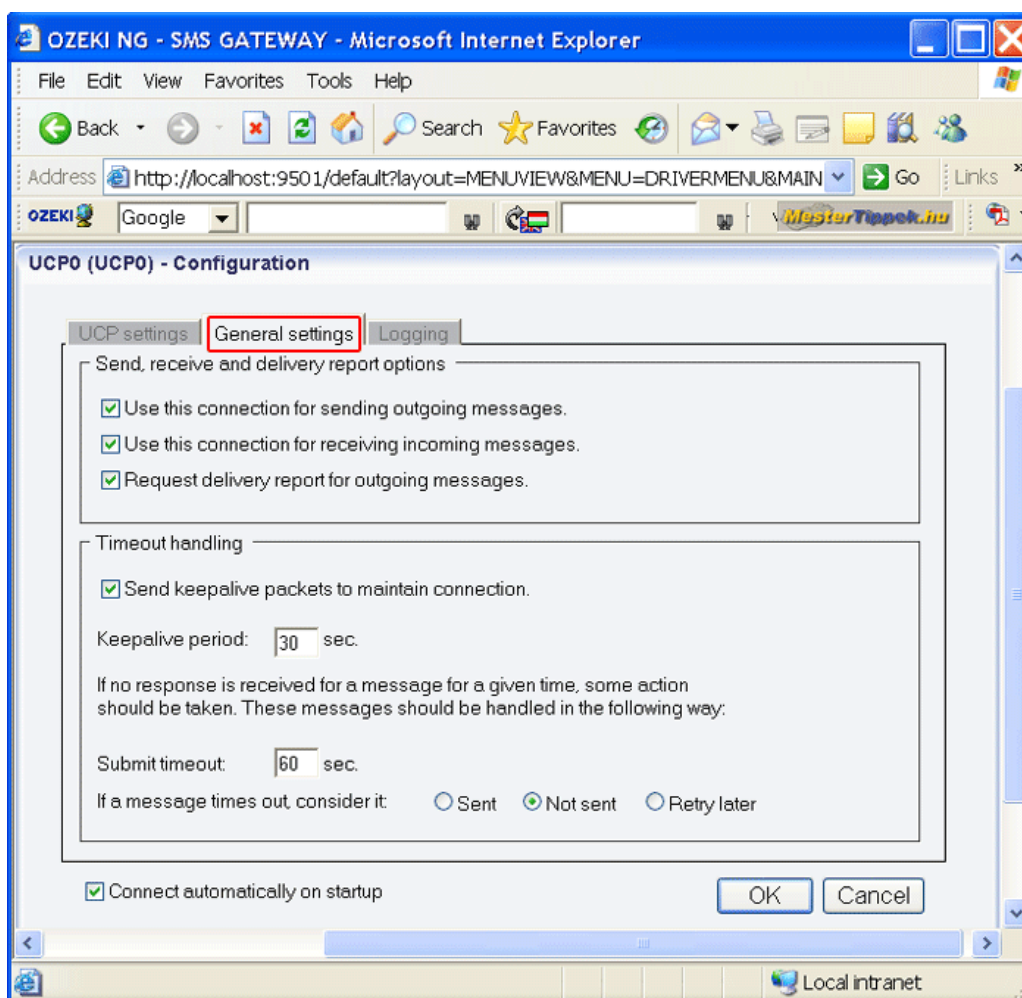


Figure 4 - The General settings tab

In the lower section of the tab you can make choices and specifications to handle your connection to the SMS Center and the status of your SMS messages.

If you check the checkbox at the top of the **Timeout handling** section, you can make the program send keepalive packets to maintain connection. Proxy servers will drop a connection

after a short period of time if there is no activity on it. Keepalive packets are sent during idle periods to keep the connection open.

In the **Keepalive period** edit box you can specify the maximum length of idle connection between the Ozeki NG - SMS Gateway and the SMSC. You can specify it by giving the number of seconds in numerical characters representing any positive whole number. If you are content with the default specification (30 seconds), leave this edit box unchanged.

In the **Submit timeout** edit box you can specify the maximum waiting time for an SMS Center response confirming that your message has been successfully submitted. Successful submission means that the SMS Center has accepted the message for delivery. You can specify the waiting time by giving the number of seconds in numerical characters representing any positive whole number. If you are content with the default specification (60 seconds), leave this edit box unchanged.

You can choose how to consider a message you have sent if there is no response from the SMS Center after the specified length of time. Select one of the three radio buttons. Select **Sent** to consider a message sent even if there is no response from the SMS Center. Select **Not sent** to consider a message not sent if there is no response from the SMS Center. Select **Retry later** to make the program try to send a message later if the SMS Center has not confirmed its status as sent. Then, the message will be placed last in the outgoing message queue and sent out again when it is its turn.

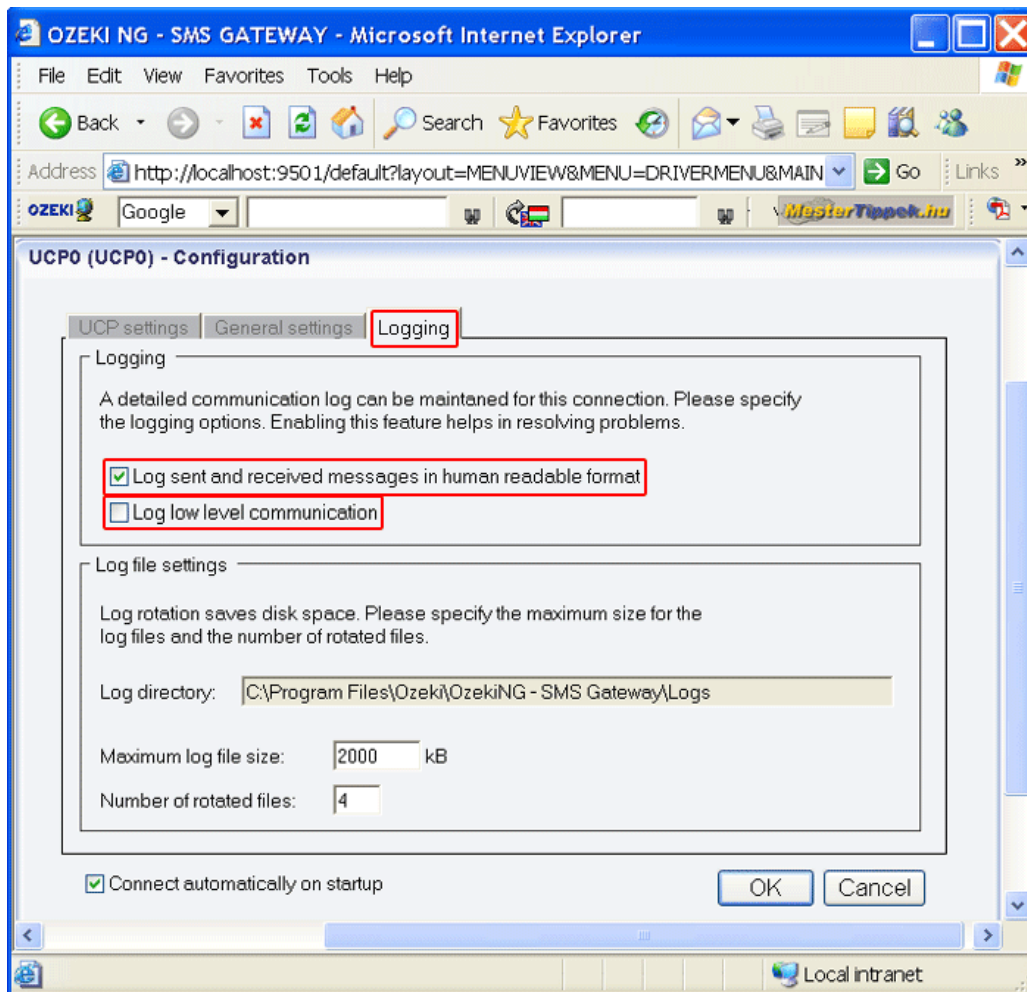


Figure 5 - Logging options

To configure logging, click the **Logging** tab in the **Configuration** panel.

The tab has a **Logging** and a **Log file settings** section. Here, you can choose whether to make the program write log entries about sent and received messages in human readable format and/or log low level communication. Choosing the latter option will make the program produce logfiles containing binary codes representing the communication data.

You should check at least the **Log sent and received messages in human readable format** checkbox, as logfiles can be useful in debugging communication problems (Figure 5).

In the **Log file settings** section of the tab, you can make specifications for the size and the number of available logfiles.

Log rotation saves disk space, as it ensures that older (and probably no longer needed) logfiles will be automatically deleted from the log directory, which is specified in the **Log directory** text box. By default, the access path to the logfiles is: C:\Program Files\Ozeki\OzekiNG - SMS Gateway\Logs

In the **Maximum log file size** text box you can specify the maximum size of a logfile. Once this size is reached, a new logfile will be created. Specify the number of kilobytes for the size of a logfile by entering a positive whole number. By default, the maximum logfile size is 2000 kB.

In the **Number of rotated files** text box, specify the maximum number of rotated logfiles that are saved. Specify this number by entering a positive whole number. By default, the number of logfiles that are saved is 4 (see Figure 5 above).

If you are content with the default specifications, leave the text boxes unchanged.

The **Configuration** panel for service provider connections contains a **Connect automatically on startup** checkbox (in the bottom left-hand corner). If it is checked, Ozeki NG - SMS Gateway will automatically initiate a connection with the SMS Center when the program has started.

If this checkbox is not checked, the connection has to be initiated manually.

To initiate the connection manually, click the **Connect** link in the panel of the service provider connection (Figure 6).

You can open the panel of a service provider connection by clicking its name in the **Service providers** panel in the **Management Console**.

The panel of a service provider connection consists of three sections.

In the upper section you can find the name of the service provider connection (with the name of its protocol in brackets).

You can see an icon showing if the service provider connection is connected. If it is not, the icon is marked with an "x".



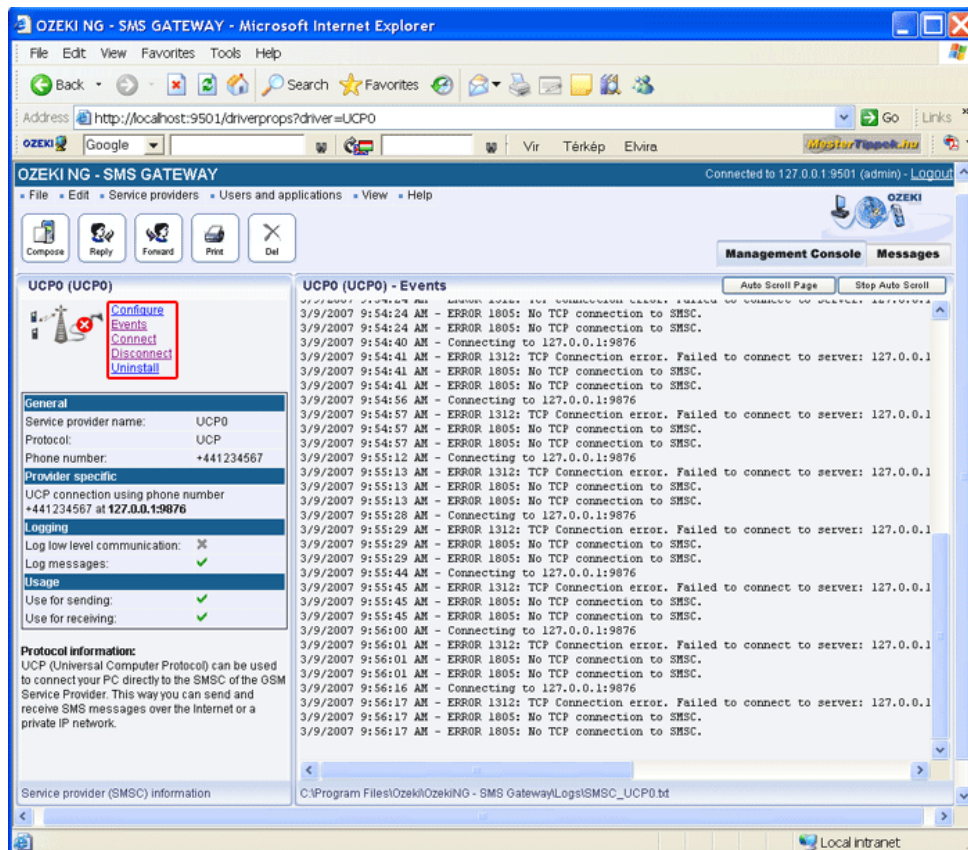


Figure 6 - Links to operations

To the right of the icon you can find links to perform different operations.

**Configure:** to configure or modify the configuration of an installed service provider connection. Clicking this link will take you back to the **Configuration** panel.

**Events:** to view the logging of the latest server events related to the service provider connection. Clicking it will bring up the **Events** panel containing the logging of the latest server events.

**Connect:** to connect the service provider connection with the SMS Center.

**Disconnect:** to disconnect the service provider connection from the SMS Center.

**Uninstall:** to uninstall the service provider connection.

In the middle section of the panel you can see some of the most important configuration information.

The options that have been (re)activated during the configuration are marked with a tick. The options that have not been activated or those that have been deactivated during the configuration are marked with an "x".

In the lower section of the panel of the service provider connection you can read some information about its protocol.



## CIMD2 connection

**In this chapter you can find out how to install and configure the UCP IP SMS protocol for SMS messaging using the Ozeki NG - SMS Gateway software. In addition to an introduction containing general information about this protocol, this page provides detailed installation and configuration instructions.**

### Introduction

As you can read on the [Service Provider Connections](#) page, you need to install and configure one or more service provider connections for SMS messaging using Ozeki NG - SMS Gateway. One of the service provider connections supported by the software is the CIMD2 connection.

The Computer Interface Message Distribution (CIMD) protocol was introduced by Nokia. The Nokia SMS Center includes an CIMD2 interface that transfers messages between applications and the Nokia Short Message Service Center (SMSC).

CIMD2 is version 2 of the Computer Interface to Message Distribution protocol. The CIMD2 interface is suitable for client applications that send and retrieve messages over TCP/IP sockets, such as **Ozeki NG - SMS Gateway**.

One of the advantages of using CIMD2 connections is that you can specify the sender address of the message. The sender address can be a custom phone number or a short word containing alphanumeric characters. (See the instructions about the **overridable** checkbox below.) Note, however, that some GSM service providers restrict the use of this option.

Another advantage of CIMD2 is that it allows sending messages of every type the GSM network can carry. It can be used to send binary SMS messages (operator logos, ringtones), WAP Push messages, as well as other types of messages. (Check out the [Appendix](#) for links to pages about different message types.) Concatenated SMS messages and various alphabets can also be used.

A CIMD2 connection can be used through an IP link. This link can be a leased line or the Internet. Optionally the link can be protected by VPN.

If you wish to use CIMD2 to connect to your service provider, you need to receive the following information from the service provider:

IP address of the SMSC
Port number of the SMSC
User name
Password

### Installation and configuration

You can install and configure this connection using the [graphical user interface](#) of Ozeki NG - SMS Gateway.

To start installing and configuring a UCP service provider connection, click the **Add** button in the top right-hand corner of the **Service providers** panel on the left of the **Management Console** interface. (To find out how to open this interface, check out the [QuickStart Guide](#).)

You can also add a service provider connection by clicking the **Add service provider** item in the **Service providers** menu.

After you have clicked one of these, the **Add service provider** panel will show up on the right of the interface. The panel contains a list of protocols you can install and use for communication with an SMS service provider.

To select the CIMD2 protocol, click the **Install** link in the respective entry in the list (Figure 1).

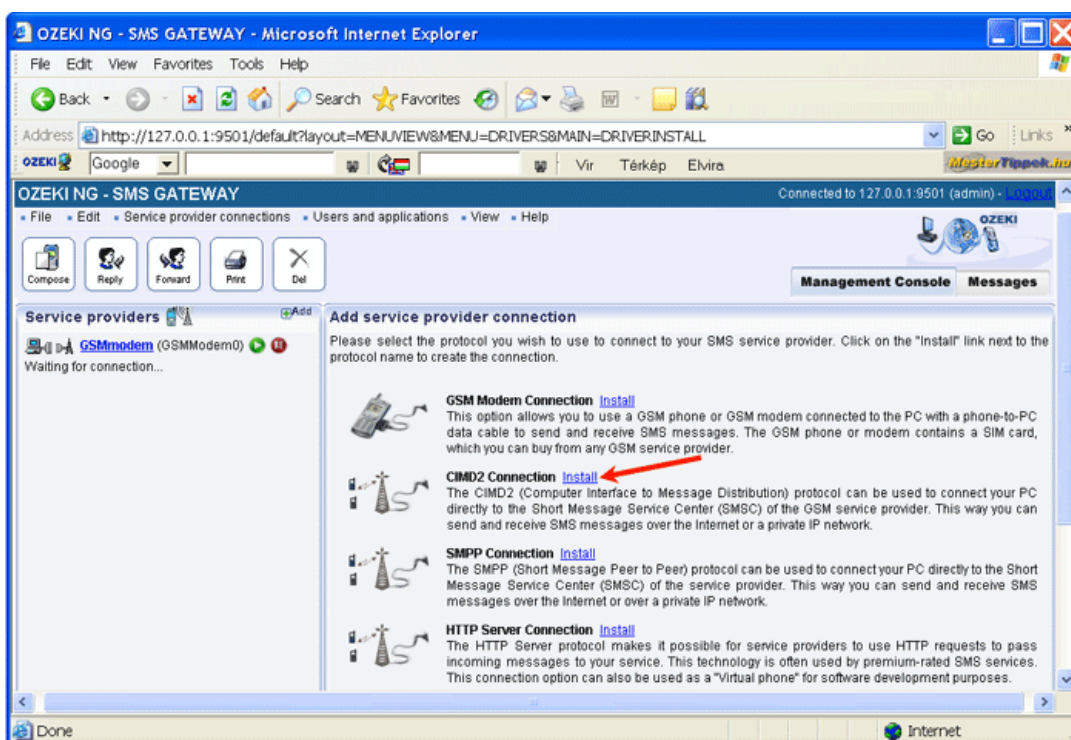


Figure 1 - Starting to install the CIMD2 connection

When you have installed the **CIMD2 Connection**, the **Configuration** panel will show up on the right of the interface. The first tab of the panel is the **CIMD2 settings** tab, which consists of a **Connection** and an **Identification** section.

In the **Connection** section, specify the CIMD2 server settings. This information is provided by the GSM service provider whose service you have subscribed to. The connection parameters are the host name (or IP address), the port number, a username and a password. The hostname refers to the server that Ozeki NG - SMS Gateway will connect to. This specification allows you to customize a connection. The valid values of the port parameter range from 0 to 65535. The username and the password are text attributes which can also include numerical characters. Service providers often use the phone number of the service or the port number as the username. These specifications are an essential part of the SMSC authentication method. Enter the information in the respective edit boxes (Figure 2).

In the **Use source port** edit box you can specify the source port. Only use a value other than 0 if your operator prompts you to do so.

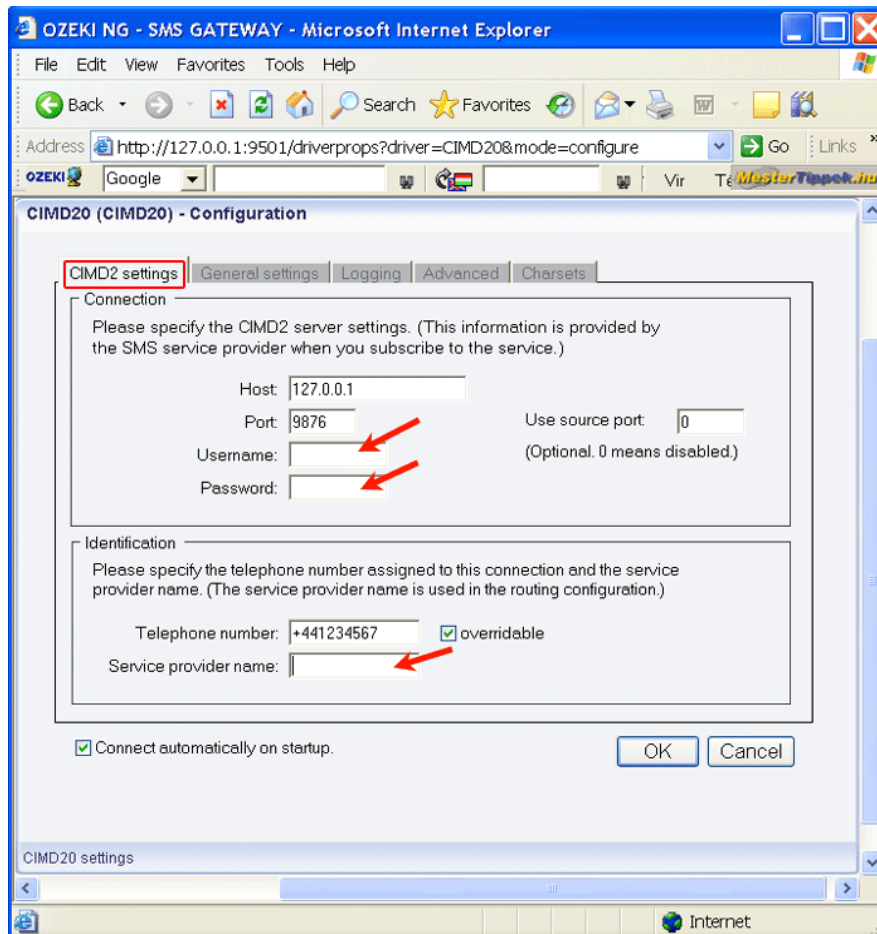


Figure 2 - Specifying the server settings

In the **Identification** section, specify the telephone number assigned to this connection and the service provider name. To facilitate identification and to avoid confusion, you should name the connection after the GSM service provider. E.g., if you have set up an SMPP connection with Vodafone, it is advisable to name it "Vodafone". Also, note that different connections should be given different names. If you have different connections from the same service provider, you can use different but similar names for them, e.g.: "Vodafone1", "Vodafone2" (or something of the like). However, some load balancing solutions require an identical name for different connections. For details, visit the [Load Balancing](#) and the [Load Balancing for SMPP v3.3](#) page.

Enter the information in the respective edit boxes. Remember to enter the phone number in international format: starting with "+". You can check the **overridable** checkbox to the right of the **Telephone number** edit box. This ensures that you can replace the phone number specified in the **Telephone number** edit box with a different one to be displayed as the sender of an outgoing message. You can also replace the number with (alphanumeric) text consisting of a maximum of eleven (11) characters. Therefore, when a message is sent out, e.g. using the [Database user](#), you can specify any different phone number or a name to be displayed as the sender of the message.

To perform general settings related to sending and receiving SMS messages using this protocol, click the **General Settings** tab. This will open a panel consisting of the **Send, receive and delivery report options** and the **Timeout handling** section.

In the upper section of the panel you can check any or all of the checkboxes. Which one(s) to check depends on what you wish to use this connection for and whether you need a delivery report. You can choose to use the connection for only sending or only receiving SMS messages (or both sending and receiving), and you can choose to request a delivery report for outgoing messages (Figure 3).

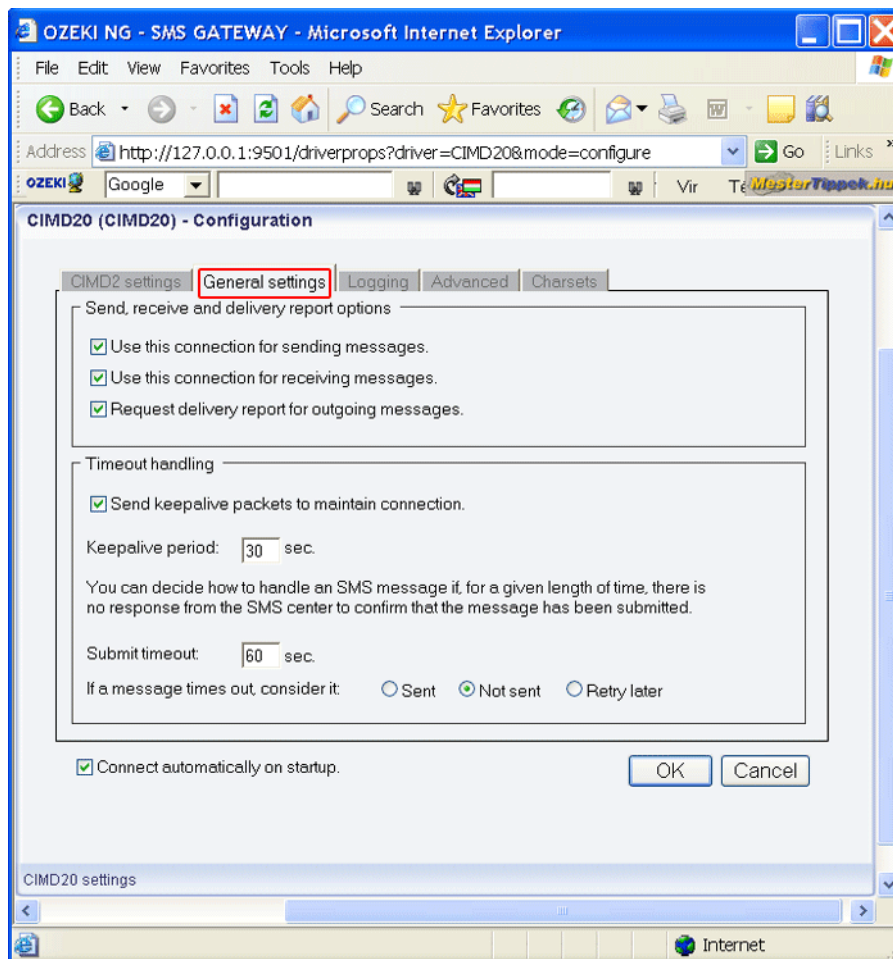


Figure 3 - The General settings tab

In the lower section of the tab you can make choices and specifications to handle your connection to the SMS Center and the status of your SMS messages.

If you check the checkbox at the top of the **Timeout handling** section, you can make the program send keepalive packets to maintain connection. Proxy servers will drop a connection after a short period of time if there is no activity on it. Keepalive packets are sent during idle periods to keep the connection open.

In the **Keepalive period** edit box you can specify the maximum length of idle connection between the Ozeki NG - SMS Gateway and the SMSC. You can specify it by giving the number of seconds in numerical characters representing any positive whole number. If you are content with the default specification (30 seconds), leave this edit box unchanged.



In the **Submit timeout** edit box you can specify the maximum waiting time for an SMS Center response confirming that your message has been successfully submitted. Successful submission means that the SMS Center has accepted the message for delivery. You can specify the waiting time by giving the number of seconds in numerical characters representing any positive whole number. If you are content with the default specification (60 seconds), leave this edit box unchanged.

You can choose how to consider a message you have sent if there is no response from the SMS Center after the specified length of time. Select one of the three radio buttons. Select **Sent** to consider a message sent even if there is no response from the SMS Center. Select **Not sent** to consider a message not sent if there is no response from the SMS Center. Select **Retry later** to make the program try to send a message later if the SMS Center has not confirmed its status as sent. Then, the message will be placed last in the outgoing message queue and sent out again when it is its turn.

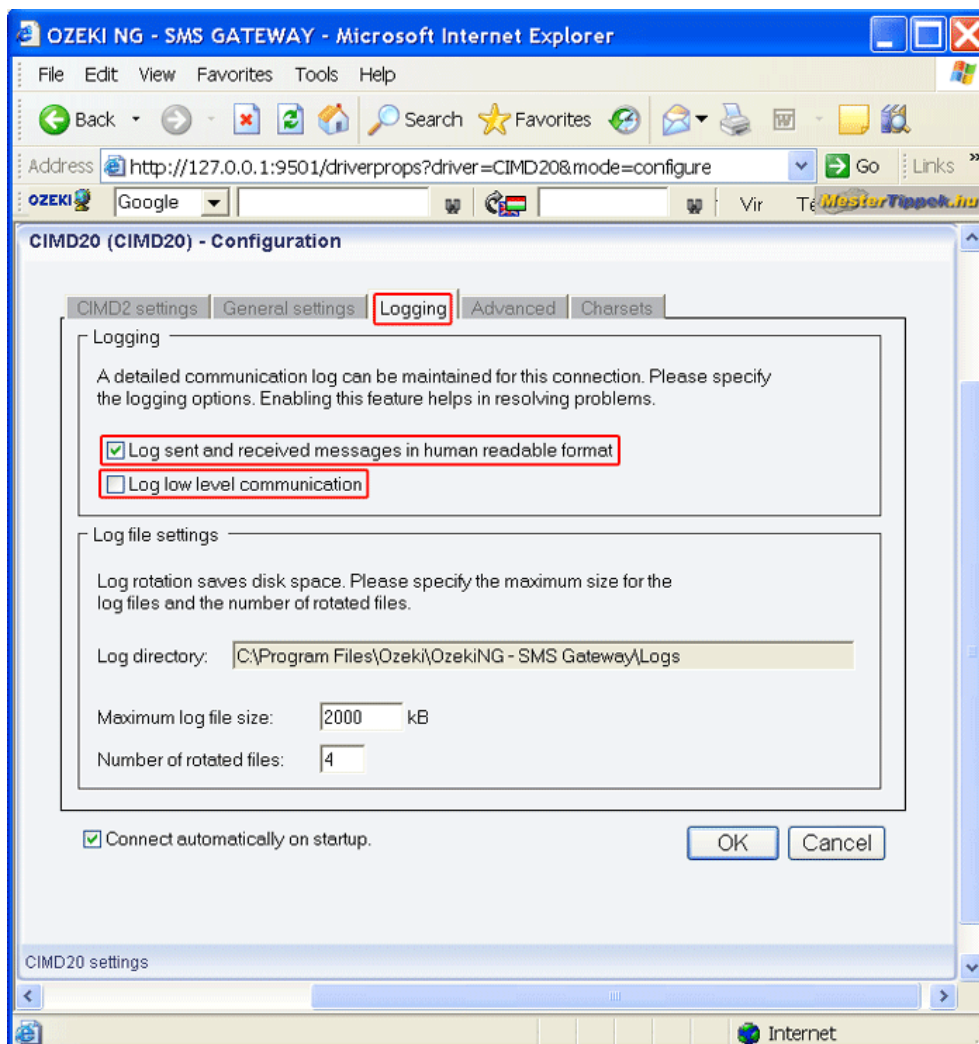


Figure 4 - Logging options

To configure logging, click the **Logging** tab in the **Configuration** panel. The tab has a **Logging** and a **Log file settings** section. Here, you can choose whether to make the program write log entries about sent and received messages in human readable format and/or log low level communication. Choosing the latter option will make the program

produce logfiles containing binary codes representing the communication data. You should check at least the **Log sent and received messages in human readable format** checkbox, as logfiles can be useful in debugging communication problems (Figure 4).

The **Advanced** tab includes a **Flow Control** and an **Operator-Specific Settings** section.

The windowing feature of Ozeki NG - SMS Gateway enables the program to initiate more than one operation before receiving responses. For stop-and-wait flow control, use window size 1. (The maximum window size is 128.) You can set how many protocol messages can be sent out before the SMS Center responds to them. Protocol messages can include SMS messages, keepalive packets, etc. The default value is 1. If you set this number too high, your SMS messages may be discarded, as most GSM service providers try to prevent their networks from being overloaded (Figure 5).

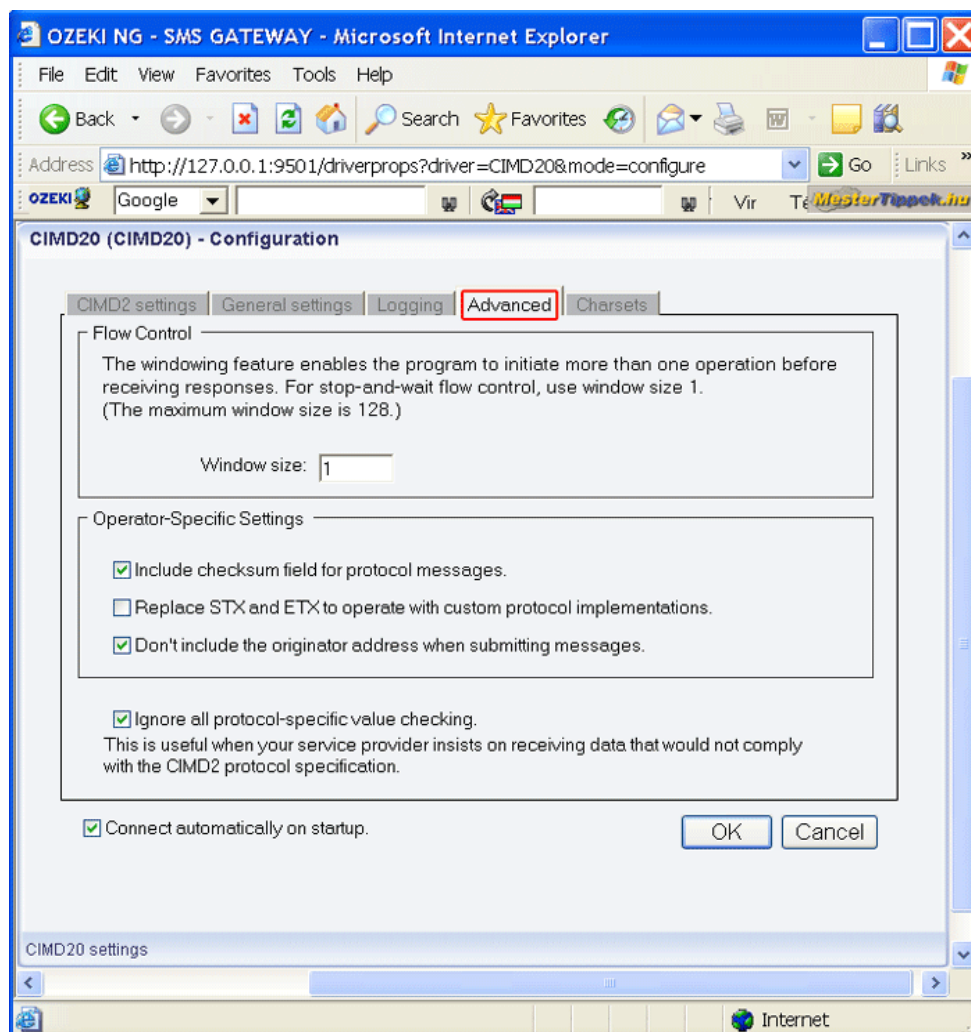


Figure 5 - The Advanced tab

The **Operator-Specific Settings** section contains three checkboxes.

The **Include checksum field for protocol messages** checkbox allows you to make the program use a checksum to check the integrity of an SMS message. By default, this checkbox is checked.

Check the **Replace STX and ETX to operate with custom protocol implementations** checkbox to avoid using the STX character, and to replace the ETX with the CR/LF (newline)



character.

Check the **Don't include the originator address when submitting messages** checkbox

## HTTP Client Connection

This chapter provides detailed instructions on how to install and configure the HTTP Client service provider connection for SMS messaging using the Ozeki NG - SMS Gateway software.

As you can read on the [Service Provider Connections](#) page, you need to install and configure one or more service provider connections for SMS messaging using Ozeki NG - SMS Gateway. One of the service provider connections supported by the software is the HTTP Client connection.

The HTTP Client protocol can be used to connect your PC directly to the SMSC for sending SMS messages over the Internet. For each outgoing message an HTTP GET or HTTP POST request is used. Text and binary SMS message types are supported.

You can install and configure this connection using the [graphical user interface](#) of Ozeki NG - SMS Gateway. To start installing and configuring an HTTP Client connection, click the **Add** button in the top right-hand corner of the **Service providers** panel on the left of the **Management Console** interface. (To find out how to open this interface, check out the [QuickStart Guide](#).)

You can also add a service provider connection by clicking the **Add service provider** item in the **Service providers** menu.

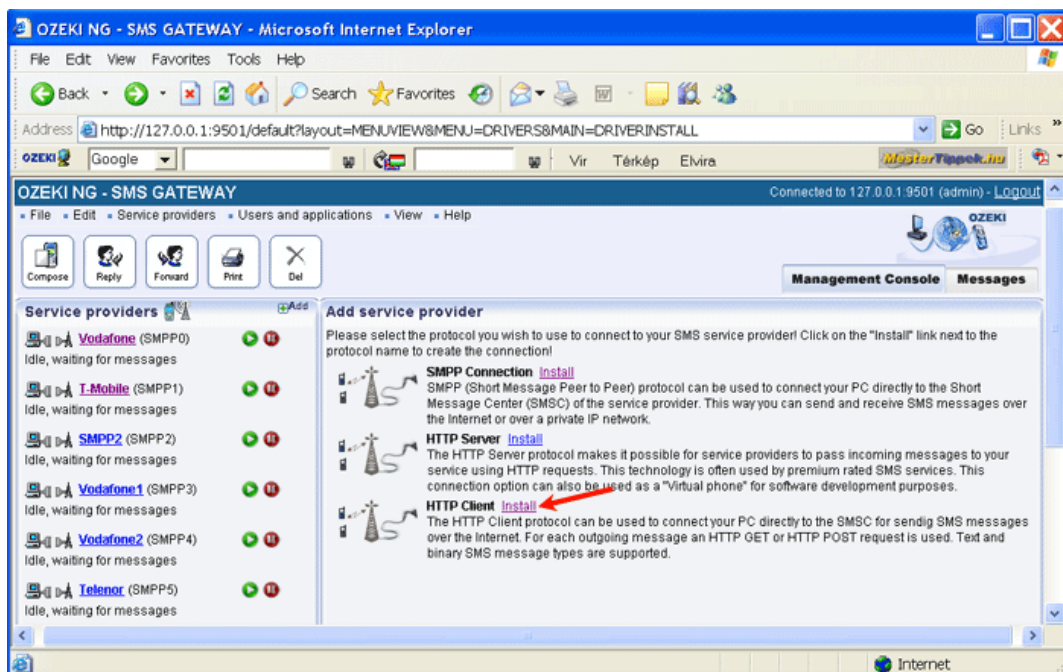


Figure 1 - Starting to install the HTTP Client connection

After you have clicked one of these, the **Add service provider** panel will show up on the right of the interface. The panel contains a list of protocols you can install and use for communication with an SMS service provider.

To select the HTTP Client protocol, click the **Install** link in the respective entry in the list (Figure 1).

When you have installed the **HTTP Client** protocol, the **Configuration** panel will show up on the right of the interface. The first tab of the panel is the **HTTP settings** tab, which consists of a **Connection** and an **Identification** section.

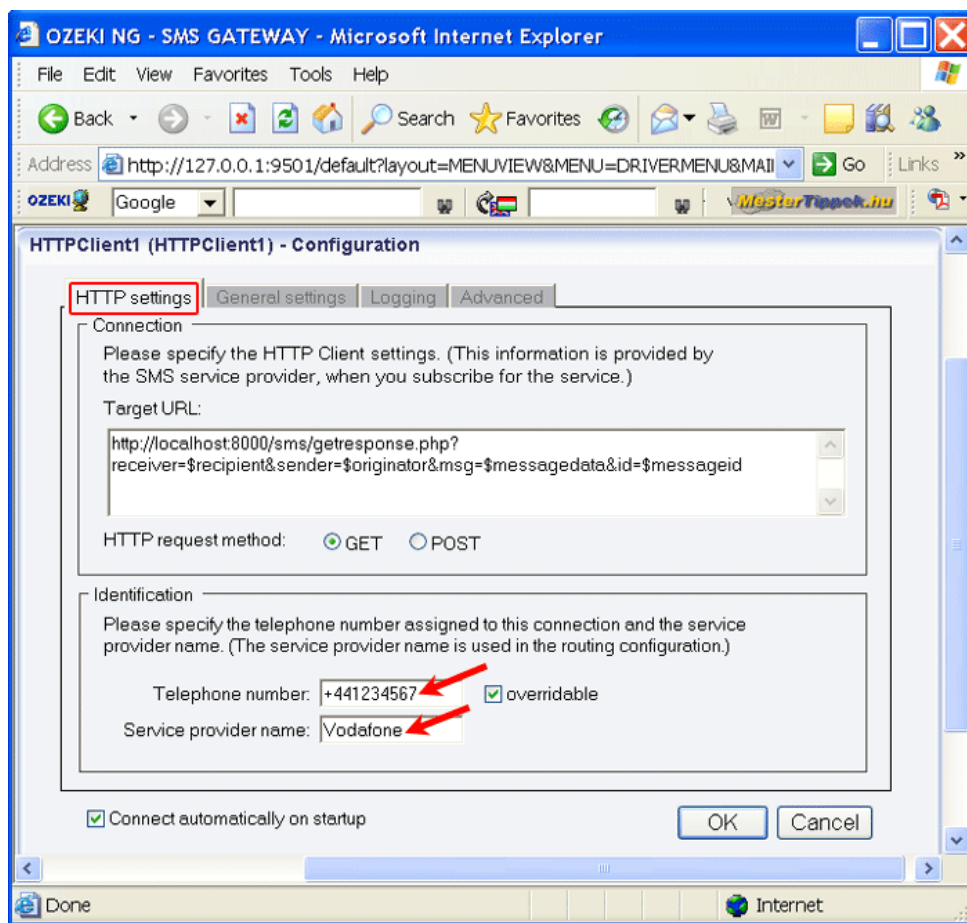


Figure 2 - The HTTP settings tab

In the **Connection** section, specify the HTTP Client settings. This information is provided by the SMS service provider when you subscribe to the service (Figure 2).

In the **Target URL** template you can specify the URL of the HTTP server. This URL can contain certain keywords that will be replaced before the URL is called. The following keywords can be used:

<b>Keyword</b>	<b>Description</b>
\$originator	This denotes the sender telephone number.

\$recipient	This denotes the recipient telephone number.
\$messagedata	This denotes the first 1024 characters of the message text.
\$messageid	This is the unique identifier string of the message. This identifier is generated by Ozeki NG - SMS Gateway.

In the **Identification** section, specify the telephone number assigned to this connection and the service provider connection name. To facilitate identification and to avoid confusion, you should name the connection after the GSM service provider. E.g., if you have set up an HTTP Client connection with Vodafone, it is advisable to name it "Vodafone". Also, note that different connections should be given different names. If you have different connections from the same service provider, you can use different but similar names for them, e.g.: "Vodafone1", "Vodafone2" (or something of the like). However, some load balancing solutions require an identical name for different connections. For details, visit the [Load Balancing](#) and the [Load Balancing for SMPP v3.3](#) page.

Enter the information in the respective edit boxes. Remember to enter the phone number in international format: starting with "+". You can check the **overridable** checkbox to the right of the **Telephone number** edit box. This ensures that you can replace the phone number specified in the **Telephone number** edit box with a different one to be displayed as the sender of an outgoing message. You can also replace the number with (alphanumeric) text consisting of a maximum of eleven (11) characters. Therefore, when a message is sent out, e.g. using the [Database user](#), you can specify any different phone number or a name to be displayed as the sender of the message.

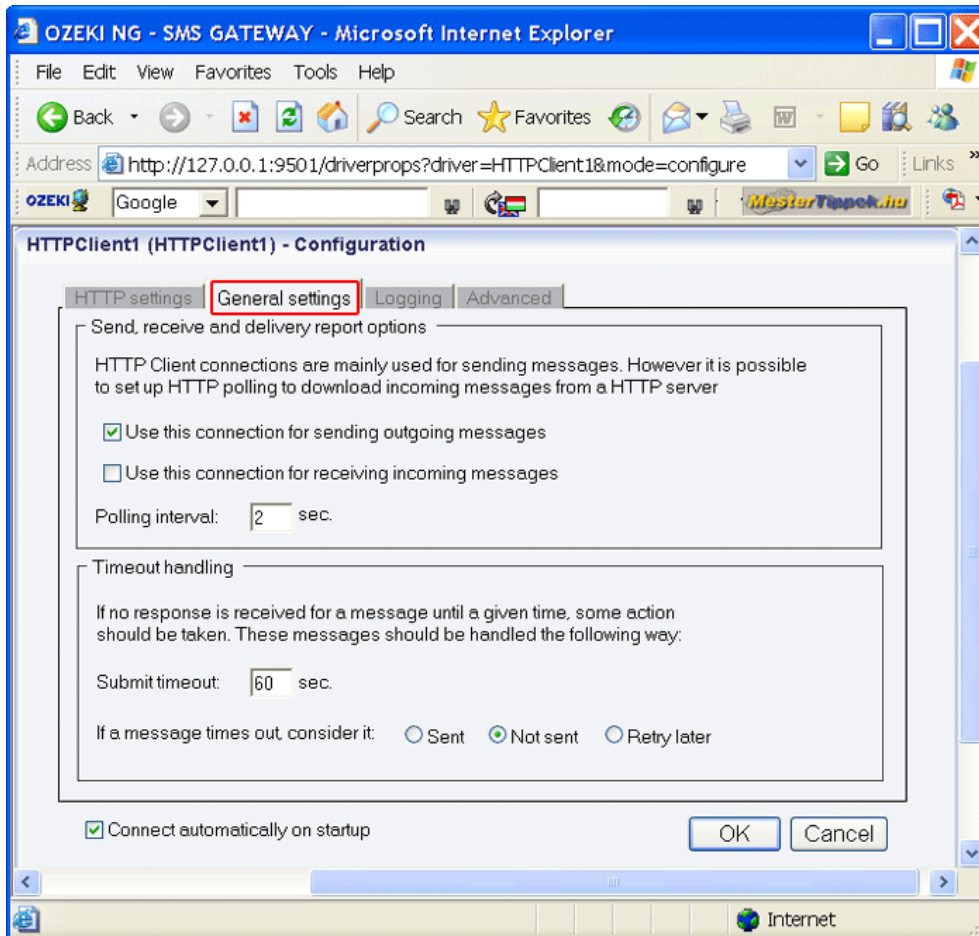


Figure 3 - The General settings tab

Note that the phone number to be specified in the **Telephone number** edit box is a mandatory value. If you leave the edit box blank, the sending will be unsuccessful.

To perform general settings related to sending and receiving SMS messages using the HTTP Client connection, click the **General Settings** tab. This will open a panel consisting of the **Send, receive and delivery report options** and the **Timeout handling** section (Figure 3).

In the upper section of the panel you can check either or both of the checkboxes. Which one(s) to check depends on what you wish to use this connection for. You can choose to use the connection for only sending or only receiving SMS messages (or both sending and receiving). Note that HTTP Client connections are mainly used for sending messages. However, it is possible to set up HTTP polling to download incoming messages from an HTTP server. In the **Polling interval** edit box at the bottom of this section, you can specify the polling interval in seconds by entering a positive whole number in numerical format. If you are content with the default specification (2 seconds), leave this edit box unchanged.

In the lower section of the tab you can make choices and specifications to handle your connection to the SMS Center and the status of your SMS messages.

In the **Submit timeout** edit box you can specify the maximum waiting time for an SMS Center response confirming that your message has been successfully submitted. Successful submission means that the SMS Center has accepted the message for delivery. You can

specify the waiting time by giving the number of seconds in numerical characters representing any positive whole number. If you are content with the default specification (60 seconds), leave this edit box unchanged.

You can choose how to consider a message you have sent if there is no response from the SMS Center after the specified length of time. Select one of the three radio buttons. Select **Sent** to consider a message sent even if there is no response from the SMS Center. Select **Not sent** to consider a message not sent if there is no response from the SMS Center. Select **Retry later** to make the program try to send a message later if the SMS Center has not confirmed its status as sent. Then, the message will be placed last in the outgoing message queue and sent out again when it is its turn.

To configure logging, click the **Logging** tab in the **Configuration** panel.

The tab has a **Logging** and a **Log file settings** section. Here, you can choose whether to make the program write log entries about sent and received messages in human readable format and/or log low level communication. Choosing the latter option will make the program produce logfiles containing binary codes representing the communication data.

You should check at least the **Log sent and received messages in human readable format** checkbox, as logfiles can be useful in debugging communication problems (Figure 4).



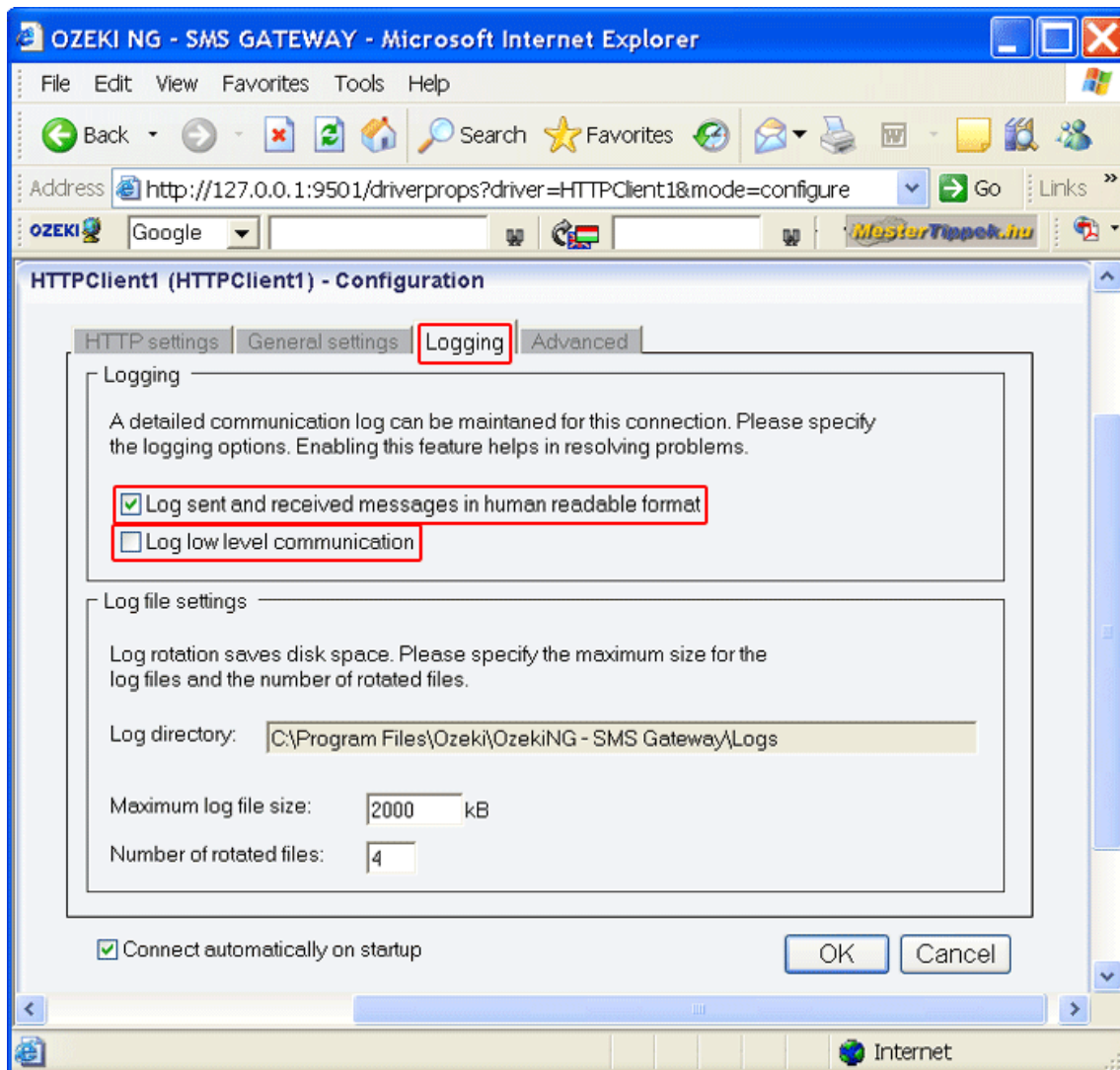


Figure 4 - Logging options

In the **Log file settings** section of the tab, you can make specifications for the size and the number of available logfiles.

Log rotation saves disk space, as it ensures that older (and probably no longer needed) logfiles will be automatically deleted from the log directory, which is specified in the **Log directory** text box. By default, the access path to the logfiles is: C:\Program Files\Ozeki\OzekiNG - SMS Gateway\Logs

In the **Maximum log file size** text box you can specify the maximum size of a logfile. Once this size is reached, a new logfile will be created. Specify the number of kilobytes for the size of a logfile by entering a positive whole number. By default, the maximum logfile size is 2000 kB.

In the **Number of rotated files** text box, specify the maximum number of rotated logfiles that are saved. Specify this number by entering a positive whole number. By default, the number of logfiles that are saved is 4 (see Figure 4 above).

If you are content with the default specifications, leave the text boxes unchanged.

The **Configuration** panel for service provider connections contains a **Connect automatically on startup** checkbox (in the bottom left-hand corner). If it is checked, Ozeki NG - SMS Gateway will automatically initiate a connection with the SMS Center when the program has started.

If this checkbox is not checked, the connection has to be initiated manually.

To initiate the connection manually, click the **Connect** link in the panel of the service provider connection(Figure 5).

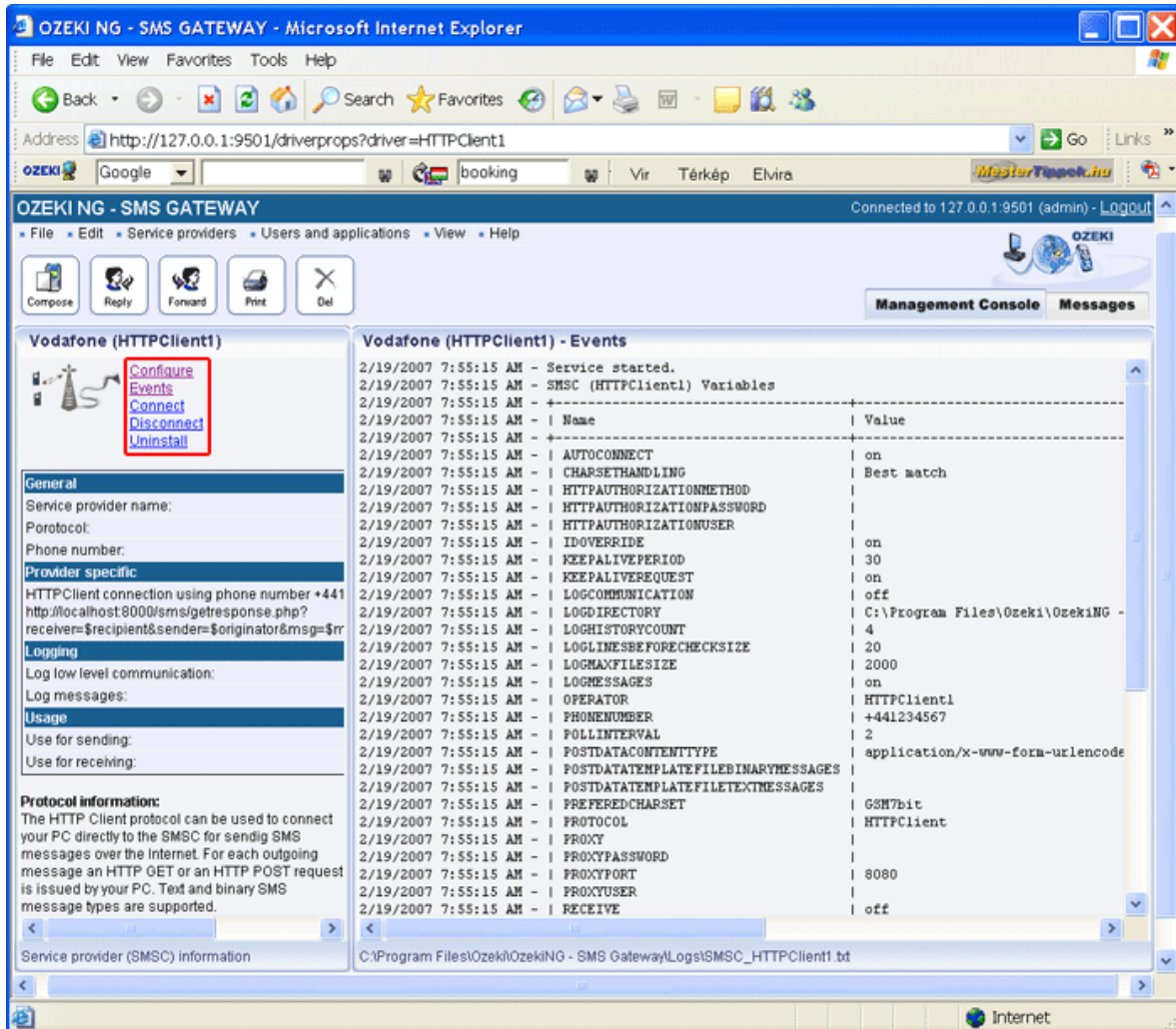


Figure 5 - Links to operations

You can open the panel of a service provider connection by clicking its name in the **Service providers** panel in the **Management Console**.

The panel of a service provider connection consists of three sections.

In the upper section you can find the name of the service provider connection (with the name of its protocol in brackets).

You can see an icon showing if the service provider connection is connected. If it is not, the icon is marked with an "x".

To the right of the icon you can find links to perform different operations.

**Configure:** to configure or modify the configuration of an installed service provider connection. Clicking this link will take you back to the **Configuration** panel.

**Events:** to view the logging of the latest server events related to the service provider connection. Clicking it will bring up the **Events** panel containing the logging of the latest server events.

**Connect:** to connect the service provider connection with the SMS Center.

**Disconnect:** to disconnect the service provider connection from the SMS Center.

**Uninstall:** to uninstall the service provider connection.

In the middle section of the panel you can see some of the most important configuration information.

The options that have been (re)activated during the configuration are marked with a tick. The options that have not been activated or those that have been deactivated during the configuration are marked with an "x".

In the lower section of the panel of the service provider connection you can read some information about its protocol.

#### Variables for HTTP Client Service Provider Connection

The following table lists the variables you can use in the HTTP requests sent to HTTP Client service provider connections.

recipient	The recipient of the message
originator	The sender of the message
messagedata	The message text (or message data for binary messages)
messagedataHEX	The message text encoded as a hexadecimal string
messagetype	The message type. For more information please take a look at the <a href="#">SMS Message Types page</a> .
messageid	A unique string for the message.
dcs	The GSM data coding scheme
username	The Ozeki User name of the user who submitted the message
password	The Ozeki Password of the user who submitted the message. <b>Please handle this parameter with great care, as it can expose the user information of the SMS gateway!</b>

## HTTP Server Connection

This chapter provides detailed instructions on how to install and configure the HTTP Server connection for SMS messaging using the Ozeki NG - SMS Gateway software.

As you can read on the [Service Provider Connections](#) page, you need to install and configure one or more service provider connections for SMS messaging using Ozeki NG - SMS Gateway. One of the service provider connections supported by the software is the HTTP Server connection.

The HTTP Server protocol makes it possible for service providers to pass incoming messages to your service using an HTTP request for each incoming SMS message and they optionally accept a reply message in the HTTP response. This technology is often used by premium-rated SMS services. This connection option can also be used as a "Virtual phone" for software development purposes.

You can install and configure the HTTP Server connection using the [graphical user interface](#) of Ozeki NG - SMS Gateway. To start installing and configuring an HTTP Server connection, click the **Add** button in the top right-hand corner of the **Service providers** panel on the left of the **Management Console** interface. (To find out how to open this interface, check out the [QuickStart Guide](#).)

You can also add a service provider connection by clicking the **Add service provider** item in the **Service providers** menu.

After you have clicked one of these, the **Add service provider** panel will show up on the right of the interface. The panel contains a list of protocols you can install and use for communication with an SMS service provider.

To select the HTTP Server protocol, click the **Install** link in the respective entry in the list (Figure 1).

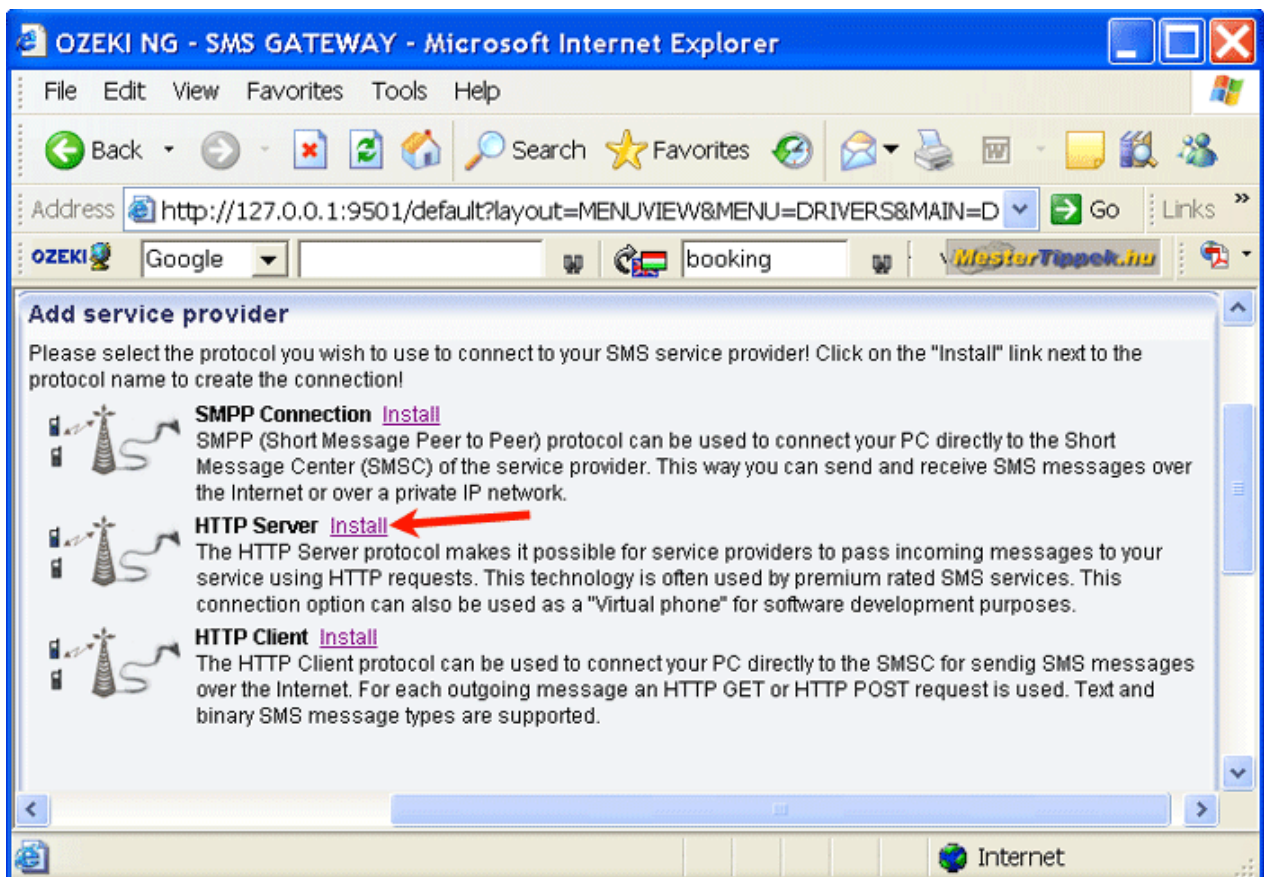


Figure 1 - Starting to install the HTTP Server connection



When you have installed the **HTTP Server** protocol, the **Configuration** panel will show up on the right of the interface. The first tab of the panel is the **HTTP settings** tab, which consists of a **Connection** and an **Identification** section.

In the **Connection** section, specify the HTTP Server settings. This information is provided by the SMS service provider when you subscribe to the service (Figure 2).

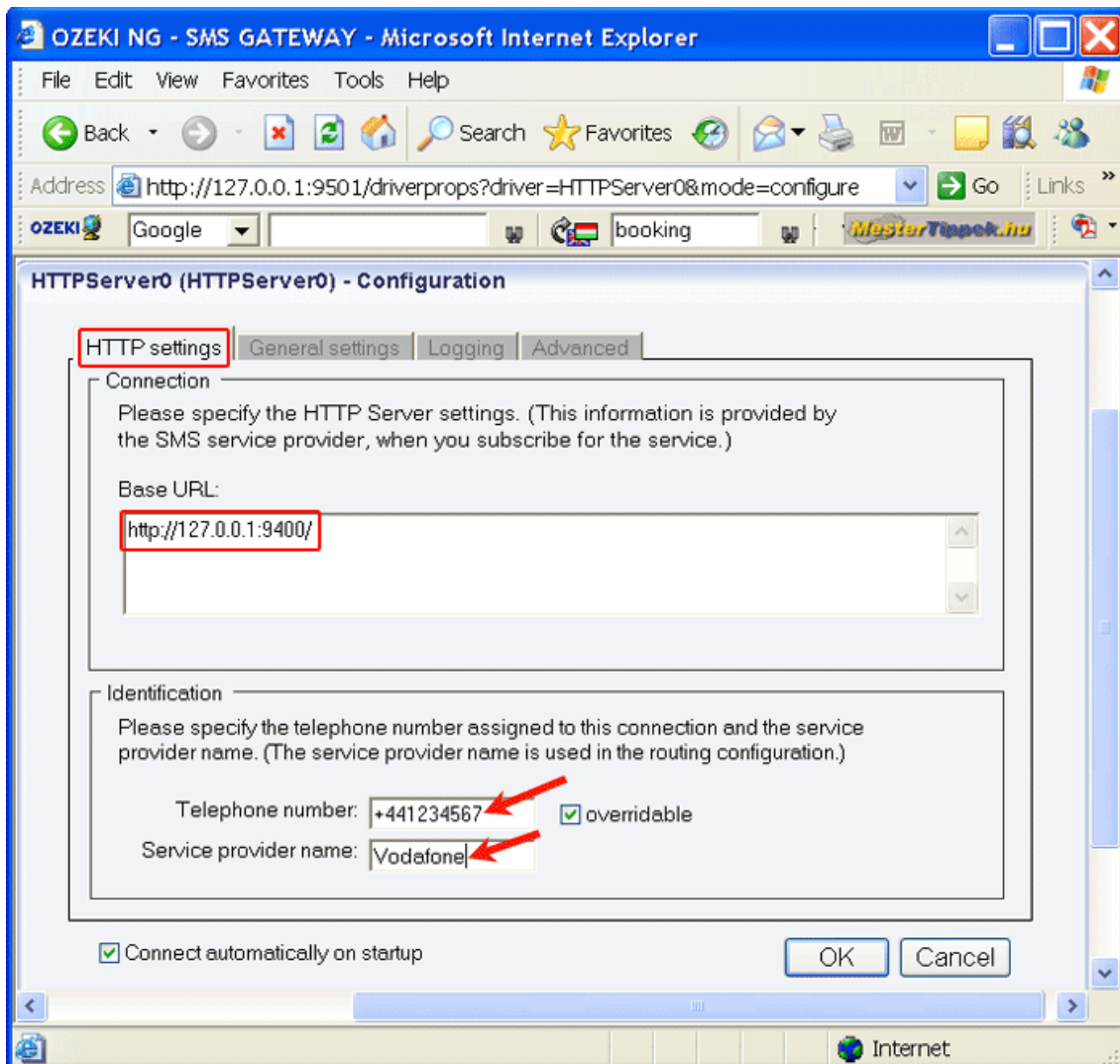


Figure 2 - The HTTP settings tab

In the Base URL template, specify the base URL.

In the **Identification** section, specify the telephone number assigned to this connection and the service provider connection name. To facilitate identification and to avoid confusion, you should name the connection after the GSM service provider. E.g., if you have set up an HTTP Server connection with Vodafone, it is advisable to name it "Vodafone". Also, note that different connections should be given different names. If you have different connections from the same service provider, you can use different but similar names for them, e.g.: "Vodafone1", "Vodafone2" (or something of the like). However, some load balancing solutions require an identical name for different connections. For details, visit the [Load Balancing](#) and the [Load Balancing for SMPP v3.3](#) page.



Enter the information in the respective edit boxes. Remember to enter the phone number in international format: starting with "+". You can check the **overridable** checkbox to the right of the **Telephone number** edit box. This ensures that you can replace the phone number specified in the **Telephone number** edit box with a different one to be displayed as the sender of an outgoing message. You can also replace the number with (alphanumeric) text consisting of a maximum of eleven (11) characters. Therefore, when a message is sent out, e.g. using the [Database user](#), you can specify any different phone number or a name to be displayed as the sender of the message.

Note that the phone number to be specified in the **Telephone number** edit box is a mandatory value. If you leave the edit box blank, the sending will be unsuccessful.

To perform general settings related to sending and receiving SMS messages using the HTTP Server connection, click the **General Settings** tab. This will open a panel consisting of the **Send, receive and delivery report options** and the **Timeout handling** section (Figure 3).

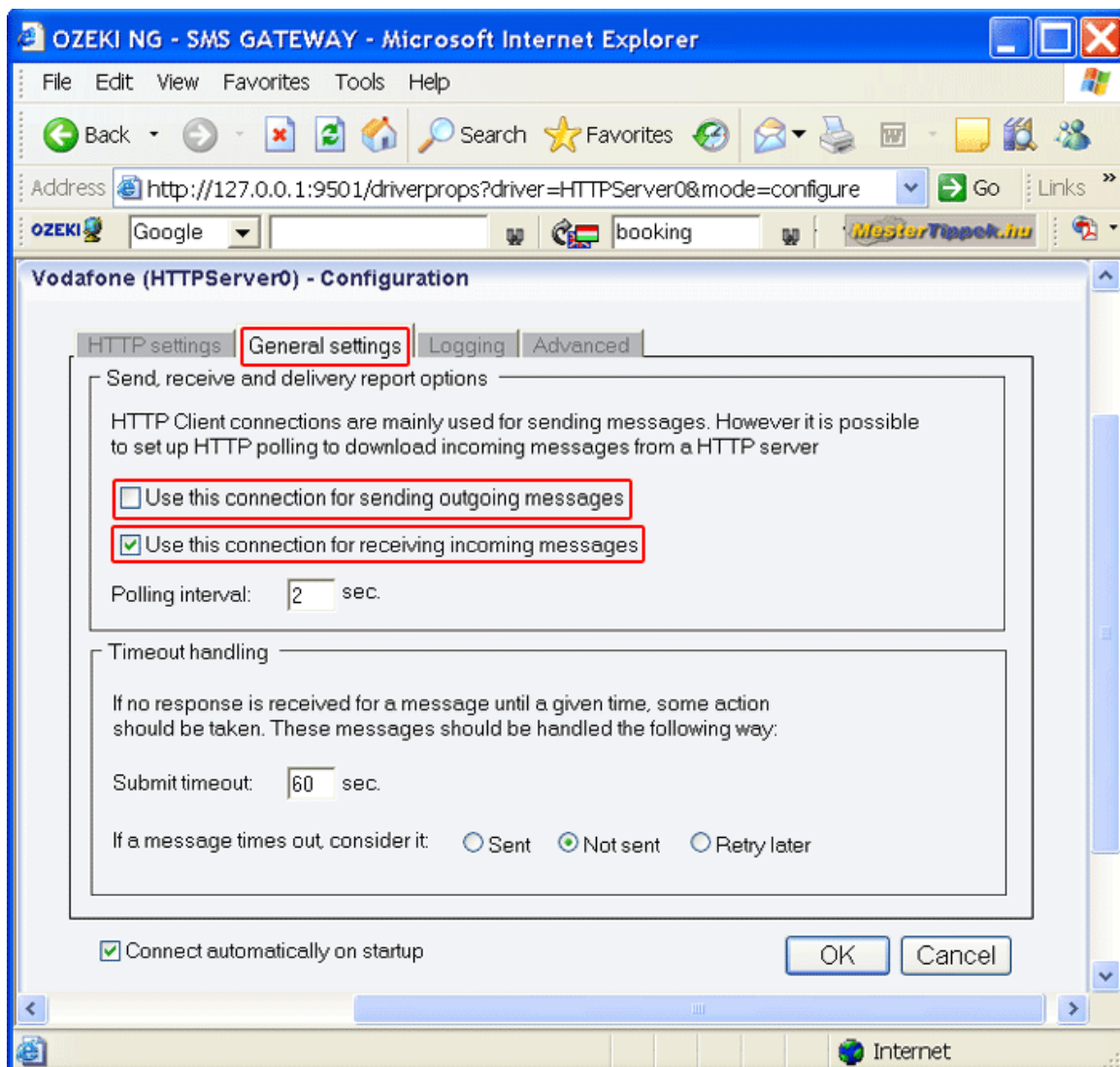


Figure 3 - The General settings tab

In the upper section of the panel you can check either or both of the checkboxes. Which one(s) to check depends on what you wish to use this connection for. You can choose to use

the connection for only sending or only receiving SMS messages (or both sending and receiving). Note that HTTP Server connections are mainly used for sending messages. However, it is possible to set up HTTP polling to download incoming messages from a HTTP server. In the **Polling interval** edit box at the bottom of this section, you can specify the polling interval in seconds by entering a positive whole number in numerical format. If you are content with the default specification (2 seconds), leave this edit box unchanged.

In the lower section of the tab you can make choices and specifications to handle your connection to the SMS Center and the status of your SMS messages.

In the **Submit timeout** edit box you can specify the maximum waiting time for an SMS Center response confirming that your message has been successfully submitted. Successful submission means that the SMS Center has accepted the message for delivery. You can specify the waiting time by giving the number of seconds in numerical characters representing any positive whole number. If you are content with the default specification (60 seconds), leave this edit box unchanged.

You can choose how to consider a message you have sent if there is no response from the SMS Center after the specified length of time. Select one of the three radio buttons. Select **Sent** to consider a message sent even if there is no response from the SMS Center. Select **Not sent** to consider a message not sent if there is no response from the SMS Center. Select **Retry later** to make the program try to send a message later if the SMS Center has not confirmed its status as sent. Then, the message will be placed last in the outgoing message queue and sent out again when it is its turn.

To configure logging, click the **Logging** tab in the **Configuration** panel.

The tab has a **Logging** and a **Log file settings** section. Here, you can choose whether to make the program write log entries about sent and received messages in human readable format and/or log low level communication. Choosing the latter option will make the program produce logfiles containing binary codes representing the communication data.

You should check at least the **Log sent and received messages in human readable format** checkbox, as logfiles can be useful in debugging communication problems (Figure 4).

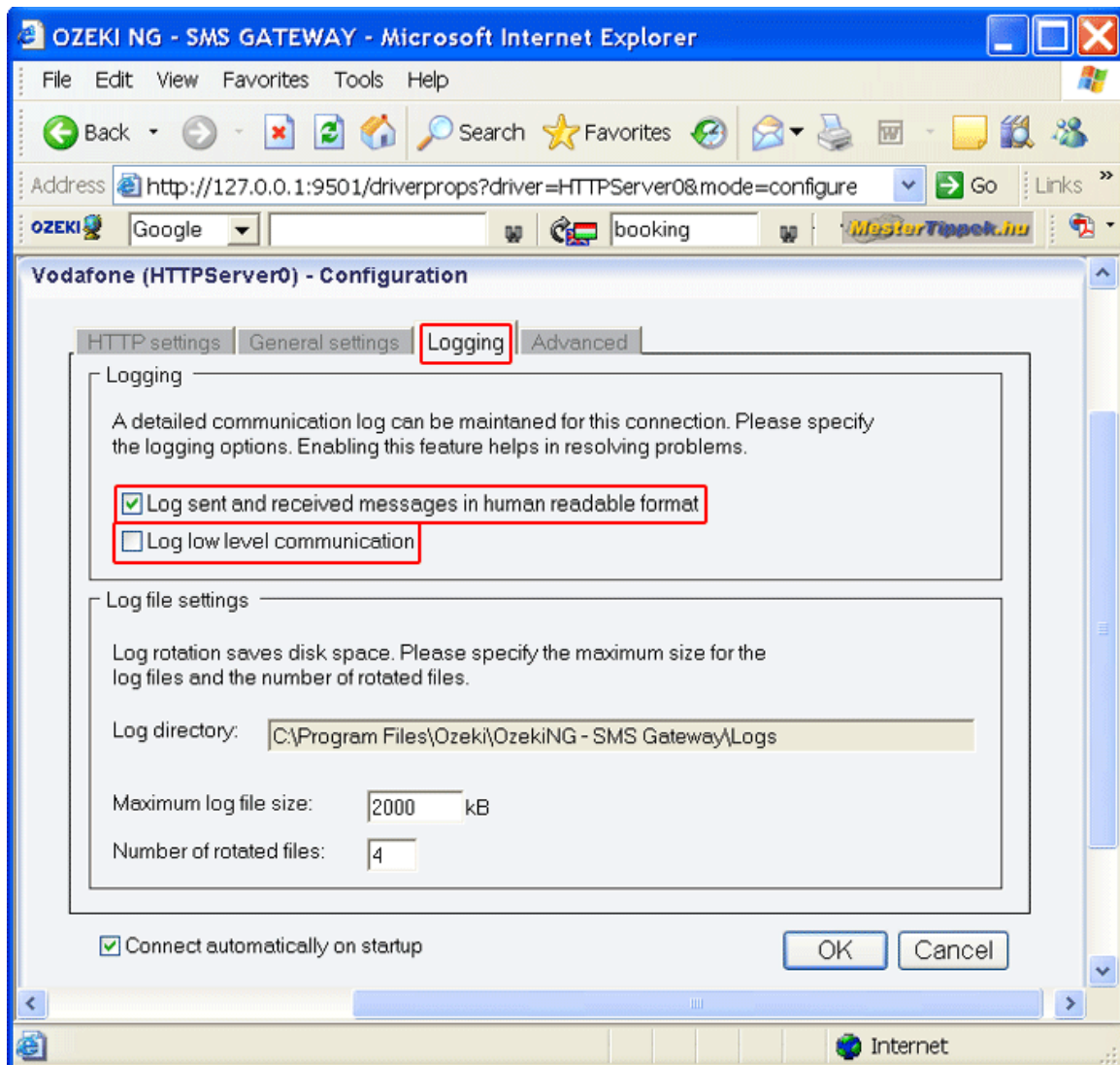


Figure 4 - Logging options

In the **Log file settings** section of the tab, you can make specifications for the size and the number of available logfiles.

Log rotation saves disk space, as it ensures that older (and probably no longer needed) logfiles will be automatically deleted from the log directory, which is specified in the **Log directory** text box. By default, the access path to the logfiles is: C:\Program Files\Ozeki\OzekiNG - SMS Gateway\Logs

In the **Maximum log file size** text box you can specify the maximum size of a logfile. Once this size is reached, a new logfile will be created. Specify the number of kilobytes for the size of a logfile by entering a positive whole number. By default, the maximum logfile size is 2000 kB.

In the **Number of rotated files** text box, specify the maximum number of rotated logfiles that are saved. Specify this number by entering a positive whole number. By default, the number of logfiles that are saved is 4 (see Figure 4 above).

If you are content with the default specifications, leave the text boxes unchanged.

The **Configuration** panel for service provider connections contains a **Connect automatically on startup** checkbox (in the bottom left-hand corner). If it is checked, Ozeki NG - SMS Gateway will automatically initiate a connection with the SMS Center when the program has started.

If this checkbox is not checked, the connection has to be initiated manually.

To initiate the connection manually, click the **Connect** link in the panel of the service provider connection (Figure 5).

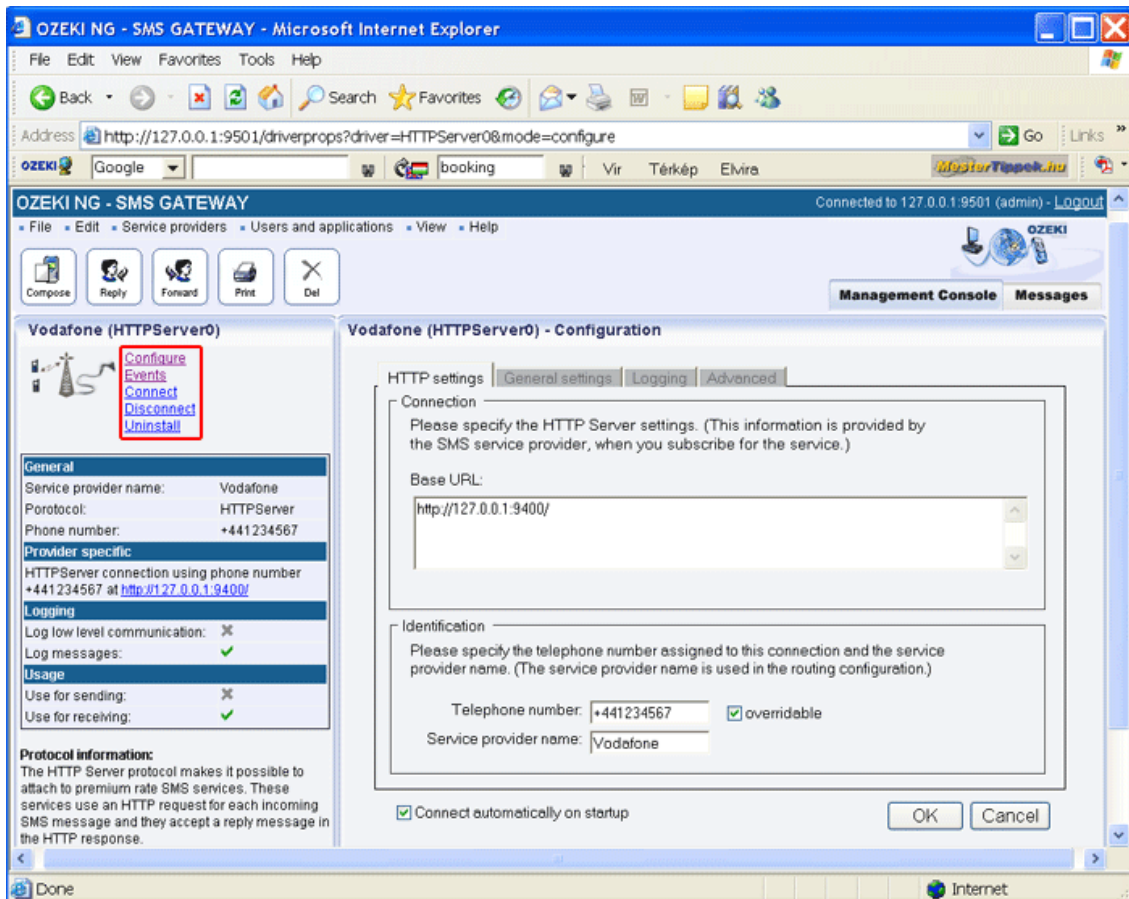


Figure 5 - Links to operations

You can open the panel of a service provider connection by clicking its name in the **Service providers** panel in the **Management Console**.

The panel of a service provider connection consists of three sections.

In the upper section you can find the name of the service provider connection (with the name of its protocol in brackets).

You can see an icon showing if the service provider connection is connected. If it is not, the icon is marked with an "x".

To the right of the icon you can find links to perform different operations.

**Configure:** to configure or modify the configuration of an installed service provider connection. Clicking this link will take you back to the **Configuration** panel.

**Events:** to view the logging of the latest server events related to the service provider

connection. Clicking it will bring up the **Events** panel containing the logging of the latest server events.

**Connect:** to connect the service provider connection with the SMS Center.

**Disconnect:** to disconnect the service provider connection from the SMS Center.

**Uninstall:** to uninstall the service provider connection.

In the middle section of the panel you can see some of the most important configuration information.

The options that have been (re)activated during the configuration are marked with a tick. The options that have not been activated or those that have been deactivated during the configuration are marked with an "x".

In the lower section of the panel of the service provider connection you can read some information about its protocol.

## Users and Applications

**This section explains the terms user/application in SMS messaging using the Ozeki NG - SMS Gateway software, and provides links to different pages detailing how to install and configure different users and applications.**

In SMS messaging using Ozeki NG - SMS Gateway, a user or application is an entity provided with service with the help of the software. For instance, a user (human person) can log in to Ozeki NG - SMS Gateway to send and receive SMS messages using the graphical user interface (GUI) of the program.

An application allows automated SMS messaging, without human involvement, though with human configuration. For example, a database user inserts incoming messages into a database, and periodically checks the database for messages to be sent out.

For reasons of simplicity, applications are also often referred to as users in the documentation and the GUI of Ozeki NG - SMS Gateway.

Ozeki NG - SMS Gateway allows you to install and configure a large number of and different types of users and applications using the graphical user interface of the software.

At present, the program supports the installation and configuration of the following users and applications:

- [Standard user](#)
- [E-mail user](#)
- [Autoreply user](#)
- [AutoReplyEasy user](#)
- [Colour SMS user](#)
- [Database user](#)
- [File user](#)
- [HTTP Client user](#)



- [SMPP user](#)

## Standard User

This chapter explains how to install and configure a standard user for SMS messaging using the graphical user interface of the Ozeki NG - SMS Gateway software.

Ozeki NG - SMS Gateway allows, among others (see the [Users and Applications](#) page), the installation and configuration of a Standard user.

A standard user can use the HTTP user interface to log in to the program to send and receive SMS messages.

You can use the [graphical user interface](#) of Ozeki NG - SMS Gateway to install and configure a standard user.

To start installing and configuring a standard user, click the **Add** button in the top right-hand corner of the **Users and Applications** panel on the right of the **Management Console**. You can also add a user by clicking the **Add user** item in the **Users and applications** menu (Figure 1).

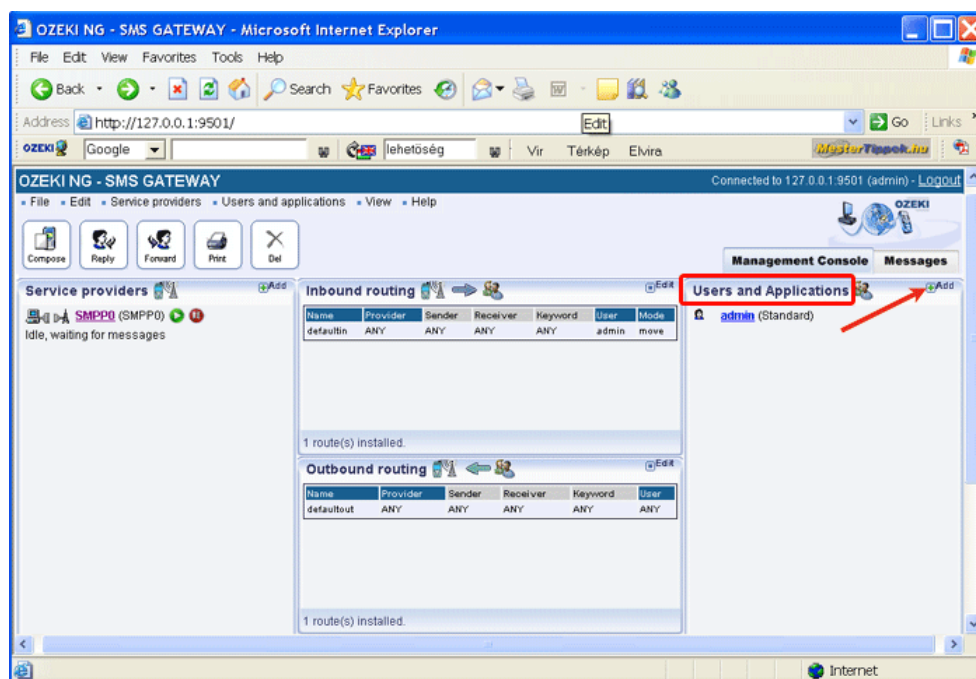


Figure 1 - Adding a user

This will bring up an interface consisting of two panels.

The panel on the left contains a list of users that have been installed. In the bar at the bottom of the panel you can read how many users have been installed.

The panel on the right contains a list of users that can be installed.

Each user in the left-hand panel is listed with a unique name (and the user type stated in brackets).

Each user in the right-hand panel is listed with the name of its type and a brief description of what it can be used for.

To add a standard user, click the **Install** link in the respective entry in the list (Figure 2).

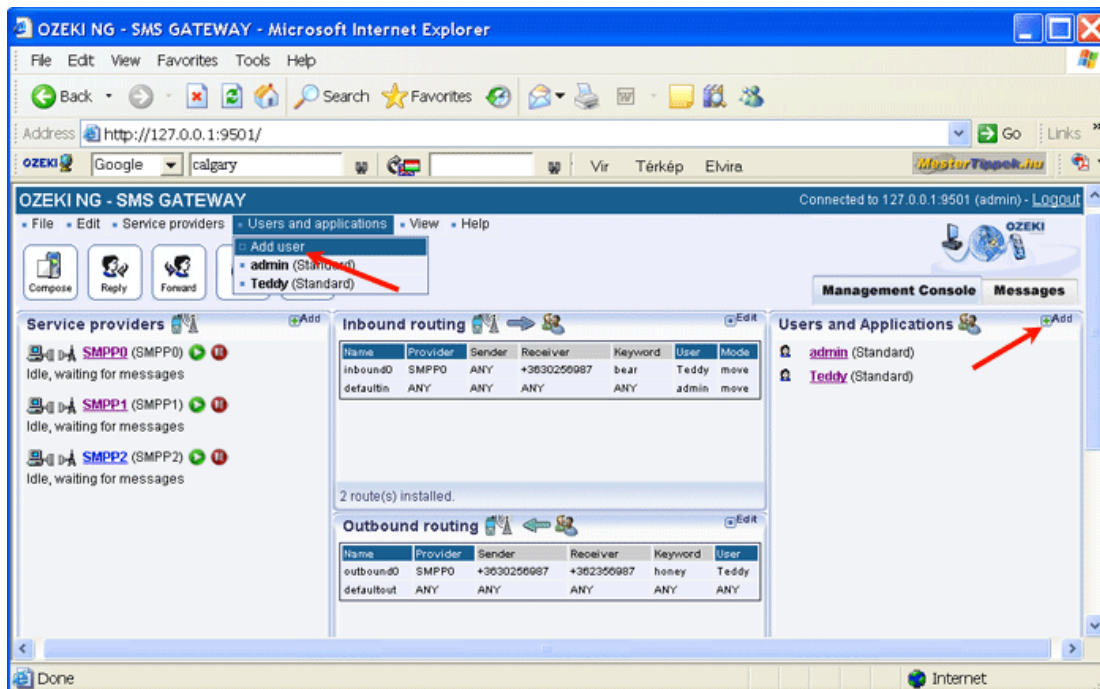


Figure 2 - Installing a standard user

When installing a user (type), you need to give it a unique username. Clicking the **Install** link will bring up the **Standard user installation** panel. Here, you need to enter a unique username in the **Username** field.

This will take you to the **Authentication** tab of the **Configuration** panel. The **Username** field contains the unique username you have provided in the previous panel. The **Password** field contains a password offered by the program. You can and should change it. Your password should be a combination of letters and digits (at least one or two of the latter). From now on, the username and password you have provided can be used to log in to the program (Figure 3).

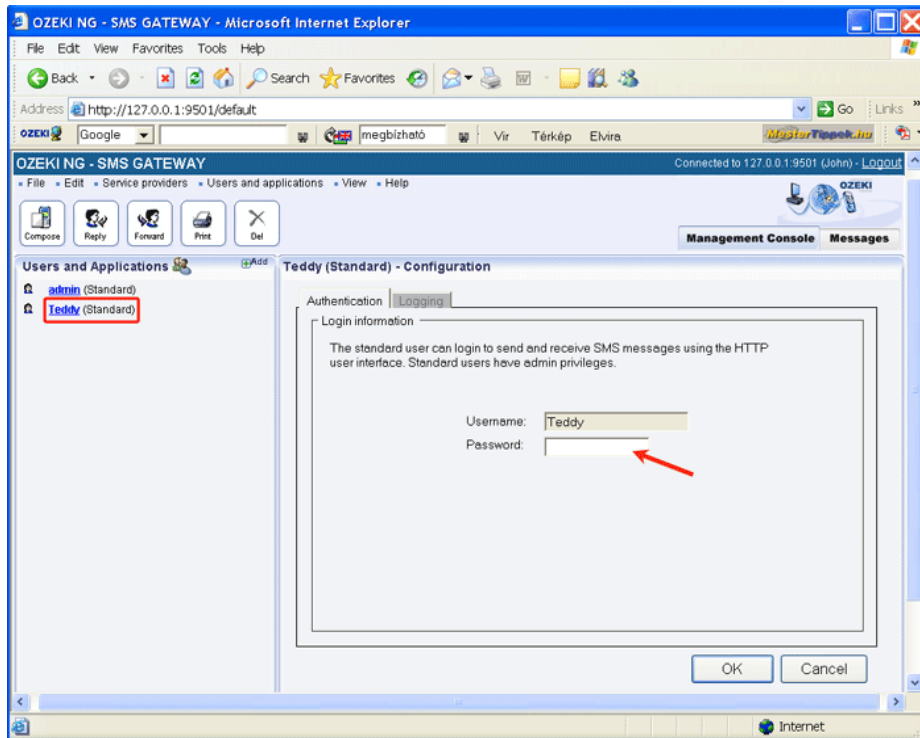


Figure 3 - User authentication

The name of the logged-in user can be read on the right of the title bar of the graphical user interface of Ozeki NG - SMS Gateway. (See Figure 1 on [The Menu](#) page.)

To configure logging related to the user, click the **Logging** tab in the **Configuration** panel. The tab has a **Logging** and a **Log file settings** section. Here, you can choose whether to make the program write log entries about sent and received messages in human readable format and/or log HTTP communication.

You should check at least the **Log sent and received messages in human readable format** checkbox, as logfiles can be useful in debugging communication problems (Figure 4).

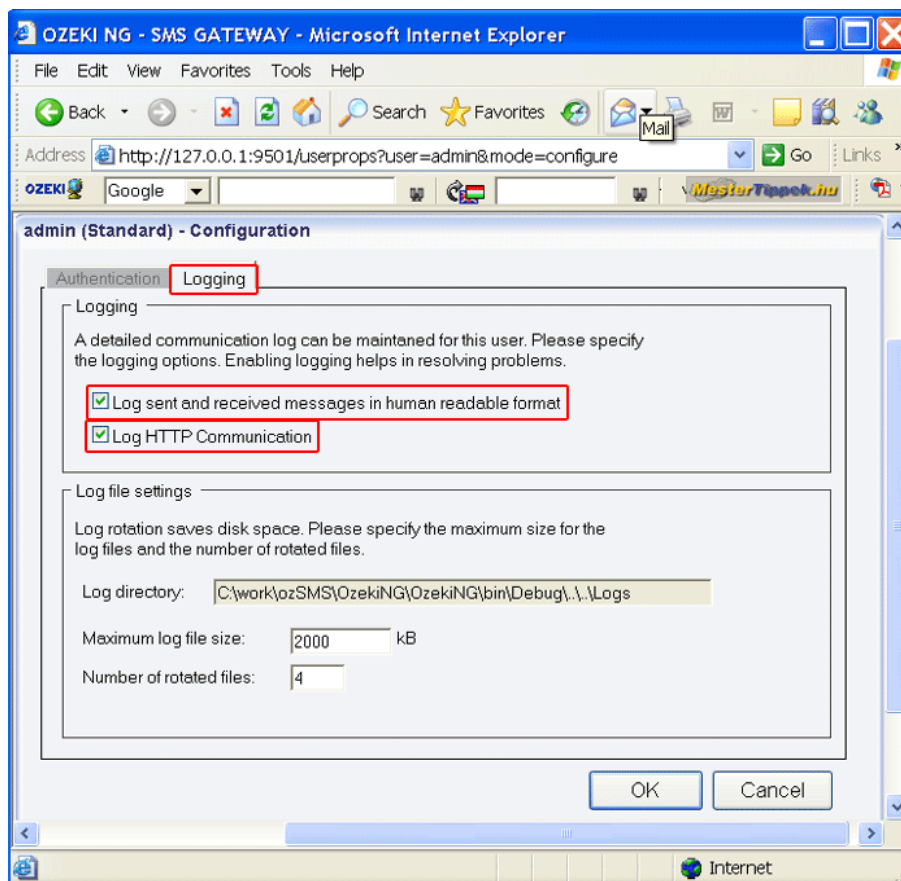


Figure 4 - Logging options

In the **Log file settings** section of the tab, you can make specifications for the size and the number of available logfiles.

Log rotation saves disk space, as it ensures that older (and probably no longer needed) logfiles will be automatically deleted from the log directory, which is specified in the **Log directory** text box. By default, the access path to the logfiles is: C:\Program Files\Ozeki\OzekiNG - SMS Gateway\Logs

In the **Maximum log file size** text box in the **Logfile settings** section, you can specify the maximum size of a logfile. Once this size is reached, a new logfile will be created. Specify the number of kilobytes for the size of a logfile by entering a positive whole number. By default, the maximum logfile size is 2000 kB.

In the **Number of rotated files** text box, specify the maximum number of rotated logfiles that are saved. Specify this number by entering a positive whole number. By default, the number of logfiles that are saved is 4 (see Figure 4 above).

If you are content with the default specifications, leave the text boxes unchanged.

To modify the configuration or to view server events related to an installed user, open the panel of the user's account. To do this, click the name of the user in the **Users and Applications** panel of the **Management Console**. In the panel of the user's account, click the link of the task you wish to perform (Figure 5).

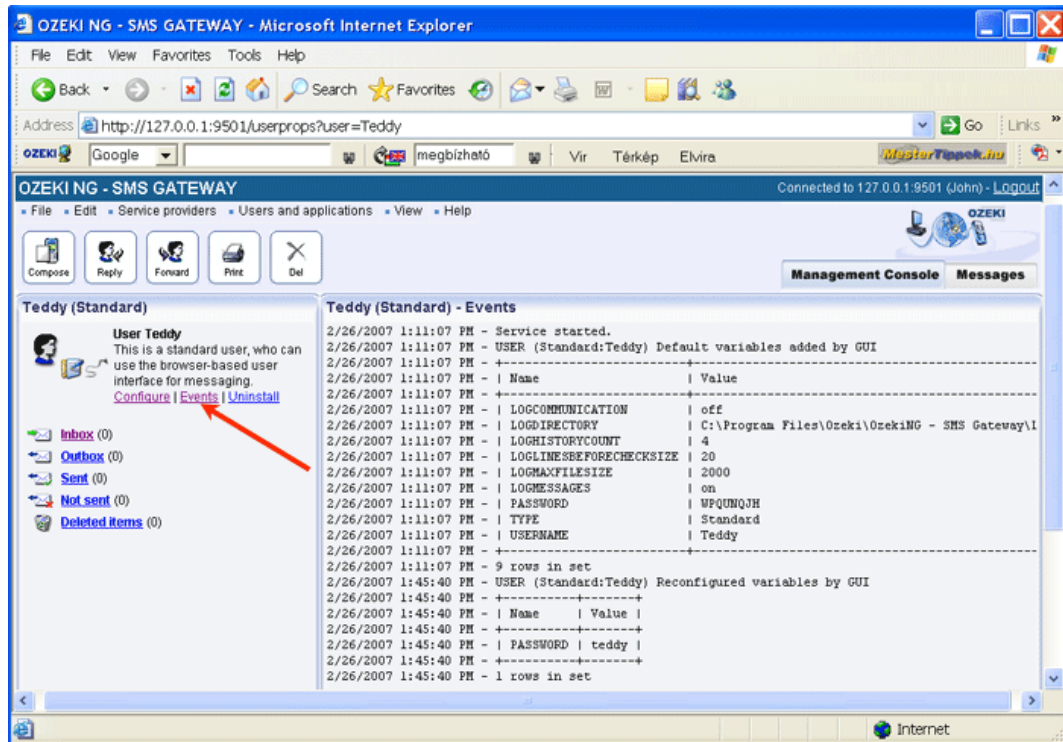


Figure 5 - Clicking a user-related task link

To configure or modify the configuration of a user, click **Configure**.

To view the latest server events related to a user, click **Events**.

To uninstall the user, click the **Uninstall** link.

## Database User

**This guide explains how you can setup Ozeki NG SMS Gateway to communicate with your database server. If the steps in this guide are followed, you will be able to send (or receive) SMS messages from a database application. All you have to do is insert data (or read data) from the appropriate database tables.**

**This guide gives you the simple steps for the configuration.**

### Introduction

Ozeki NG - SMS Gateway can be used to send and receive SMS messages using a database server with the help of SQL queries. This is possible because database servers allow the sharing of database tables between two applications.

To be able to send SMS messages from a database application you need to create a database table called [ozekimessageout](#). You can put an outgoing message into this database table using an SQL INSERT command. Ozeki NG - SMS Gateway will periodically check (poll) the ozekimessageout table with an SQL SELECT command, and if it finds a new entry, it will send the SMS message.

You can receive SMS messages in a similar way. You need to setup a database table called



[ozekimessagein](#). If an SMS message is received from a mobile phone, it is inserted by Ozeki NG SMS gateway into the ozekimessagein database table (Figure 1). You can use an SQL SELECT to read this message.

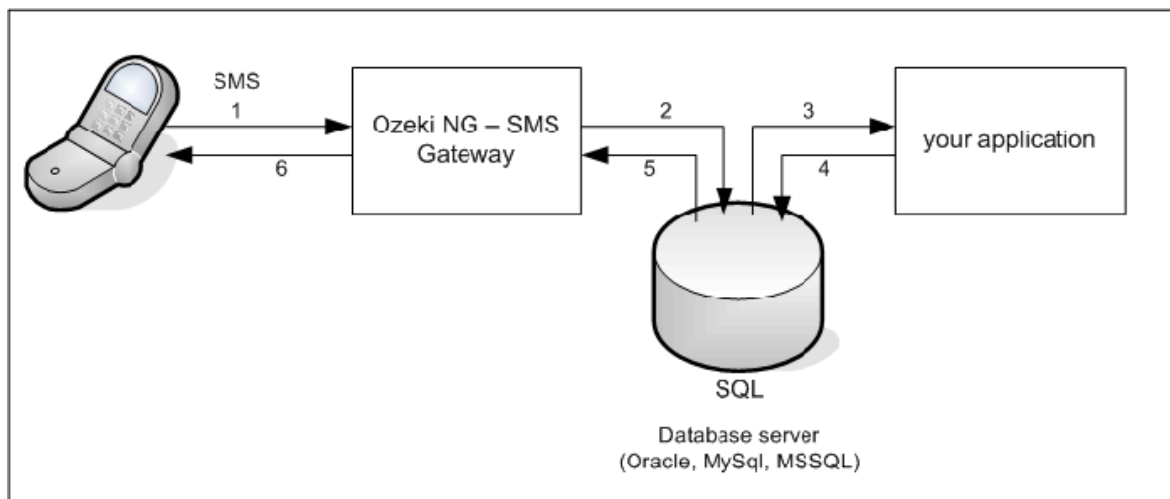


Figure 1 - SMS messaging using a database server

In order to get this configuration working, you need to have a database server (such as *Oracle*, *Access*, *MySQL*, *MS SQL*, *Postgres*, *Sybase*, etc.) installed, and you need to create two database tables: *ozekimessageout* and *ozekimessagein*. The *ozekimessageout* table is used for sending, while *ozekimessagein* is used for receiving SMS messages. To find out how to create the *ozekimessagein* and the *ozekimessageout* table for different database servers, read the respective pages related to the different database users. Check out the links at the end of this introduction.

Once you have created the database structure, you need to connect Ozeki NG SMS Gateway to your database. To establish a connection you can use an ODBC connection or an OLEDB connection. (To setup the connection you might have to install and configure an OLEDB or an ODBC driver. For example MySQL requires the [MyODBC Database driver](#) to be installed. For Microsoft SQL Express, Microsoft SQL Server and Oracle, Microsoft Windows has a built in OLEDB driver, so you do not have to install a driver separately).

The connection can be configured with a database connection string. This connection string includes the database driver name, the ip address, the username and the password and the name of the database. More information about the database connection string can be found in our "[Database connection strings](#)" manual.

If you have figured out the connection string for your database server, you need to install and configure a database user in Ozeki NG - SMS Gateway. This is a virtual user that will communicate with a specified database server and will provide you the SQL SMS Gateway functionality.

For more information about different databases, check out any of the following links:

- [Oracle User](#)
- [MSSQL User](#)
- [MySQL User](#)

[Sybase SQLAnywhere User](#)  
[PostgreSQL User](#)

## How to install a database user

You can install and configure a database user with the [graphical user interface](#) of Ozeki NG - SMS Gateway. Follow the instructions below.

To start installing and configuring a database user, click the **Add** button in the top right-hand corner of the **Users and Applications** panel on the right of the **Management Console**. (To open the **Management Console** interface, click the **Management Console** tab. For more information, check out the [User Interface](#) page.) You can also add a user by clicking the **Add user** item in the **Users and applications** menu. (Figure 2).

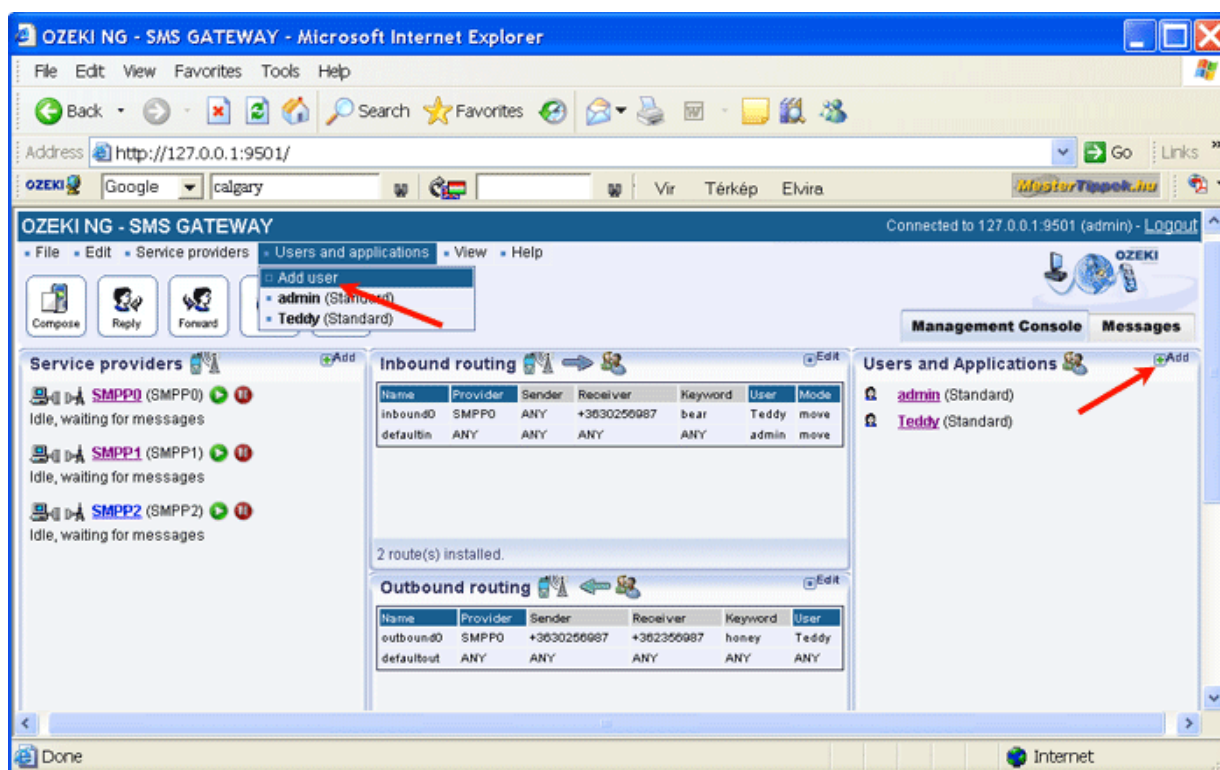


Figure 2 - Adding a user

This will bring up an interface consisting of two panels.

The panel on the left contains a list of users that have been installed. In the bar at the bottom of the page you can read how many users have been installed.

The panel on the right contains a list of users that can be installed.

Each user in the left-hand panel is listed with a unique name (and the user type stated in brackets).

Each user in the right-hand panel is listed with the name of its type and a brief description of what it can be used for.

To add a database user, click the **Install** link in the respective entry in the list of installable users and applications (Figure 3).

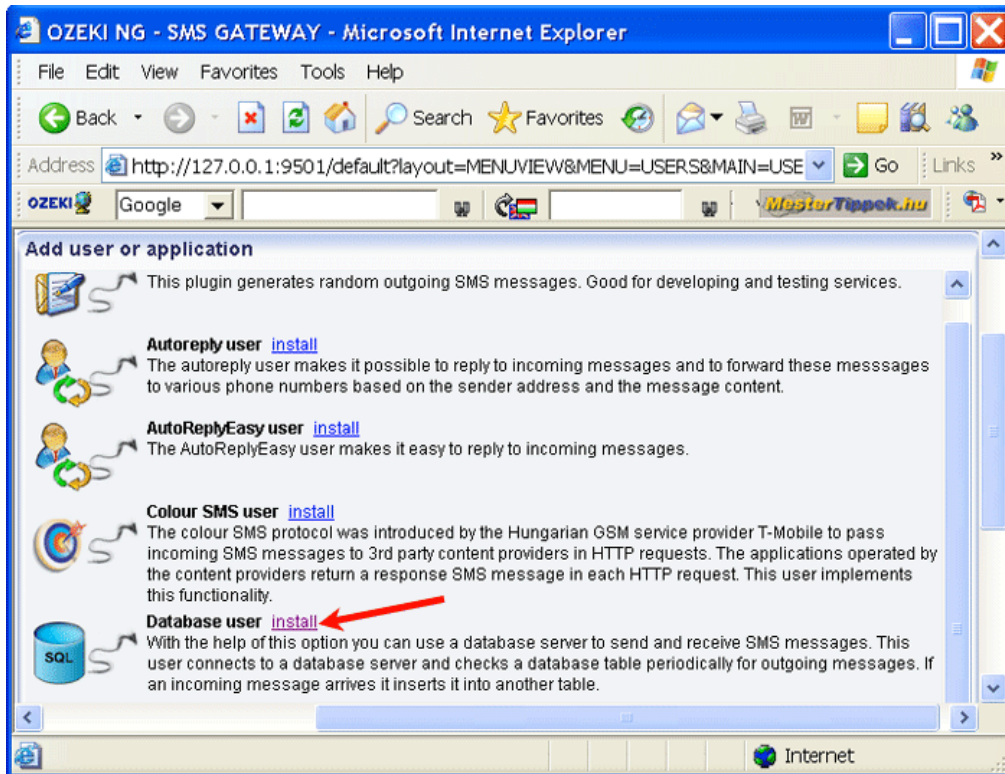


Figure 3 - Installing a database user

This will open a panel asking you to give the database user a unique name (Figure 4).

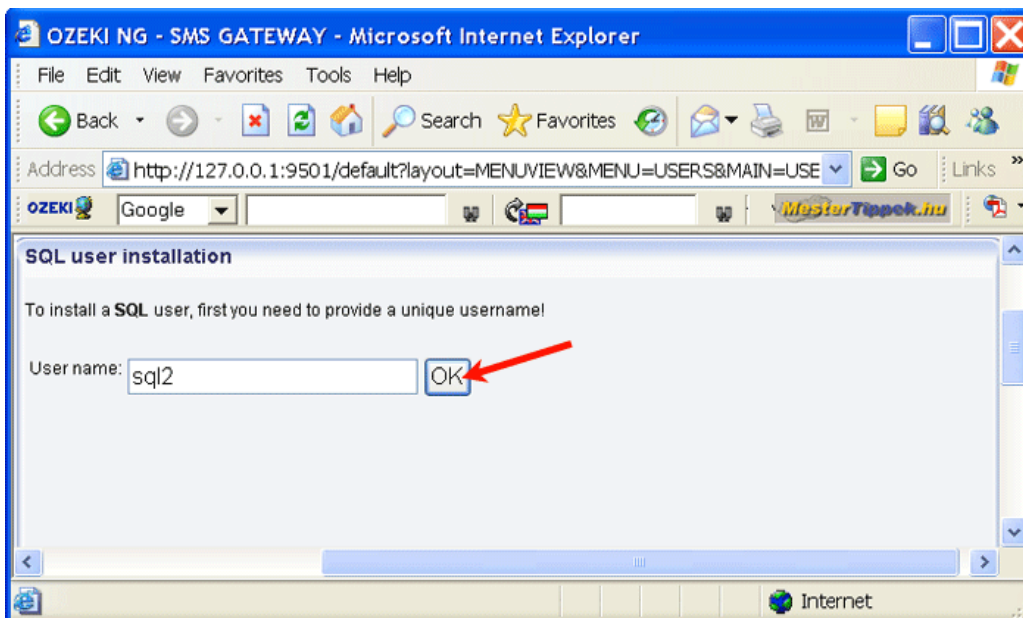


Figure 4 - Naming the database user

Enter a unique name in the **User name** edit box, and click **OK**. Then the installation is finished, and the name of the database user will show up in the list of users on the left in the panel.

### How to configure a database user

Once you have installed a database user, you can start to configure it. After you have provided a unique name for the database user and clicked **OK** (see Figure 4 above), the **Configuration** panel will open.

The first tab that will show up is the **Database connection** tab (Figure 5).

In the **Connection** section, select the connection string type in the **Connection string type** dropdown menu. Make sure that the connection you specify is accessible for the system user account.

For Open Database Connectivity, select **Odbc**.

For Object Linking and Embedding Database, select **OleDb**.

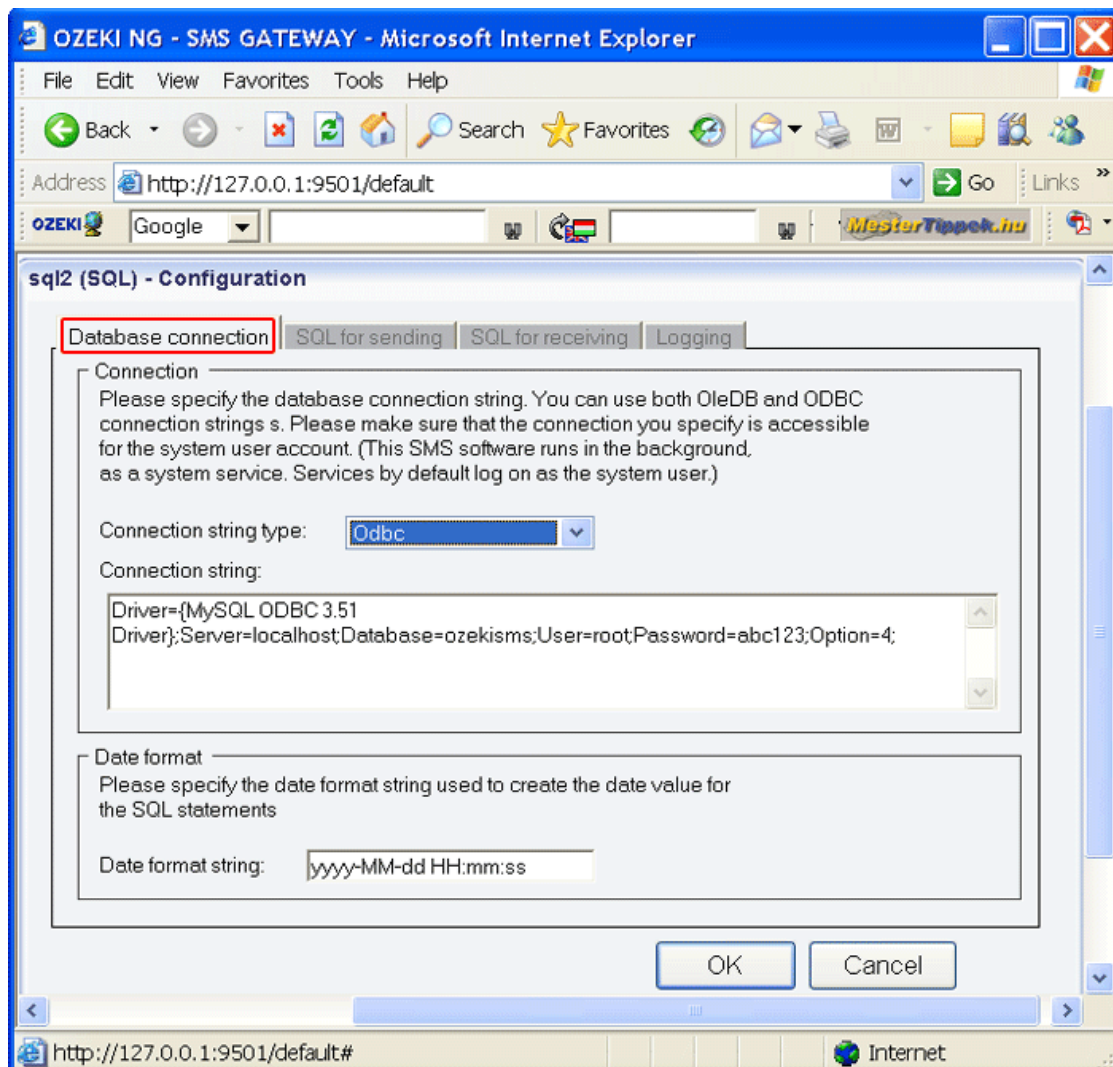


Figure 5 - The Database connection tab

In the **Connection string** template, modify any variables if necessary. For instance, as you have probably changed the username and password, you will need to modify them in the template.



If Ozeki NG - SMS Gateway and the database reside on the same server, "localhost" can be used to describe the database location. If they do not reside on the same server, you need to specify the database location by replacing "localhost" with the IP address.

Different database servers require different connection strings. By default, this template contains the connection string of the MySQL database server. For information about connection strings of other database servers, check out [Appendix B - Connection Strings](#).

The connection string for the Oracle SQL server is:

**Provider=MSDAORA.1;Password=YourPassword;User ID=YourUserID;Persist Security Info=True**

The connection string for the MS SQL server is:

**Provider=SQLNCLI;Server=YourServer;Database=YourDatabase;UID=YourUsername; PWD=YourPassword;**

The connection string for the Sybase / SQL Anywhere Server is:

**Provider=ASAProv.90;UID=MyUsername;PWD=MyPassword;DatabaseFile=Database FileLocationOnYourComputer.db;  
EngineName=Yourdbenginename;Start=YourDatabaseBinaryLocation.exe -c 32M;AutoStop=Yes**

The connection string for the Postgre SQL server is:

**DRIVER={PostgreSQL};SERVER=YourServerIP;port=5432;DATABASE=YourDatabaseName;UID=YourUsername;PWD=YourPassword;**

Additional connection strings can be found in [Appendix B - Connection Strings](#).

In the **Date format** section, specify - in the **Date format string** edit box - the date format string used to create the date value for the SQL statements.

The default date format string is **yyyy-MM-dd HH:mm:ss**.

In the date format string, **yyyy** stands for the year as a four-digit number. If the year has more than four digits, only the four low-order digits appear in the result. If the year has fewer than four digits, the number is padded with leading zeroes to achieve four digits. (Note that for the Thai Buddhist calendar, which can have five-digit years, this format specifier renders all five digits.)

**MM** stands for the month as a number from 01 through 12. A single-digit month is formatted with a leading zero.

The **dd** string stands for the day of the month as a number from 01 through 31. A single-digit day is formatted with a leading zero.

**HH** stands for the hour as a number from 00 through 23, that is, the hour as represented by a zero-based 24-hour clock that counts the hours since midnight. A single-digit hour is formatted with a leading zero.

The **mm** string stands represents the minute as a number from 00 through 59. The minute represents whole minutes passed since the last hour. A single-digit minute is formatted with a leading zero.

The **ss** string stands for the seconds as a number from 00 through 59. The second represents whole seconds passed since the last minute. A single-digit second is formatted with a leading zero.



If you are content with this date format, leave the default date format string unchanged. If you wish to change it, rearrange the format specifiers. For example, you can put **dd-MM-yyyy HH:mm:ss** instead of the default arrangement. For information, about the different date format strings you can use, check out the [Date Format Strings](#) page. When you have finished configuring the database connection, click **OK**.

To send SMS messages using this connection, you need to make settings in the **SQL for sending** tab.

Click the **SQL for sending** tab (Figure 6).

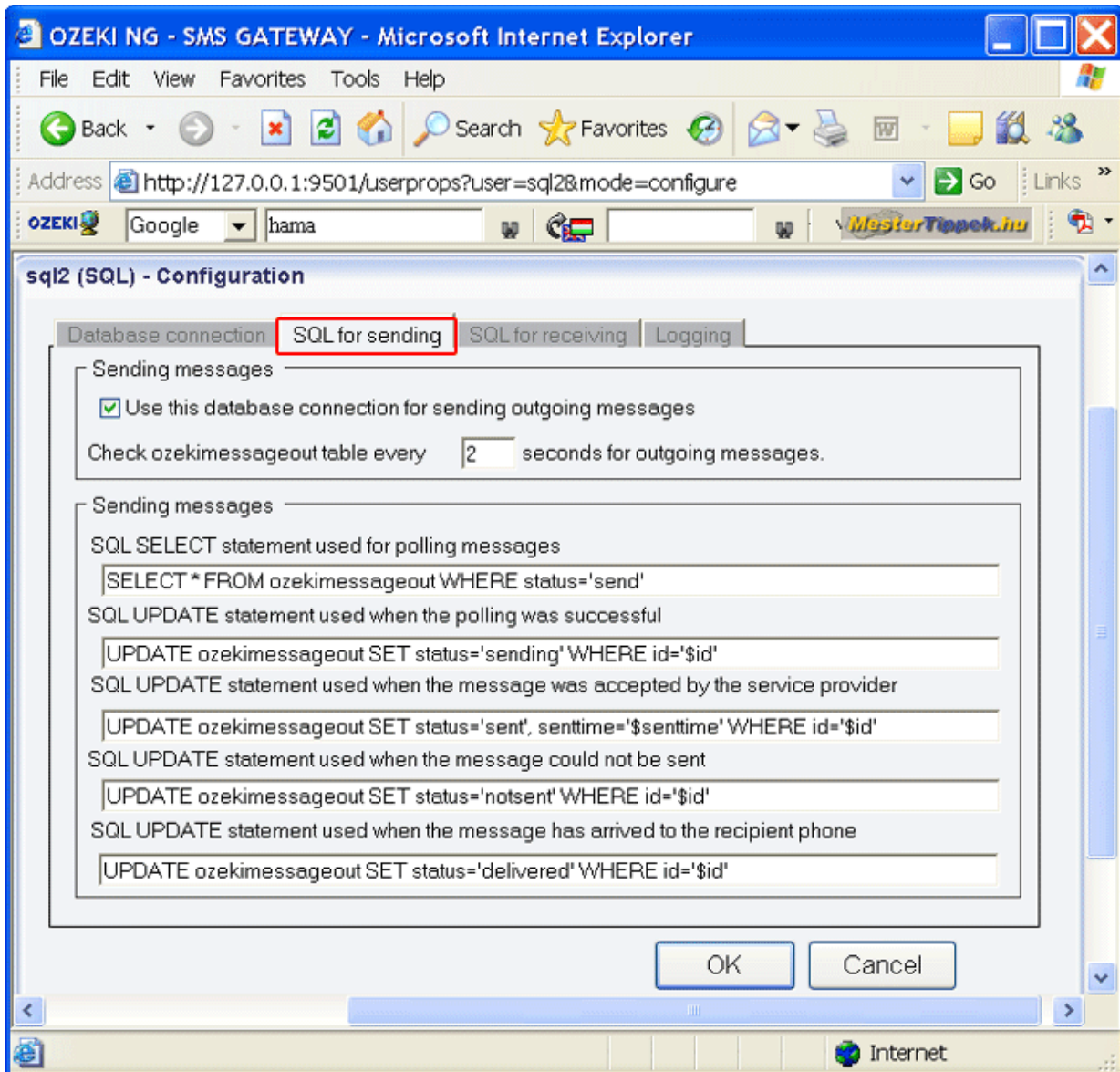


Figure 6 - The SQL for sending tab

In the upper section of the panel you have opened, you can see a checkbox. By default, it is checked, and it should be checked if you use this database connection for sending outgoing messages. (To stop using this connection for sending outgoing messages, uncheck the checkbox.)

Below this checkbox you can specify how often Ozeki NG - SMS Gateway should check the ozekimessageout table for outgoing messages. Specify the frequency in seconds by entering a positive whole number in numerical form.

If you are content with the default value (2), leave this edit box unchanged (Figure 7).

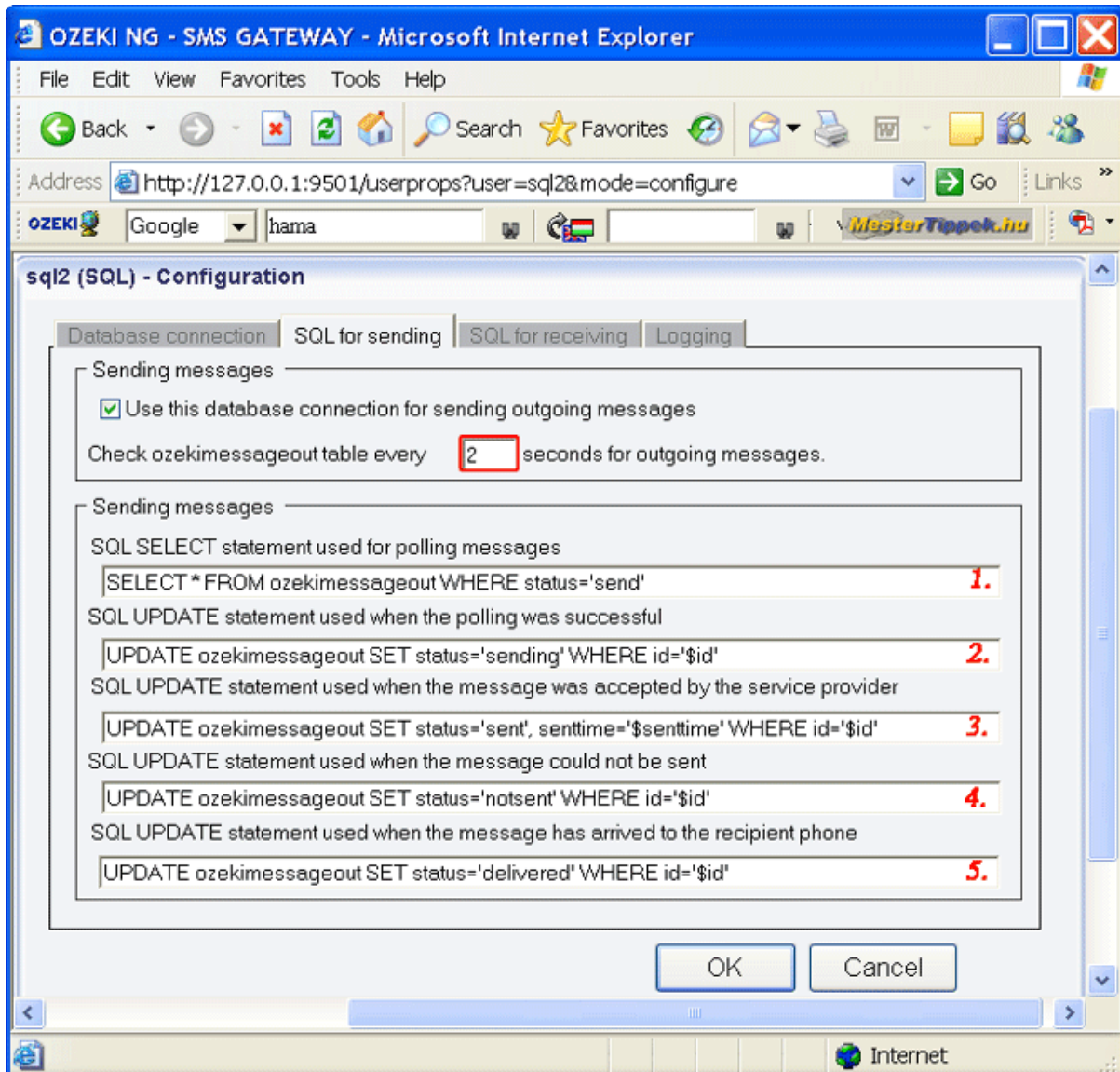


Figure 7 - Specifying the frequency of queries and the SQL statements

In the lower section, you can specify SQL statements related to the polling and the status of outgoing messages.

Modify any variables in the templates, or if you are content with them, leave them unchanged.

The statement in the first template describes the way of selecting outgoing messages.

The statement in the second template is used if the polling has been successful.

The statement in the third template is used if the message has been accepted by the service provider.

The statement in the fourth template is used if the message has not been sent.

The statement in the fifth template is used if the message has been delivered to the recipient phone number.

To receive SMS messages using this connection, you need to make settings in the **SQL for receiving** tab.

Click the **SQL for receiving** tab (Figure 8).

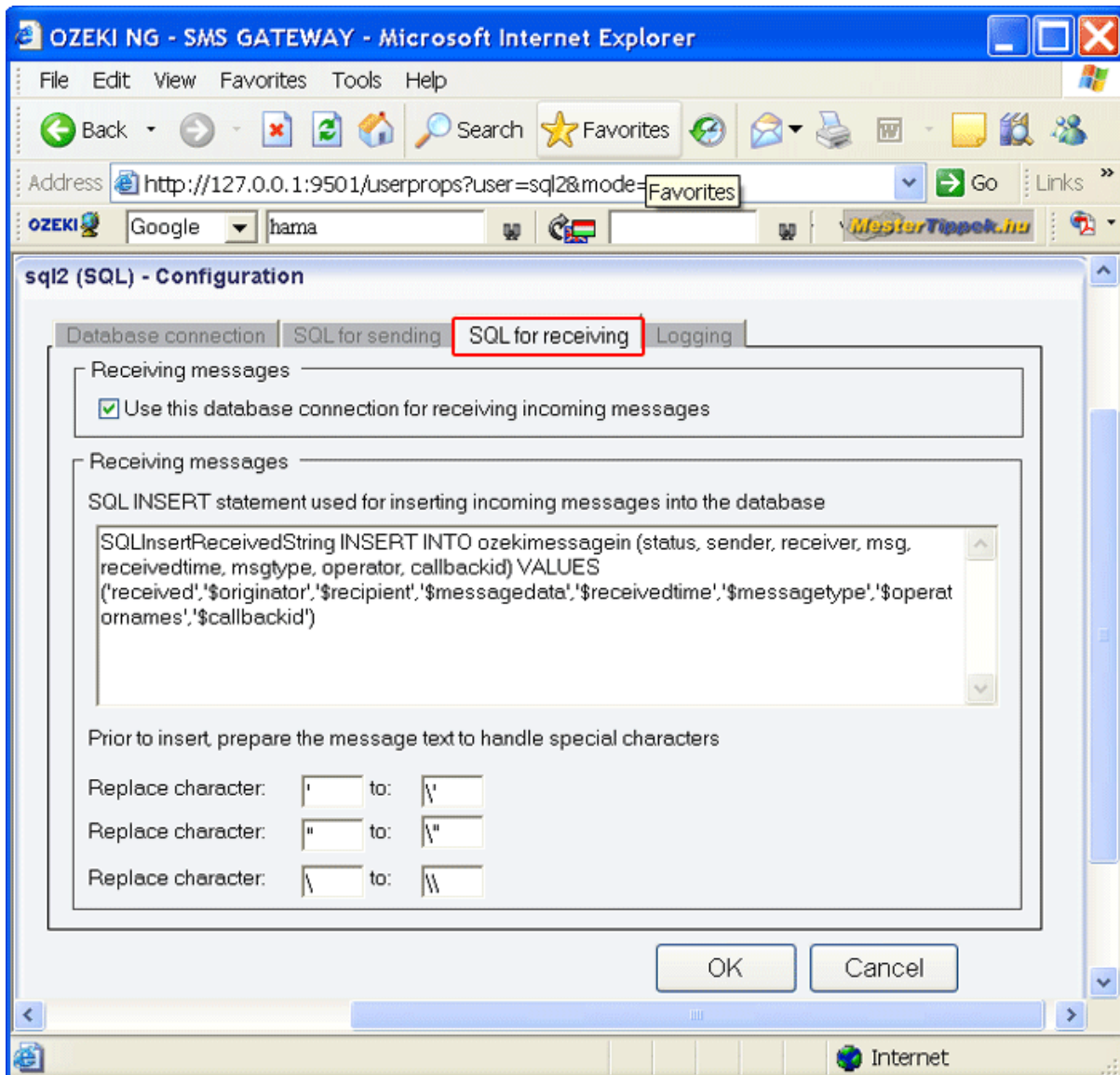


Figure 8 - The SQL for receiving tab

In the upper section of the panel you have opened, you can see a checkbox. By default, it is checked, and it should be checked if you use this database connection for receiving incoming messages. (To stop using this connection for receiving incoming messages, uncheck the checkbox.)

In the lower section of the panel, you can see a template containing an SQL INSERT statement used for inserting incoming messages into the database.

If necessary, modify any valuables in the statement. If not, leave it unchanged.

Below the template you can find three pairs of edit boxes that allow you to make the program prepare the message prior to insert. This may be useful to handle messages containing special characters.



Each pair consists of one edit box (on the left) for the character to be replaced, and one (on the right) for the characters that will replace the character on the left.

By default, the boxes contain the most problematic special characters to be replaced and those to be used instead. Modify these settings if you wish to specify different characters.

You can also configure the logging related to the database user.

Click the **Logging** tab to open the panel for logging settings.

In the **Logging** section of the panel, you can find three checkboxes. You can choose to check any or all (or none) of them. Your choice depends on whether you want the program to log sent and received messages in human readable format, to log SQL SELECT statements and/or to log SQL UPDATE statements (Figure 9).

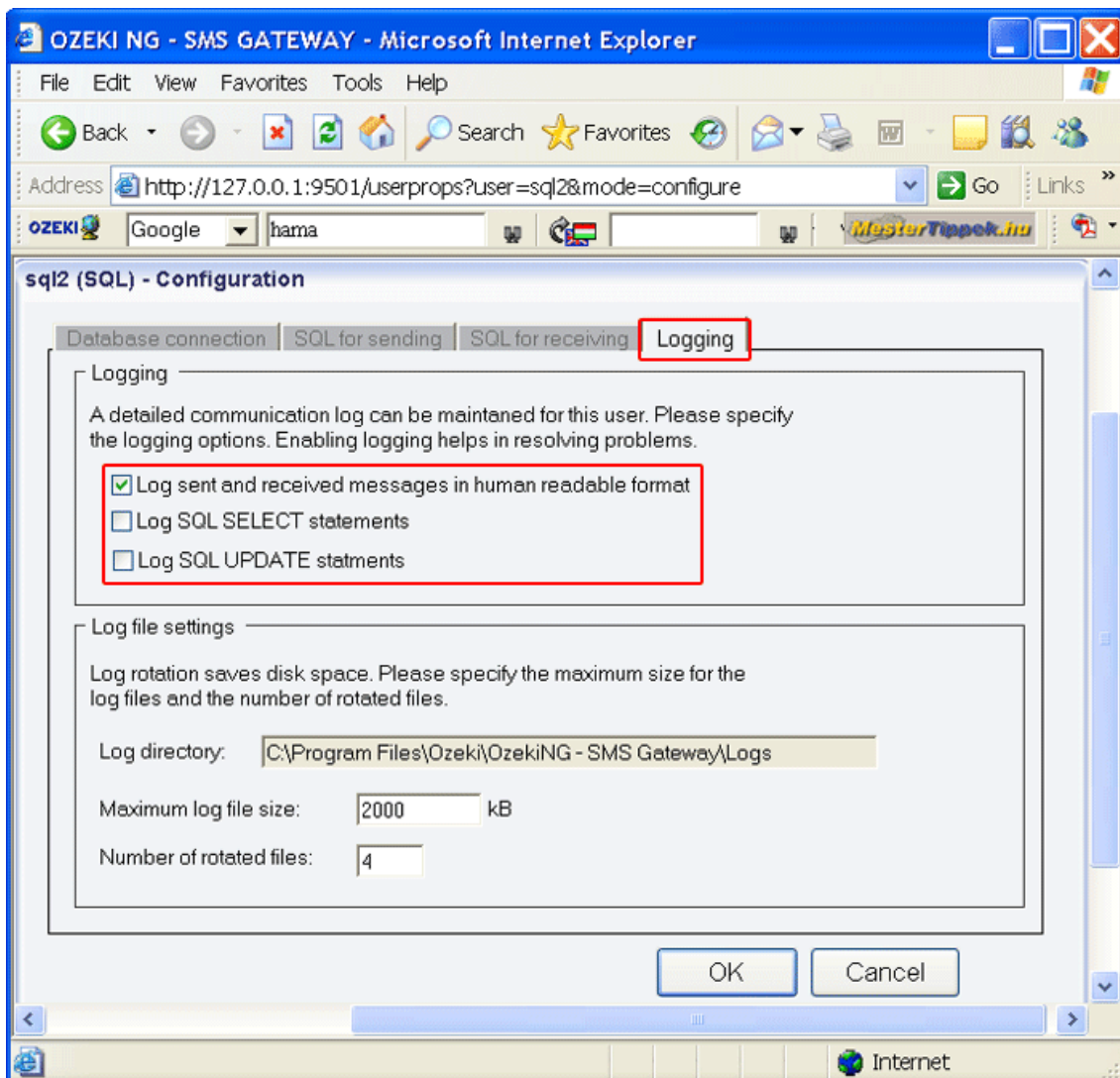


Figure 9 - The Logging tab

In the **Log file settings** section of the tab, you can make specifications for the size and the number of available logfiles.

Log rotation saves disk space, as it ensures that older (and probably no longer needed) logfiles will be automatically deleted from the log directory, which is specified in the **Log directory** text box. By default, the access path to the logfiles is: C:\Program Files\Ozeki\OzekiNG - SMS Gateway\Logs

In the **Maximum log file size** text box you can specify the maximum size of a logfile. Once this size is reached, a new logfile will be created. Specify the number of kilobytes for the size of a logfile by entering a positive whole number. By default, the maximum logfile size is 2000 kB.

In the **Number of rotated files** text box, specify the maximum number of rotated logfiles that are saved. Specify this number by entering a positive whole number. By default, the number of logfiles that are saved is 4.

If you are content with the default specifications, leave the text boxes unchanged (Figure 10).

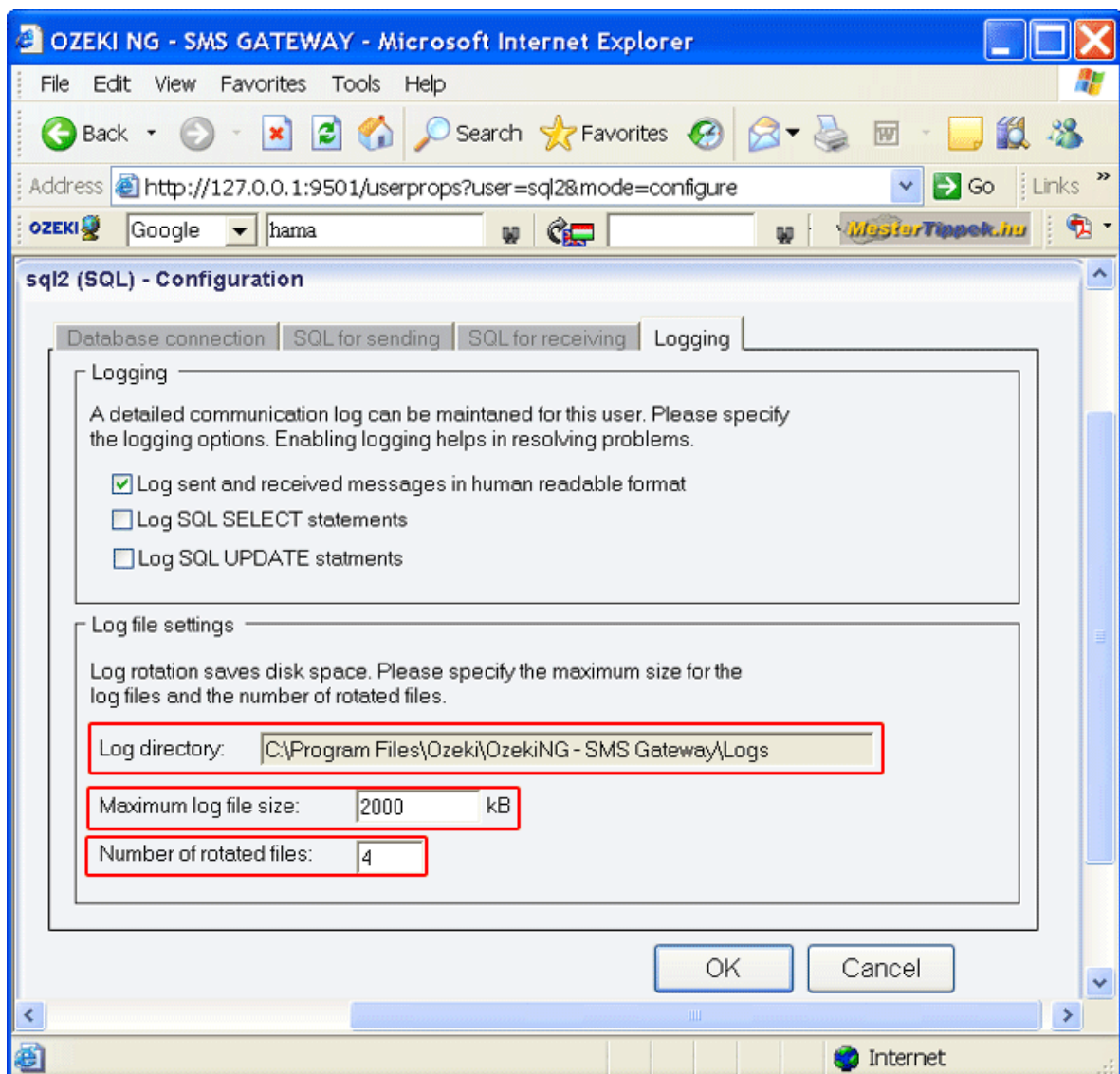


Figure 10 - Log file settings

To modify the configuration or to view server events related to a database user, open the panel of the user's account. To do this, click the name of the user in the **Users and Applications** panel of the **Management Console**. In the panel of the user's account, click the link of the task you wish to perform (Figure 11).



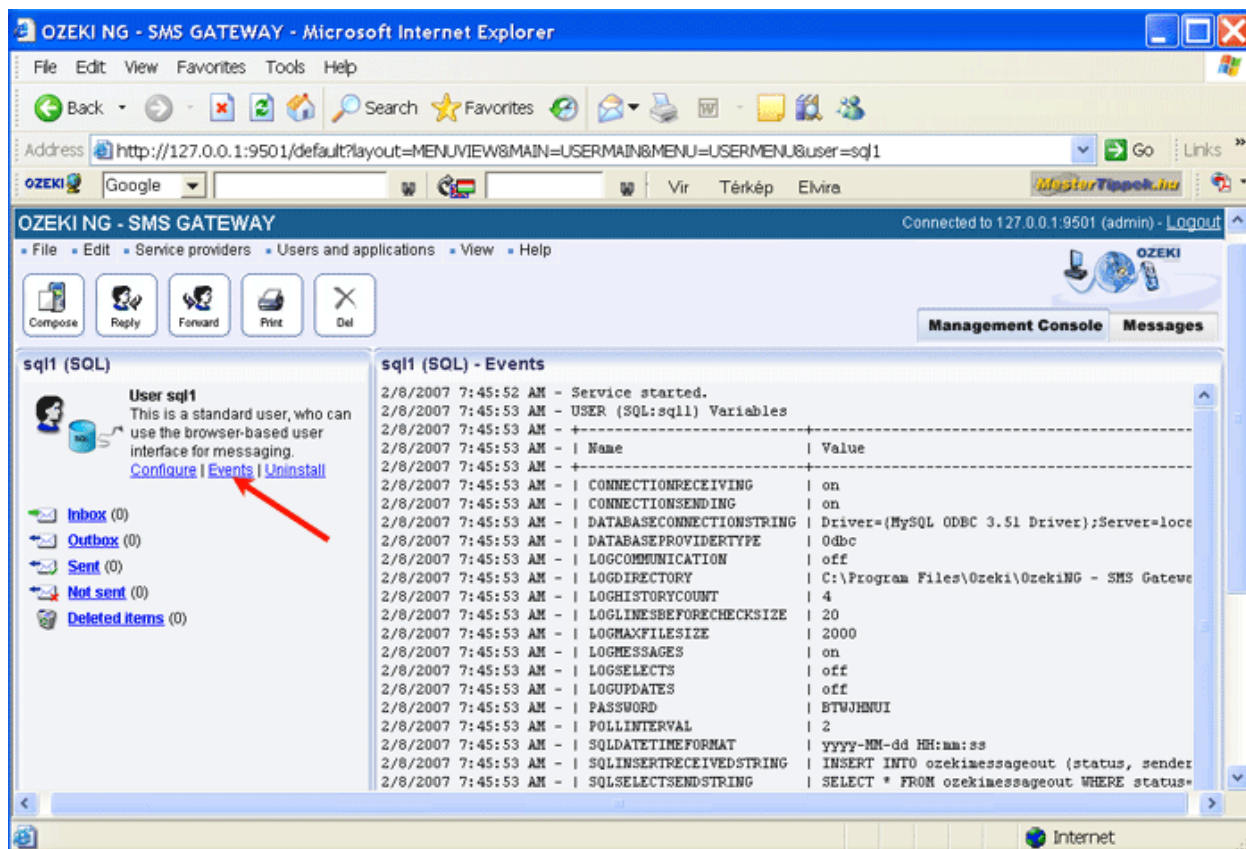


Figure 11 - Clicking a user-related task link

To configure or modify the configuration of a user, click **Configure**.

To view the latest server events related to a user, click **Events**.

To uninstall the user, click the **Uninstall** link.

## Microsoft SQL

In this chapter you can learn how to send and receive SMS messages using the Microsoft SQL database server. The solution uses the Ozeki NG - SMS Gateway software installed on your PC. The solution uses the following database connection string to connect to the database server:

**Provider=SQLNCLI;Server=YourServer;Database=YourDatabase;UID=YourUsername;PWD=YourP**

Here is a quick overview of how this solution is going to work: First you create two database tables: **ozekimessageout** and **ozekimessagein** in MS SQL. Then you install and configure Ozeki NG SMS Gateway, to connect to MS SQL and to use these database tables for sending and receiving messages. Once you have the configuration completed, you can send an SMS message by creating a record in the ozekimessageout database table using an SQL INSERT. Ozeki NG will read this record using an SQL SELECT and will send your SMS message using a GSM modem attached to the PC or using an IP SMS connection.

## Step 1 - Create your database tables in Microsoft SQL Server

MS SQL create table script:

```
CREATE TABLE
ozekimessagein (
  id int IDENTITY (1,1),
  sender varchar(30),
  receiver varchar(30),
  msg varchar(160),
  senttime varchar(100),
  receivedtime varchar(100),
  operator varchar(30),
  msgtype varchar(30),
  reference varchar(30),
);

CREATE TABLE
ozekimessageout (
  id int IDENTITY (1,1),
  sender varchar(30),
  receiver varchar(30),
  msg varchar(160),
  senttime varchar(100),
  receivedtime varchar(100),
  operator varchar(100),
  msgtype varchar(30),
  reference varchar(30),
  status varchar(30),
  errormsg varchar(250)
);
```

Figure 1 - SQL Create table script

You can optionally create an index in the database for the 'id' field of the outgoing SMS table to support SQL updates.

## Step 2 - Create an SQL User in Ozeki NG

To do this you have to [Download and Install Ozeki NG SMS Gateway](#). After installation you have to log into the SMS gateway using an Internet Explorer (or Firefox) Browser by typing <http://127.0.0.1:9501/> and supplying **admin** as the login name and **abc123** as the password. (Hint: do not forget to change your password!). After login, go to the "Users and Applications/Add User" menu item and click on Install next to the database user (Figure 2).

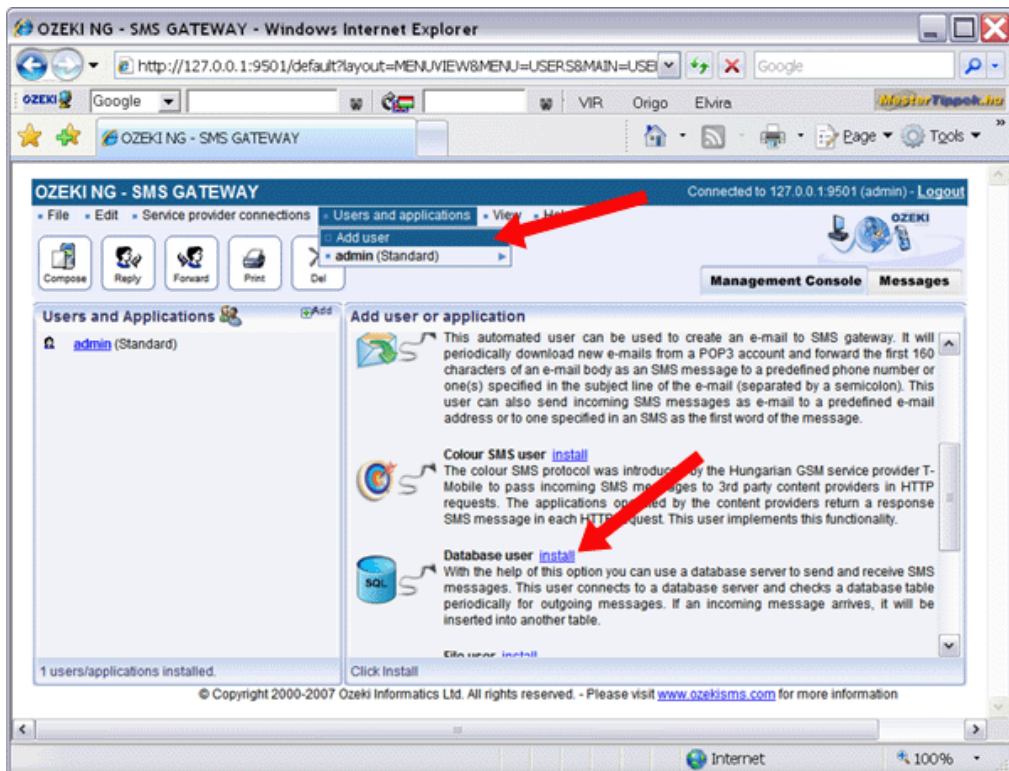


Figure 2 - Install database user

The last step of the installation is to enter a name for this user. For example enter **sql1** (Figure 3). You can type any name here.

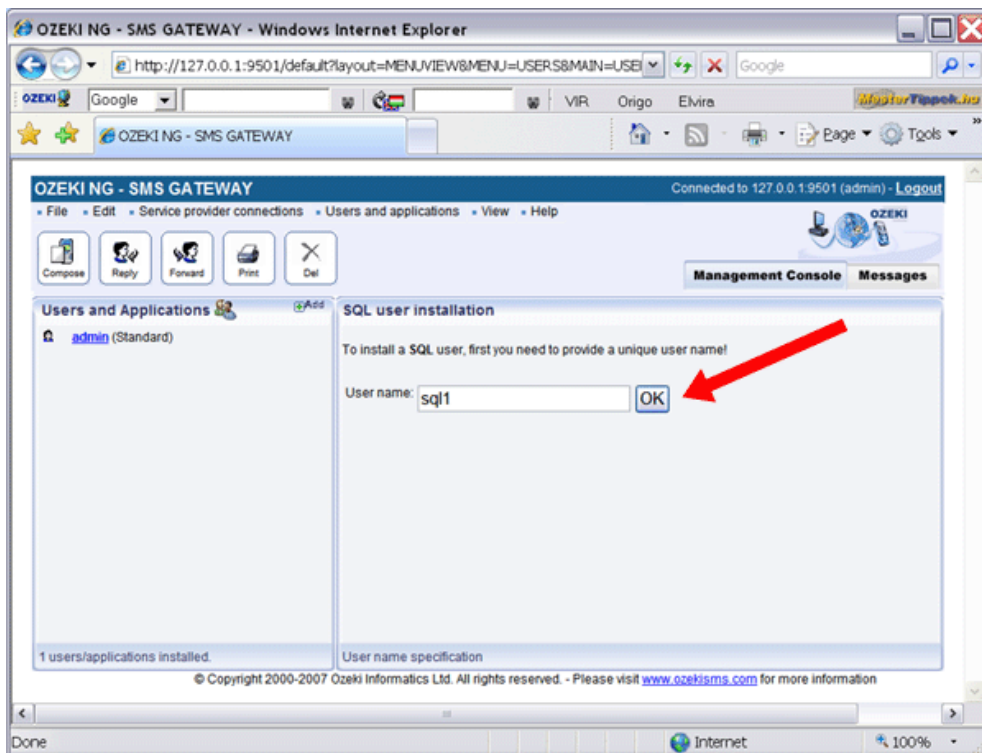


Figure 3 - Give a unique SQL user name

### Step 3 - Configure the database connection for this SQL User in Ozeki NG

Ozeki NG uses an ADO/OleDB connection to access your SQL Database server. To setup this connection select **OleDb** as the connection type and enter the following connection string into the connection string textbox.

**Connection string:**

**Provider=SQLNCLI;Server=YourServer;Database=YourDatabase;UID=YourUsername;PWD=YourPassword;**

Please note, that you must modify the variables in the connection string according to your system.

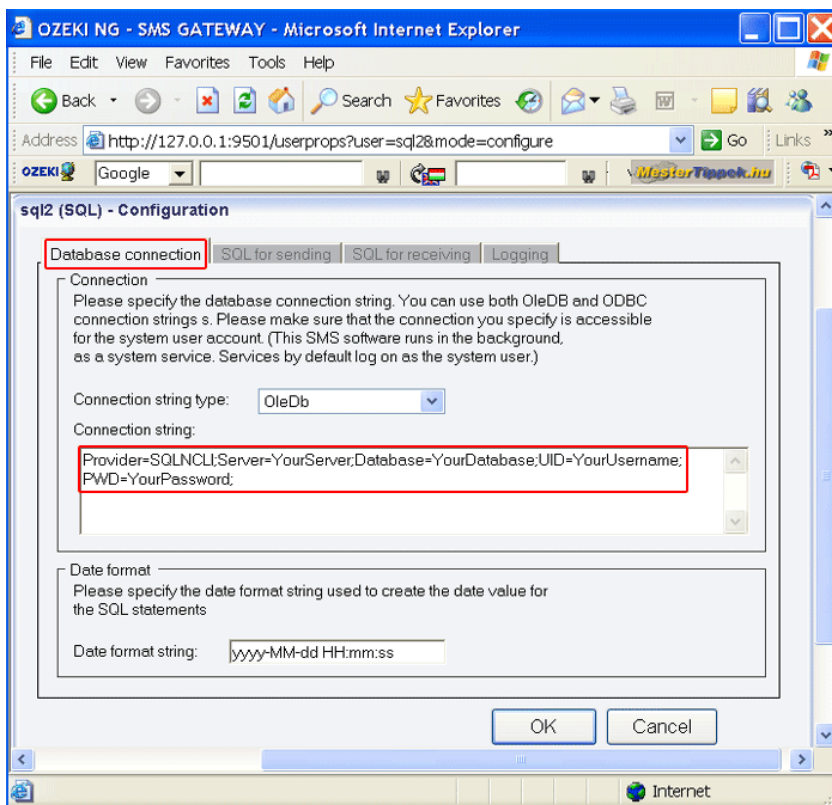


Figure 4 - Specifying the connection string for the MS SQL database

After you have configured the SQL connection string, click OK. By clicking OK Ozeki NG SMS Gateway will try to connect to your database server. You can verify the connection results in the **events** form. The events form can be accessed by clicking on the appropriate link (Figure 5).



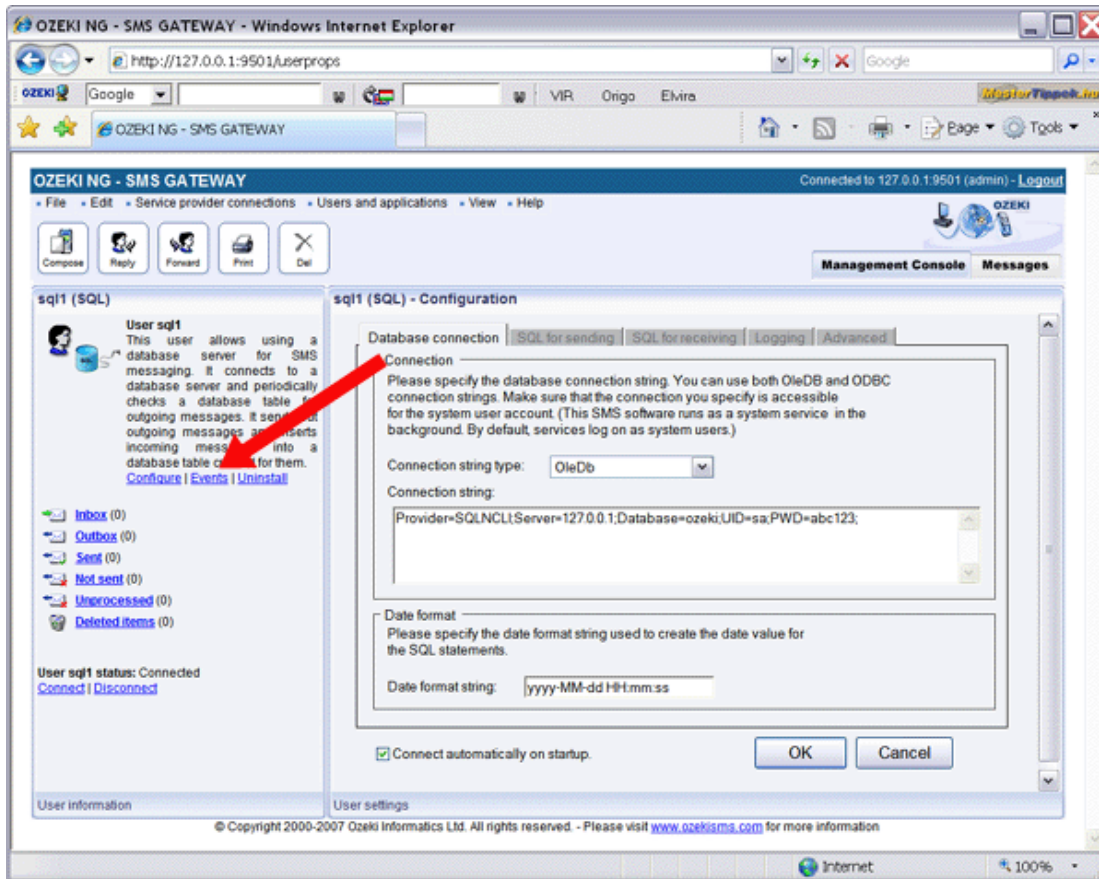


Figure 5 - SQL Server events.

If the connection is successful, you can send an SMS message by placing a record into the ozekimessageout database table.

#### Step 4 - Enable detailed SQL logging

At this point you are ready to send your first SMS, but before you do, you should enable SQL logging to see what the SMS Gateway is doing to get your message. You can enable SQL logging on the Logging tab of the SQL User configuration form (Figure 6).



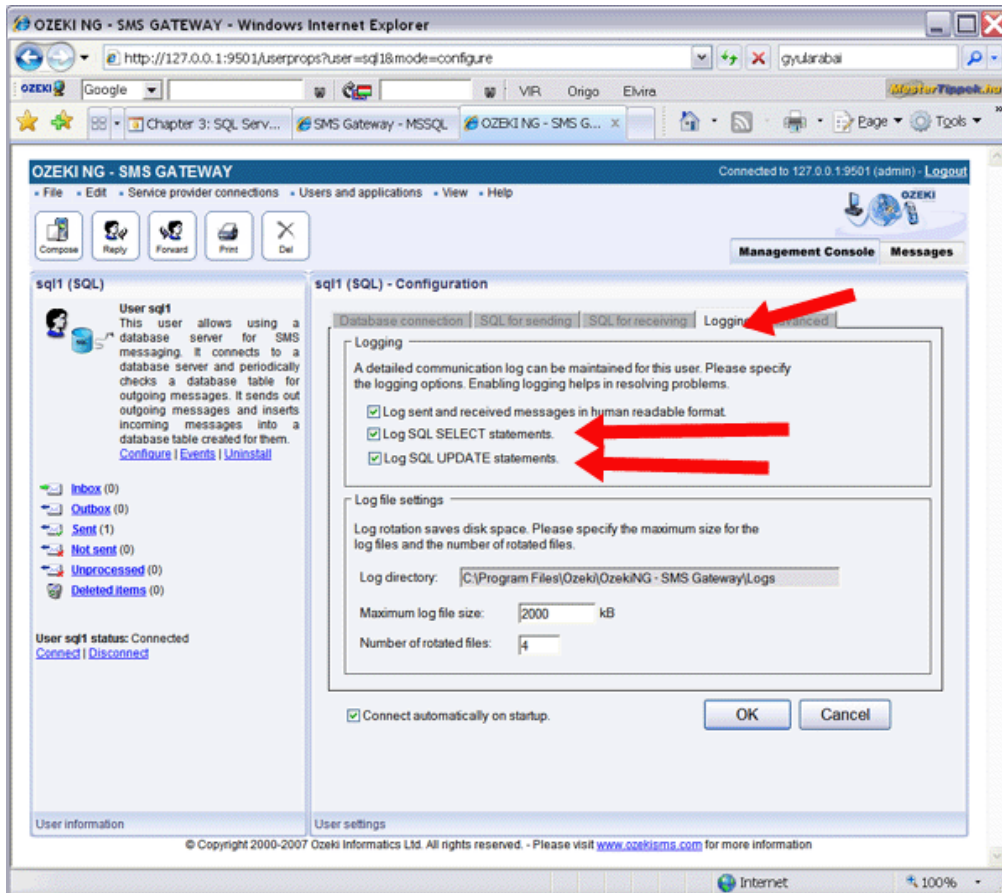


Figure 6 - Enable SQL Logging

### Step 5 - Send your first SMS message

To send your first SMS message you should insert a record into the ozekimessagout database table using the following SQL command:

```
insert into ozekimessagout (receiver,msg,status) values
('+44111223465',"Hello world","Send");
```

### Step 6 - Check the logs in Ozeki NG

After you have inserted the record into the database, you should be able to verify that Ozeki NG has picked up the message for sending. You can do this by taking a look in the events form of the user (Figure 7).

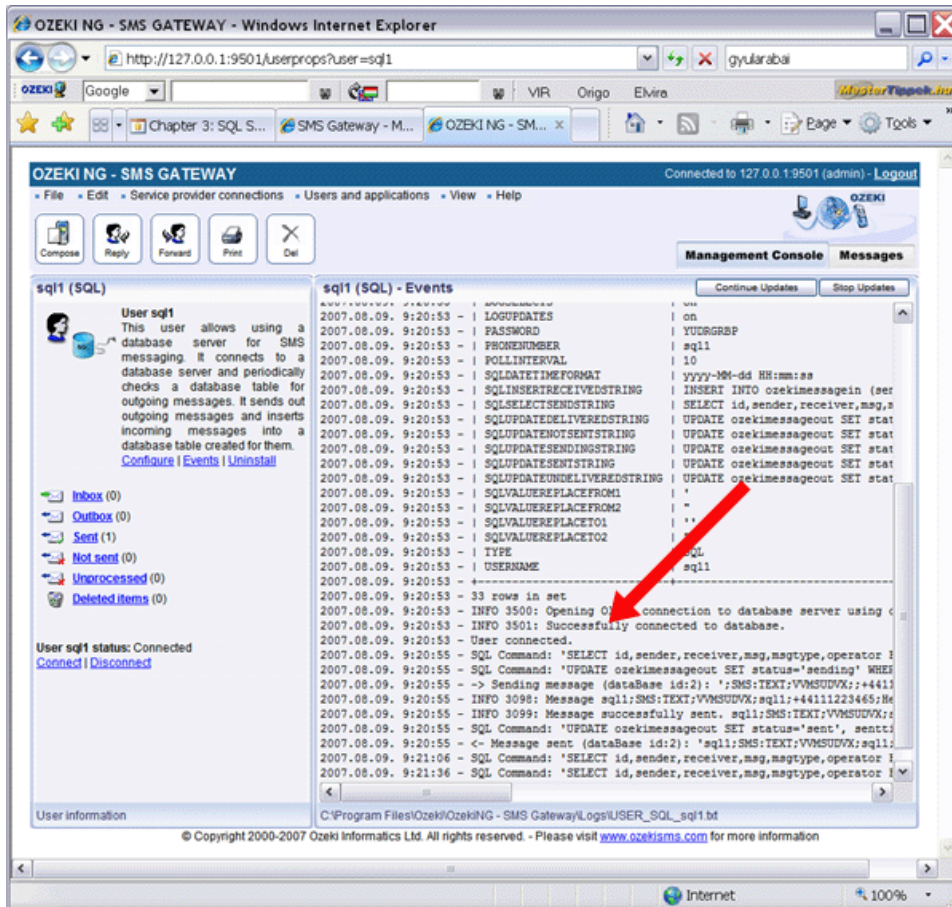


Figure 7 - User events after successful sending

If everything goes well you should see the following entries in the log:

```

2007.08.09. 9:20:53 - INFO 3500: Opening OleDb connection to database server using connection string ...
2007.08.09. 9:20:53 - INFO 3501: Successfully connected to database.
2007.08.09. 9:20:53 - User connected.
2007.08.09. 9:20:55 - SQL Command: 'SELECT id,sender,receiver,msg,msgtype,operator FROM ozekimessageout WHERE
status='send'' returned 1 rows.
2007.08.09. 9:20:55 - SQL Command: 'UPDATE ozekimessageout SET status='sending' WHERE id='2'' affected 1 row.
2007.08.09. 9:20:55 - -> Sending message (dataBase id:2): ';SMS:TEXT;VMSUDVX;;+44111223465;Hello world;'
2007.08.09. 9:20:55 - INFO 3098: Message sql1;SMS:TEXT;VMSUDVX;sql1;+44111223465;Hello world; accepted for delivery
from user 'sql1'.
2007.08.09. 9:20:55 - INFO 3099: Message successfully sent. sql1;SMS:TEXT;VMSUDVX;sql1;+44111223465;Hello world;
2007.08.09. 9:20:55 - SQL Command: 'UPDATE ozekimessageout SET status='sent', senttime='2007-08-09 09:20:56' WHERE
id='2'' affected 1 row.
2007.08.09. 9:20:55 - <- Message sent (dataBase id:2): 'sql1;SMS:TEXT;VMSUDVX;sql1;+44111223465;Hello world;'

```

### Microsoft SQL Express

On this page you can learn how to send and receive SMS messages using the Microsoft SQL Express database server. The solution uses the Ozeki NG - SMS Gateway software installed on your PC. The solution uses the following database connection string to connect to the database server:

```

Provider=SQLNCLI;Server=.\SQLEXPRESS;User
ID=ozekiuser;password=ozekipass;Database=ozeki;Persist Security Info=True

```

Here is a quick overview of how this solution is going to work: First you create two database tables: **ozekimessageout** and **ozekimessagein** in SQL Express. Then you install and configure Ozeki NG SMS Gateway, to connect to SQL Express and to use these database tables for sending and receiving messages. Once you have the configuration completed, you can send an SMS message by using an SQL INSERT statement to create a record in the ozekimessageout database table. Ozeki NG will read this record using an SQL SELECT and will send your SMS message using a GSM modem attached to the PC or using an IP SMS connection.

### Step 1 - Create your database tables in Microsoft SQL Express

You can create a database and the appropriate database tables by opening a windows command prompt (Start->Run->cmd.exe), and starting the SQL Command interpreter by typing:

```
C:\sqlcmd -S .\SQLEXPRESS
```

Once the SQL command interpreter is running, you should enter the following commands

```
create database ozeki
GO

use database ozeki
GO

CREATE TABLE
ozekimessagein (
  id int IDENTITY
  (1,1),
  sender varchar(30),
  receiver varchar(30),
  msg varchar(160),
  senttime
varchar(100),
  receivedtime
varchar(100),
  operator varchar(30),
  msgtype varchar(30),
  reference
varchar(30),
);

CREATE TABLE
ozekimessageout (
  id int IDENTITY
  (1,1),
  sender varchar(30),
  receiver varchar(30),
  msg varchar(160),
  senttime
varchar(100),
  receivedtime
```

```
varchar(100),
  operator
varchar(100),
  msgtype varchar(30),
  reference
varchar(30),
  status varchar(30),
  errormsg varchar(250)
);

GO

sp_addLogin
'ozekiuser',
'ozekipass'
GO

sp_addsrvrolemember
'ozekiuser',
'sysadmin'
GO
```

Figure 1 - SQL Create table script

## Step 2 - Make Microsoft SQL Express ready to accept your username and password

Unless you have mixed mode authentication configured in SQL express, you will not be able to connect to your database from Ozeki NG because Ozeki NG runs as a system service in the background. To enable mixed - mode authentication, you should open the registry editor (Start->run->regedit.exe) and in the Registry you should change the LoginMode value from 1 to "2", here:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft
SQL Server\MSSQL.1\MSSQLServer

LoginMode =2
```

After this change you might have to restart the SQL Express to make sure the changes take effect.

## Step 3 - Connect your SMS Gateway to use your SQL Express database

The steps for connecting Ozeki NG to MS SQL EXpress are similar to connecting it to MS SQL. Please take a look at this page: [Sending SMS Messages from MSSQL](#) for more information on how you can connect Ozeki NG to your database server.

The only difference is that you have to use the following connection string to connect to the database:

```
Provider=SQLNCLI;Server=.\SQLEXPRESS;User
```

```
ID=ozekiuser;password=ozekipass;Database=ozeki;Persist Security Info=True
```

#### Step 4 - Send your first SMS message

To send your first SMS message you should insert a record into the ozekimessagout database table. You can use the following SQL command to achieve this:

```
insert into
ozekimessageout
(receiver,msg,status)
values
("+441111223465", "Hello
world", "Send");
GO
```

Hint: You can download SQLExpress free of charge from the following URL:

<http://msdn2.microsoft.com/en-us/express/aa718378.aspx>

A FAQ question related to SQL Express - SMS gateway:

**I cannot connect to the database server. I have received this error message, what should I do?**

**Connecting to database (Provider=SQLOLEDB.1;Persist Security Info=False;User ID=myuser;Initial Catalog=mydb;Data Source=mydsn) :  
2007-07-25 11:38:25 356:Database plugin 1 : Connection error: Login failed for user 'myuser'. (Provider=SQLOLEDB.1;Persist Security Info=False;User ID=myuser;Initial Catalog=mydb;Data Source=mdsn) :**

This means, that the software cannot connect to your database server. Based on the connection string I assume you use Microsoft SQL server. In this case, please use the following connection string:

```
Provider=SQLNCLI;Server=YourServer;Database=YourDatabase;UID=YourUsername;PWD=YourPassword;
```

There is a good chance, that the software will be able to connect to your database server as soon as you use this connection string. You might notice, that there is no DSN in this connection string. This is because, you need to connect with username/password authentication.

If the connection is not established after switching to this connection string, probably the



username and password authentication is not enabled in your registry for MSSQL. To enable it, you should set the following setting in your registry:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft SQL  
Server\MSSQL.1\MSSQLServer
```

```
LoginMode =2
```

To create a username and a password in Microsoft SQL Server, issue the following command:

```
sp_addLogin 'ozekiuser', 'ozekipass'  
GO
```

```
sp_addsrvrolemember 'ozekiuser', 'sysadmin'  
GO
```

This will solve the problem.

## MySql

**In this chapter you can learn how to send and receive SMS messages using a MySQL database with the Ozeki NG - SMS Gateway software. You will be provided with the connection string for the MySQL database, instructions on the ODBC driver installation, with a link to a MyODBC database driver download page, and the create table script.**

Ozeki NG - SMS Gateway allows you to send and receive SMS messages using a database server with the help of SQL queries. The software supports, among others, the MySQL database.

For SMS messaging with a MySQL database you need to install and appropriately configure a database user in the Ozeki NG - SMS Gateway program. Also, you need a MySQL database server, in which you have to create an **ozekimessageout** and an **ozekimessagein** table for outgoing and incoming messages.

You can install and configure a MySQL user on the graphical user interface of the software. The installation and configuration of a MySQL user is similar to that of any other database user.

To find out how to install and configure a database user, check out the [Database User](#) page.

As the MySQL database requires Open DataBase Connectivity (ODBC), select **Odbc** in the **Connection string type** dropdown menu.

The default database connection string in the **Connection string** template is the connection string for MySQL (Figure 1):

```
Driver={MySQL ODBC 3.51 Driver};Server=localhost;Database=  
ozekisms;User=root;Password=abc123;Option=4;
```

If you wish to use unicode (international) characters, you should use **MySQL ODBC Driver v5!** Version v3.51 does not support unicode characters for .NET

For MySQL ODBC Driver v5, the connection string is:

```
DRIVER={MySQL Connector/ODBC  
v5};Server=localhost;Database=ozeki;UID=root;PWD=abc123
```

Modify the variables in the connection string according to your needs.

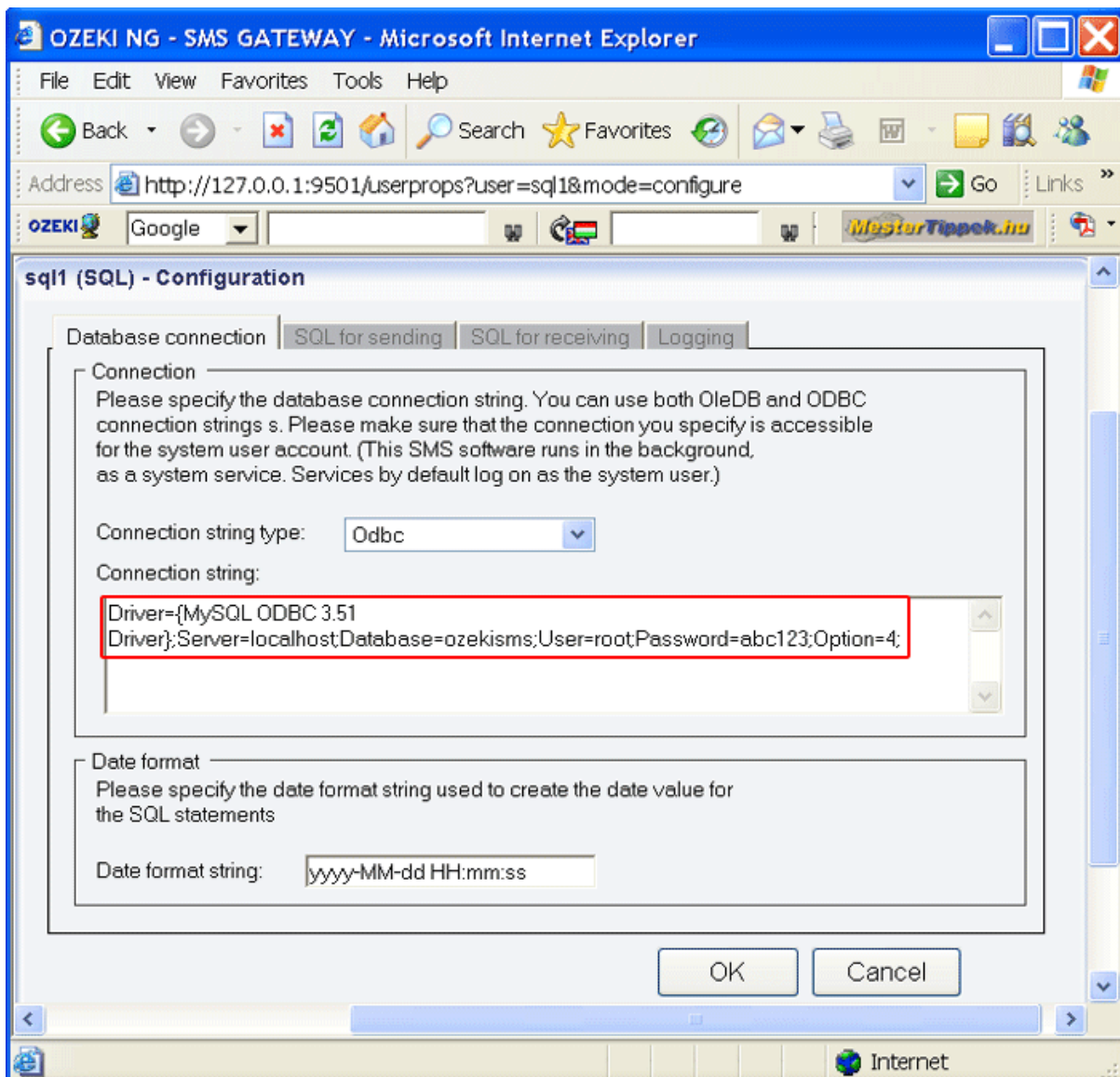


Figure 1 - Specifying the connection string for the MySQL database

## ODBC Driver Installation and Configuration

As mentioned above, for using a MySQL database you need Open DataBase Connectivity between your database server and Ozeki NG - SMS Gateway.

For this connectivity, you need to set up an ODBC driver. The MySQL ODBC driver is called MyODBC.

### **MyODBC installation**

Download the MyODBC v5 database driver from the Internet. You can use the following link:  
<http://dev.mysql.com/downloads/connector/odbc/5.0.html>

For the old MyODBC v3.51 you can use the following link:  
<http://dev.mysql.com/downloads/connector/odbc/3.51.html>

Install the downloaded MyODBC database driver by launching the downloaded exe file. The installation is similar to that of any Windows application. To move from one dialog box to the next, just click the **Next** and the **OK** buttons during the setup.

To find out more about how to install and configure a MyODBC driver, check out the [MyODBC Driver Installation and Configuration](#) page.

You can create the ozeki message tables in MySQL using the following script.

### **MySQL create table script:**

```
CREATE TABLE
ozekimessagein (
id int(11) NOT NULL
auto_increment,
sender varchar(30) default
NULL,
receiver varchar(30) default
NULL,
msg varchar(160) default NULL,
senttime varchar(100) default
NULL,
receivedtime varchar(100)
default NULL,
operator varchar(100) default
NULL,
msgtype varchar(160) default
NULL,
reference varchar(100) default
NULL,
PRIMARY KEY (id)
);
ALTER TABLE ozekimessagein
ADD INDEX (id) ;

CREATE TABLE
ozekimessageout (
```

```
id int(11) NOT NULL
auto_increment,
sender varchar(30) default
NULL,
receiver varchar(30) default
NULL,
msg varchar(160) default NULL,
senttime varchar(100) default
NULL,
receivedtime varchar(100)
default NULL,
reference varchar(100) default
NULL,
status varchar(20) default
NULL,
msgtype varchar(160) default
NULL,
operator varchar(100) default
NULL,
errormsg varchar(250) default
NULL,
PRIMARY KEY (id)
);
ALTER TABLE
ozekimessageout ADD INDEX
(id);
```

It is strongly recommended to maintain an index in the database for the 'id' field of the outgoing SMS table to support SQL updates.

## Oracle

**In this chapter you can learn how to send and receive SMS messages using an Oracle database with the Ozeki NG - SMS Gateway software. You will be provided with the connection string and the create table script.**

Ozeki NG - SMS Gateway allows you to send and receive SMS messages using a database server with the help of SQL queries. The software supports, among others, the Oracle database.

For SMS messaging with an Oracle database you need to install and appropriately configure a database user in the Ozeki NG - SMS Gateway program. Also, you need an Oracle database server, in which you have to create an **ozekimessageout** and an **ozekimessagein** table for outgoing and incoming messages.

You can install and configure an Oracle user with the help of the graphical user interface of the software. The installation and configuration of an Oracle user is similar to that of any other database user.

To find out how to install and configure a database user, check out the [Database User](#) page.

As the Oracle database does not require Open DataBase Connectivity (ODBC), select **OleDb** in the **Connection string type** dropdown menu.

Replace the default database connection string with the one for the Oracle database in the **Connection string** template (Figure 1):

**Provider=MSDAORA.1;Password=YourPassword;User ID=YourUserID;Persist Security Info=True**

Modify the variables in the connection string according to your needs.

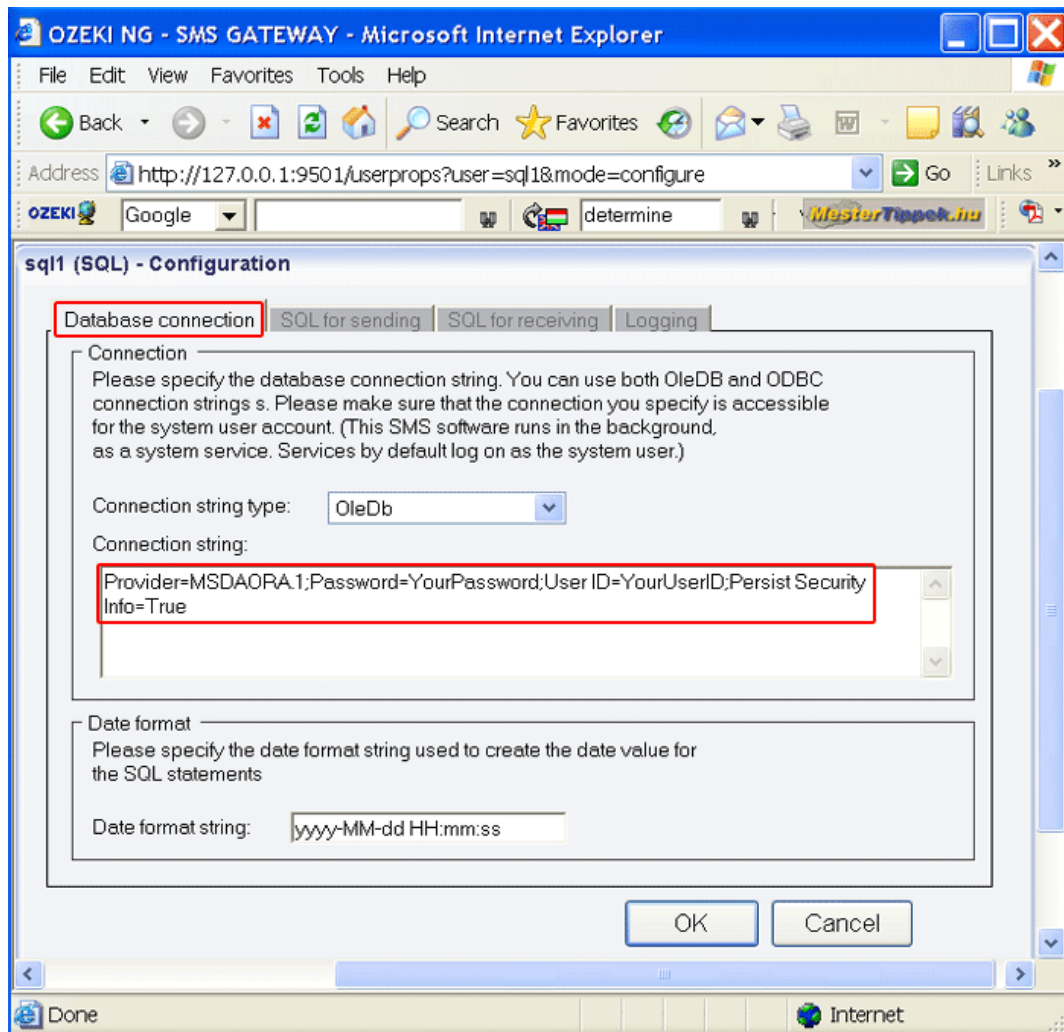


Figure 1 - Specifying the connection string for the Oracle database



You can create the ozekimessageout and ozekimessagein tables in Oracle using the following script.

**Oracle create table script:**

```
CREATE TABLE ozekimessagein (  
  id int,  
  sender varchar(30) default NULL,  
  receiver varchar(30) default NULL,  
  msg varchar(160) default NULL,  
  senttime varchar(100) default NULL,  
  receivedtime varchar(100) default NULL,  
  operator varchar(120) default NULL,  
  msgtype varchar(160) default NULL,  
  reference varchar(100) default NULL  
);  
  
CREATE index index_id1 ON ozekimessagein(id);  
  
CREATE SEQUENCE X;  
  
CREATE TRIGGER ozekimessagein_auto BEFORE INSERT  
on ozekimessagein  
for each row  
when (new.id is null)  
begin  
  SELECT x.nextval INTO :new.id FROM DUAL;  
end;  
/  
  
CREATE TABLE ozekimessageout (  
  id int,  
  sender varchar(30) default NULL,  
  receiver varchar(30) default NULL,  
  msg varchar(160) default NULL,  
  senttime varchar(100) default NULL,  
  receivedtime varchar(100) default NULL,  
  operator varchar(120) default NULL,  
  msgtype varchar(160) default NULL,  
  reference varchar(100) default NULL,  
  status varchar(20) default NULL,  
  errormsg varchar(250) default NULL  
);  
  
CREATE index index_id2 ON ozekimessageout(id);
```

```
CREATE SEQUENCE Y;  
  
CREATE TRIGGER ozekimessageout_auto BEFORE INSERT  
on ozekimessageout  
for each row  
when (new.id is null)  
begin  
    SELECT y.nextval INTO :new.id FROM DUAL;  
end;  
/
```

It is strongly recommended to maintain an index in the database for the 'id' field of the outgoing SMS table to support SQL updates.

## Sybase / SQL Anywhere

**In this chapter you can learn how to send and receive SMS messages using a Sybase SQL Anywhere database with the Ozeki NG - SMS Gateway software. You will be provided with the connection string and the create table script.**

Ozeki NG - SMS Gateway allows you to send and receive SMS messages using a database server with the help of SQL queries. The software supports, among others, the Sybase SQL Anywhere database.

For SMS messaging with a Sybase SQL Anywhere database you need to install and appropriately configure a database user in the Ozeki NG - SMS Gateway program. Also, you need a Sybase SQL Anywhere database server, in which you have to create an **ozekimessageout** and an **ozekimessagein** table for outgoing and incoming messages.

You can install and configure a Sybase SQL Anywhere user on the graphical user interface of the software. The installation and configuration of a Sybase SQL Anywhere user is similar to that of any other database user.

To find out how to install and configure a database user, check out the [Database User](#) section.

As the Sybase SQL Anywhere database does not require Open DataBase Connectivity (ODBC), select **OleDb** in the **Connection string type** dropdown menu.

Replace the default database connection string with the one for the Sybase SQL Anywhere database in the **Connection string** template (Figure 1):

```
Provider=ASAProv.90;UID=MyUsername;PWD=MyPassword;DatabaseFile=  
DatabaseFileLocationOnYourComputer.db;EngineName=Yourdbenginename;Start=  
YourDatabaseBinaryLocation.exe -c 32M;AutoStop=Yes
```

Modify the variables in the connection string according to your needs.

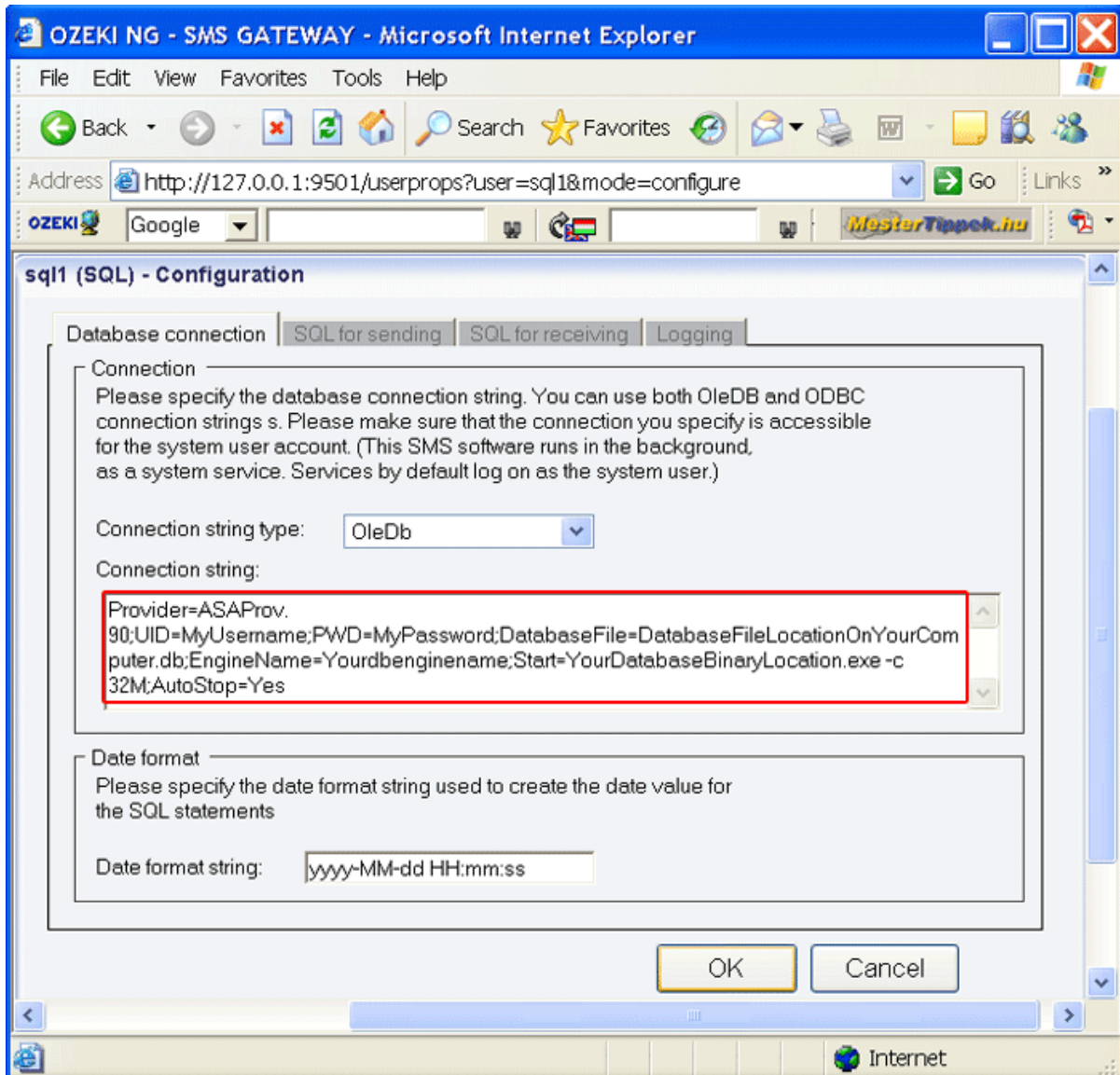


Figure 1 - Specifying the connection string for the Oracle database

You can create the ozekimessageout and ozekimessagein tables in Sybase SQL Anywhere using the following script.

**Sybase SQL Anywhere create table script:**

```
CREATE TABLE "ozekimessagein"
(
  "id"      integer NOT NULL DEFAULT
autoincrement ,
  "sender"   varchar(160) NULL ,
  "receiver"  varchar(160) NULL ,
  "msg"     varchar(160) NULL ,
  "senttime"  varchar(100) NULL ,
  "receivedtime"  varchar(100) NULL ,
  "operator"  varchar(100) NULL ,
```

```
"msgtype"    varchar(160) NULL ,
"reference"   varchar(100) NULL ,
PRIMARY KEY ("id"),

)
go
commit work
go

CREATE TABLE "ozekimessageout"
(
  "id"        integer NOT NULL DEFAULT
autoincrement ,
  "sender"    varchar(160) NULL ,
  "receiver"  varchar(160) NULL ,
  "msg"       varchar(160) NULL ,
  "senttime"  varchar(100) NULL ,
  "receivedtime" varchar(100) NULL ,
  "operator"  varchar(100) NULL ,
  "status"    varchar(20) NULL ,
  "msgtype"   varchar(160) NULL ,
  "reference" varchar(100) NULL ,
  "errormsg"  varchar(250) NULL ,
  PRIMARY KEY ("id"),

)
go
commit work
go

CREATE INDEX "ozekimessageinindex" ON
"ozekimessagein"
(
  "id" ASC
)
go
commit work
go

CREATE INDEX "ozekimessageoutindex" ON
"ozekimessageout"
(
  "id" ASC
)
go
commit work
go
```

It is strongly recommended to maintain an index in the database for the 'id' field of the outgoing SMS table to support SQL updates.

## PostgreSQL

**In this chapter you can learn how to send and receive messages using a PostgreSQL database with the Ozeki NG - SMS Gateway software. You will be provided with the connection string for the PostgreSQL database, instructions on the ODBC driver installation, with a link to a PostgreSQL database driver download page, and the create table script.**

Ozeki NG - SMS Gateway allows you to send and receive SMS messages using a database server with the help of SQL queries. The software supports, among others, the PostgreSQL database.

For SMS messaging with a PostgreSQL database you need to install and appropriately configure a database user in the Ozeki NG - SMS Gateway program. Also, you need a PostgreSQL database server, in which you have to create an **ozekimessageout** and an **ozekimessagein** table for outgoing and incoming messages.

You can install and configure a PostgreSQL user on the graphical user interface of the software. The installation and configuration of a PostgreSQL user is similar to that of any other database user.

To find out how to install and configure a database user, check out the [Database User](#) page.

As the PostgreSQL database requires Open DataBase Connectivity (ODBC), select **Odbc** in the **Connection string type** dropdown menu (Figure 1).

Replace the default database connection string with the one for the PostgreSQL database in the **Connection string** template (Figure 1):

```
DRIVER={PostgreSQL};SERVER=YourServerIP;port=5432;DATABASE=YourDatabaseName;UID=YourUsername;PWD=YourPassword
```

Modify the variables in the connection string according to your needs.



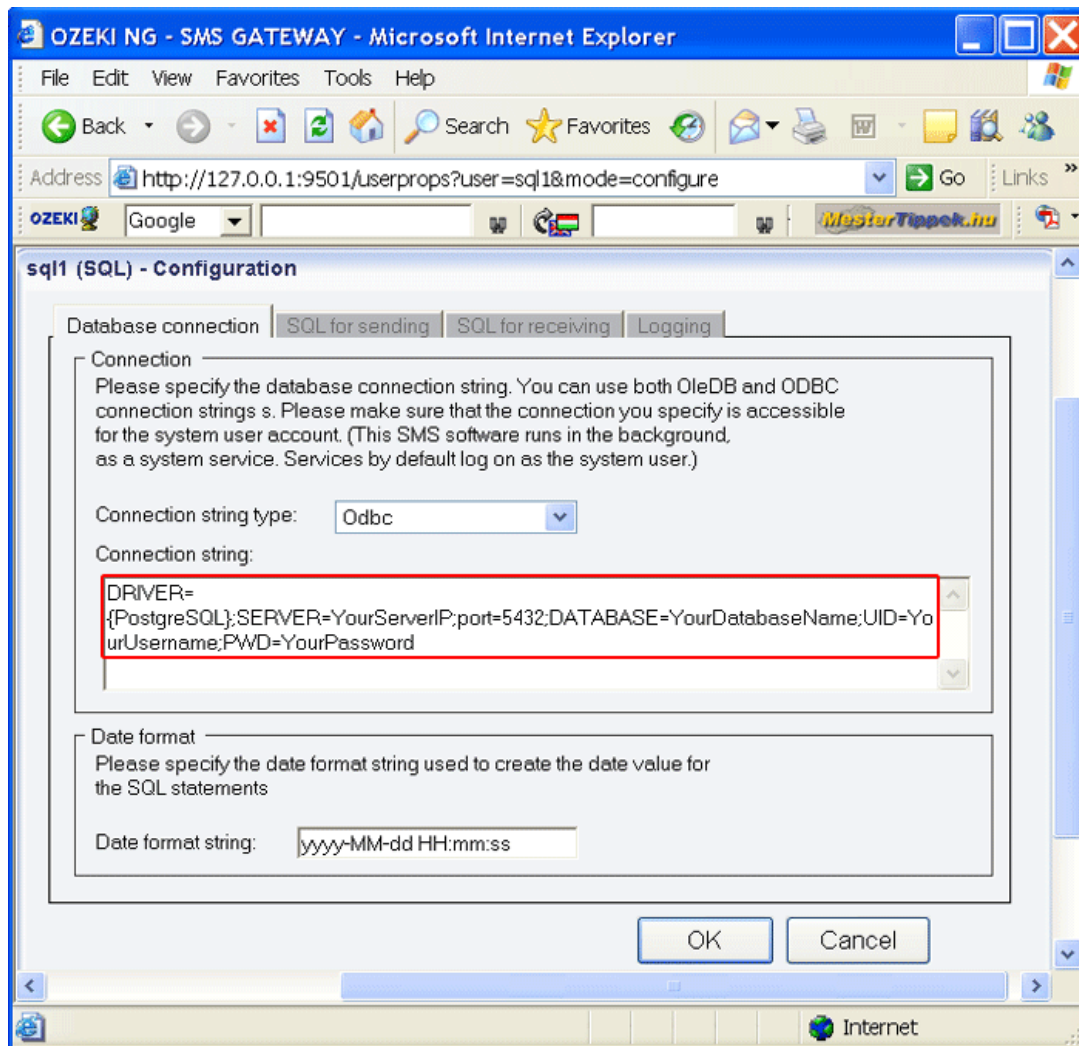


Figure 1 - Specifying the connection string for the MySQL database

## ODBC Driver Installation

As mentioned above, for using a PostgreSQL database you need Open DataBase Connectivity between your database server and Ozeki NG - SMS Gateway.

For this connectivity, you need to set up an ODBC driver. The PostgreSQL driver is called psqlODBC.

### Installation of the psqlODBC driver

Download the psqlODBC database driver from the Internet. You can use the following link:

<http://pgfoundry.org/projects/psqlodbc/>

Install the downloaded psqlODBC database driver by launching the downloaded exe file. The installation is similar to that of any Windows application. To move from one dialog box to the next, just click the **Next** and the **OK** button during the setup.

You can create the ozeki message tables in Postgre SQL using the following script.

**Postgre SQL create table script:**

```
CREATE TABLE
ozekimessagein
(
id serial,
sender varchar(30),
receiver varchar(30),
msg varchar(160),
senttime
varchar(100),
receivedtime
varchar(100),
operator varchar(100),
msgtype
varchar(160),
reference
varchar(100)
);
```

```
CREATE TABLE
ozekimessageout
(
id serial,
sender varchar(30),
receiver varchar(30),
msg varchar(160),
senttime
varchar(100),
receivedtime
varchar(100),
reference
varchar(100),
status varchar(20),
operator varchar(100),
errormsg
varchar(250),
msgtype varchar(160)
);
```

It is strongly recommended to maintain an index in the database for the 'id' field of the outgoing SMS table to support SQL updates. Postgre SQL creates index fields by default.

**Date Format Strings to be used in SQL SMS configurations**

**This page provides you with date format strings you can use if you want to change the default date format string in the configuration of the Database user of the Ozeki NG - SMS Gateway software.**

When configuring the Database user of Ozeki NG - SMS Gateway, you can specify the date format string used to create the date value for the SQL statements. (See Figure 5 and the instructions below it on the [Database User](#) page.)

If you would like to change the default date format string (dd/mm/yyyy hh:mm:ss) in the **Database connection** tab of the Database user, you can use any of the date format strings below.

You can use a hyphen (-), a period (.), a slash (/) or a space ( ) character to separate format specifiers.

<b>The following formatting characters can be used for date and time formatting:</b>	
d	Represents the day of the month as a number from 1 through 31. A single-digit day is formatted without a leading zero.
dd	Represents the day of the month as a number from 01 through 31. A single-digit day is formatted with a leading zero.
ddd	Represents the abbreviated name of the day of the week: "Sun", "Mon", "Tue", "Wed", "Thu", "Fri", and "Sat".
dddd (plus any number of additional "d" specifiers)	Represents the full name of the day of the week: "Sunday", "Monday", "Tuesday", "Wednesday", "Thursday", "Friday", and "Saturday".
f	Represents the most significant digit of the seconds fraction.
ff	Represents the two most significant digits of the seconds fraction.
fff	Represents the three most significant digits of the seconds fraction.
ffff	Represents the four most significant digits of the seconds fraction.
fffff	Represents the five most significant digits of the seconds fraction.
ffffff	Represents the six most significant digits of the seconds fraction.
fffffff	Represents the seven most significant digits of the seconds fraction.
F	Represents the most significant digit of the seconds fraction. Nothing is displayed if the digit is zero.
FF	Represents the two most significant digits of the seconds fraction. However, trailing zeros, or two zero digits, are not displayed.
FFF	Represents the three most significant digits of the seconds fraction.

	However, trailing zeros, or three zero digits, are not displayed.
FFFF	Represents the four most significant digits of the seconds fraction. However, trailing zeros, or four zero digits, are not displayed.
FFFFF	Represents the five most significant digits of the seconds fraction. However, trailing zeros, or five zero digits, are not displayed.
FFFFFF	Represents the six most significant digits of the seconds fraction. However, trailing zeros, or six zero digits, are not displayed.
FFFFFFF	Represents the seven most significant digits of the seconds fraction. However, trailing zeros, or seven zero digits, are not displayed.
g or gg (plus any number of additional "g" specifiers)	Represents the period or era (A.D. for example). This specifier is ignored if the date to be formatted does not have an associated period or era string.
h	Represents the hour as a number from 1 through 12, that is, the hour as represented by a 12-hour clock that counts the whole hours since midnight or noon. Consequently, a particular hour after midnight is indistinguishable from the same hour after noon. The hour is not rounded, and a single-digit hour is formatted without a leading zero. For example, given a time of 5:43, this format specifier displays "5".
hh, hh (plus any number of additional "h" specifiers)	Represents the hour as a number from 01 through 12, that is, the hour as represented by a 12-hour clock that counts the whole hours since midnight or noon. Consequently, a particular hour after midnight is indistinguishable from the same hour after noon. The hour is not rounded, and a single-digit hour is formatted with a leading zero. For example, given a time of 5:43, this format specifier displays "05".
H	Represents the hour as a number from 0 through 23, that is, the hour as represented by a zero-based 24-hour clock that counts the hours since midnight. A single-digit hour is formatted without a leading zero.
HH, HH (plus any number of additional "H" specifiers)	Represents the hour as a number from 00 through 23, that is, the hour as represented by a zero-based 24-hour clock that counts the hours since midnight. A single-digit hour is formatted with a leading zero.
m	Represents the minute as a number from 0 through 59. The minute represents whole minutes passed since the last hour. A single-digit minute is formatted without a leading zero.
mm, mm (plus any number of additional	Represents the minute as a number from 00 through 59. The minute represents whole minutes passed since the last hour. A single-digit minute is formatted with a leading zero.

"m" specifiers)	
M	Represents the month as a number from 1 through 12. A single-digit month is formatted without a leading zero.
MM	Represents the month as a number from 01 through 12. A single-digit month is formatted with a leading zero.
MMM	Represents the abbreviated name of the month: "Jan", "Feb", "Mar", "Apr", "May", "Jun", "Jul", "Aug", "Sep", "Oct", "Nov" and "Dec".
MMMM	Represents the full name of the month: "January", "February", "March", "April", "May", "June", "July", "August", "September", "October", "November" and "December".
s	Represents the seconds as a number from 0 through 59. The second represents whole seconds passed since the last minute. A single-digit second is formatted without a leading zero.
ss, ss (plus any number of additional "s" specifiers)	Represents the seconds as a number from 00 through 59. The second represents whole seconds passed since the last minute. A single-digit second is formatted with a leading zero.
t	Represents the first character of the A.M./P.M. designator. The A.M. designator is used if the hour in the time being formatted is less than 12; otherwise, the P.M. designator is used.
tt, tt (plus any number of additional "t" specifiers)	Represents the A.M./P.M. designator. The A.M. designator is used if the hour in the time being formatted is less than 12; otherwise, the P.M. designator is used.
y	Represents the year as at most a two-digit number. If the year has more than two digits, only the two low-order digits appear in the result. If the year has fewer than two digits, the number is formatted without a leading zero.
yy	Represents the year as a two-digit number. If the year has more than two digits, only the two low-order digits appear in the result. If the year has fewer than two digits, the number is padded with leading zeroes to achieve two digits.
yyy	Represents the year as a three-digit number. If the year has more than three digits, only the three low-order digits appear in the result. If the year has fewer than three digits, the number is padded with leading zeroes to achieve three digits.  Note that for the Thai Buddhist calendar, which can have five-digit



	years, this format specifier displays all five digits.
yyyy	<p>Represents the year as a four-digit number. If the year has more than four digits, only the four low-order digits appear in the result. If the year has fewer than four digits, the number is padded with leading zeroes to achieve four digits.</p> <p>Note that for the Thai Buddhist calendar, which can have five-digit years, this format specifier renders all five digits.</p>
yyyyy (plus any number of additional "y" specifiers)	<p>Represents the year as a five-digit number. If the year has more than five digits, only the five low-order digits appear in the result. If the year has fewer than five digits, the number is padded with leading zeroes to achieve five digits.</p> <p>If there are additional "y" specifiers, the number is padded with as many leading zeroes as necessary to achieve the number of "y" specifiers.</p>
z	<p>Represents the signed time zone offset of your system from Greenwich Mean Time (GMT) measured in hours. For example, the offset for a computer in the Pacific Standard Time zone is "-8".</p> <p>The offset is always displayed with a leading sign. A plus sign (+) indicates hours ahead of GMT and a minus sign (-) indicates hours behind GMT. The offset ranges from -12 through +13. A single-digit offset is formatted without a leading zero. The offset is affected by daylight savings time.</p>
zz	<p>Represents the signed time zone offset of your system from Greenwich Mean Time (GMT) measured in hours. For example, the offset for a computer in the Pacific Standard Time zone is "-08".</p> <p>The offset is always displayed with a leading sign. A plus sign (+) indicates hours ahead of GMT and a minus sign (-) indicates hours behind GMT. The offset ranges from -12 through +13. A single-digit offset is formatted with a leading zero. The offset is affected by daylight savings time.</p>
zzz, zzz (plus any number of additional "z" specifiers)	<p>Represents the signed time zone offset of your system from Greenwich Mean Time (GMT) measured in hours and minutes. For example, the offset for a computer in the Pacific Standard Time zone is "-08:00".</p> <p>The offset is always displayed with a leading sign. A plus sign (+) indicates hours ahead of GMT and a minus sign (-) indicates hours behind GMT. The offset ranges from -12 through +13. A single-digit offset is formatted with a leading zero. The offset is affected by daylight savings time.</p>
:	The time separator.
/	The date separator.
"	Quoted string (quotation mark). Displays the literal value of any string

	between two quotation marks (").
'	Quoted string (apostrophe). Displays the literal value of any string between two apostrophe (') characters.
\c	The escape character. Displays the character "c" as a literal when that character is preceded by the escape character (\).
Any other character	Any other character is copied to the result string, and does not affect formatting.

Related page:

- [Database User](#)

## How to schedule SMS messages for sending

**If you use the SQL-SMS gateway configuration of Ozeki NG SMS Gateway, you can schedule your SMS message sendings in a very simple way. Scheduling means that you set a specific date and time for a message to determine when should it be sent.**

### Setup scheduled SMS sending (table layout)

To configure this option, first you need to modify your ozekimessageout table definition to include an extra column for the scheduled delivery time. You can call this column "scheduledtime". To modify the table definition issue the following SQL command in an SQL console:

```
alter table ozekimessageout add column scheduledtime
```

### Setup scheduled SMS sending (configure Ozeki NG)

After the table layout has been modified, you need to open the database user configuration of Ozeki NG. The configuration modification is simple: you need to modify the SQL query used for selecting messages to be sent (Figure 1). This can be done by clicking on the "SQL for Sending" tab of the SQL user configuration form and changing the "Polling" query to this:

```
SELECT
  id, sender, receiver, msg, msgtype, operator
FROM
  ozekimessageout
WHERE
  status='send' and scheduledtime>now()
```

Notice the added where condition that will only select messages that can be sent from the database.

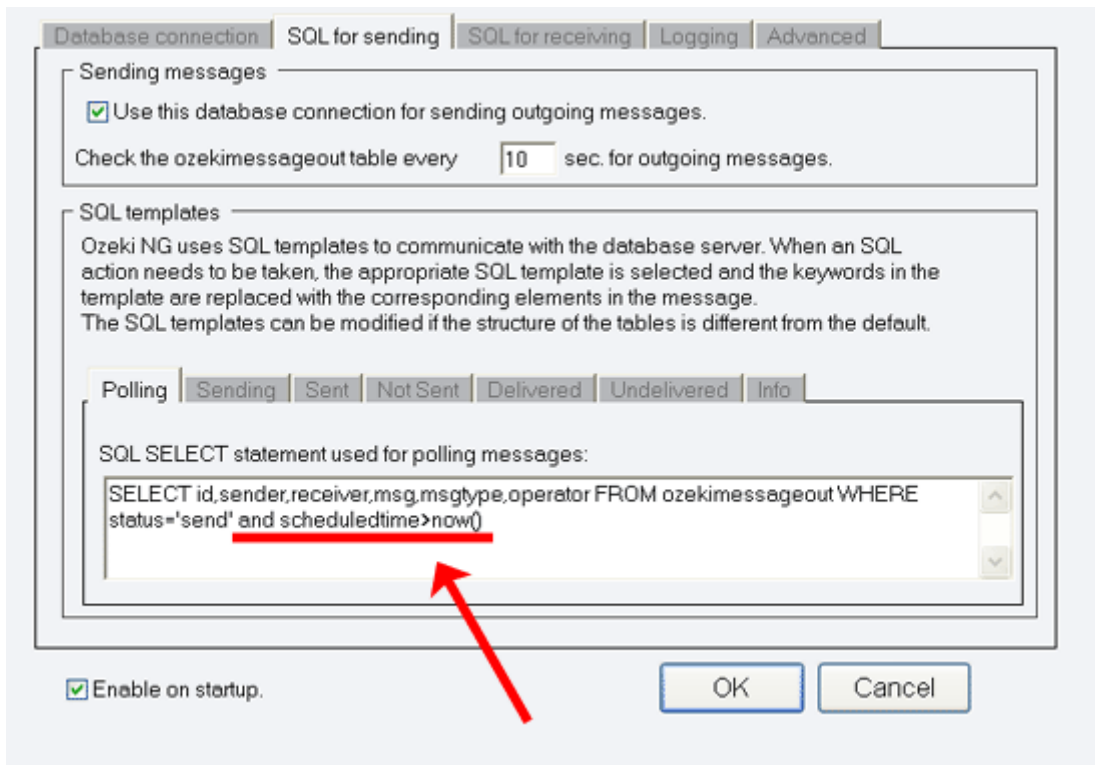


Figure 1 - How to configure scheduled SMS sending

After this is configured, to send a scheduled SMS message all you have to do is specify the datetime value in the ozekimessageout table.

## SMPP User

**This page explains how to install and configure an SMPP user for SMS messaging using the graphical user interface of the Ozeki NG - SMS Gateway software.**

Ozeki NG - SMS Gateway allows, among others (see the [Users and Applications](#) page), the installation and configuration of an SMPP user.

The software enables all users to connect to the gateway through the Listener port and to exercise their user functions. The creation of an SMPP user account means enabling connection to the Gateway using the SMPP protocol. Anyone who knows the username and the password of a given SMPP user account can connect to the Ozeki NG - SMS Gateway if their IP address is authorized for connection. Once the Gateway has authenticated the user, they are enabled to send and receive messages. Consequently, the creation of an SMPP user allows the Ozeki NG - SMS Gateway to be fully authorized to act as an SMS Center.

You can use the [graphical user interface](#) of Ozeki NG - SMS Gateway to install and configure any user or application.

To start installing and configuring an SMPP user, click the **Add** button in the top right-hand corner of the **Users and Applications** panel on the right of the **Management Console**. You can also add a user by clicking the **Add user** item in the **Users and applications** menu. (Figure 1).

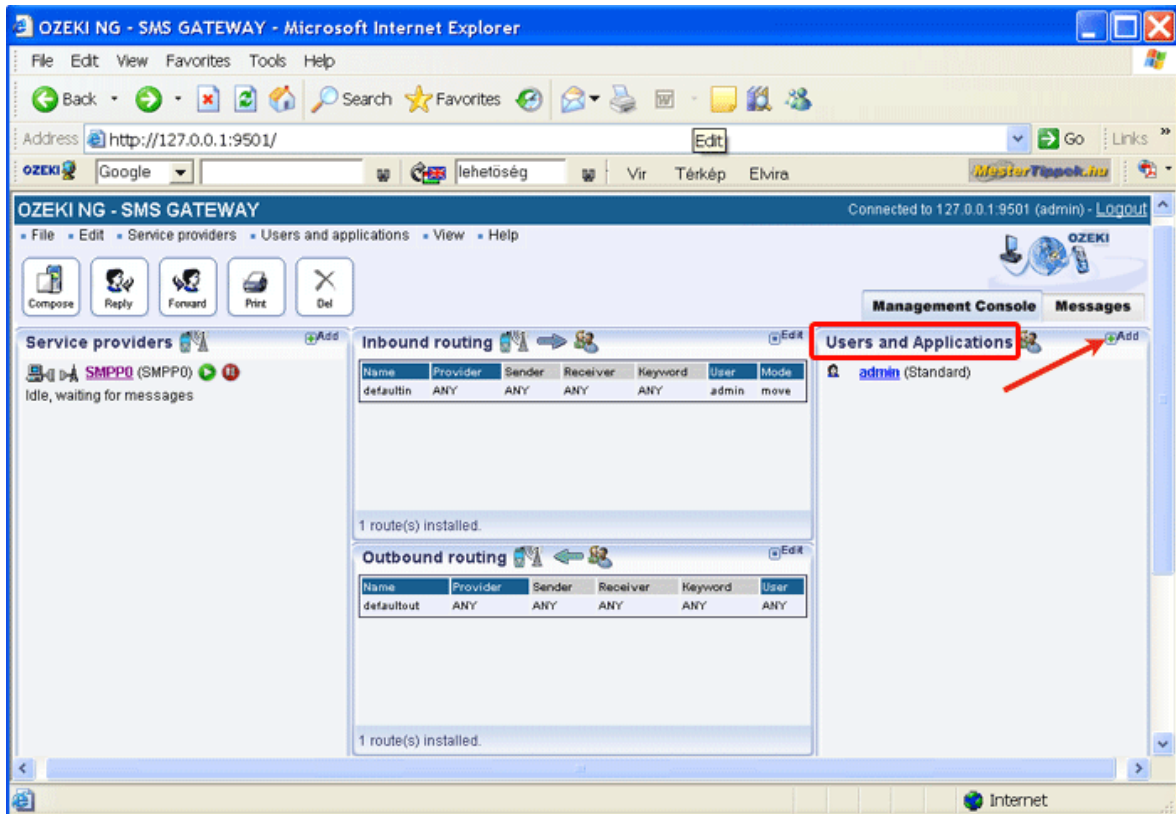


Figure 1 - Adding a user

This will bring up an interface consisting of two panels.

The panel on the left contains a list of users that have been installed. In the bar at the bottom of the page you can read how many users have been installed.

The panel on the right contains a list of users that can be installed.

Each user in the left-hand panel is listed with a unique name (and the user type stated in brackets).

Each user in the right-hand panel is listed with the name of its type and a brief description of what it can be used for.

An SMPP user allows you to connect SMPP clients to Ozeki NG - SMS Gateway to send and receive SMS messages. Clients can use the SMPP protocol. For connection the clients should use the following settings:

Host:	The ip address of the computer where Ozeki NG is installed.
Port:	9500
Username:	specified when you create an SMPP user
Password:	specified when you create an SMPP user
System type:	Ozeki
Bind mode:	Transceiver
Protocol version:	v3.4

To add an SMPP user, click the **Install** link in the respective entry in the list (Figure 2).

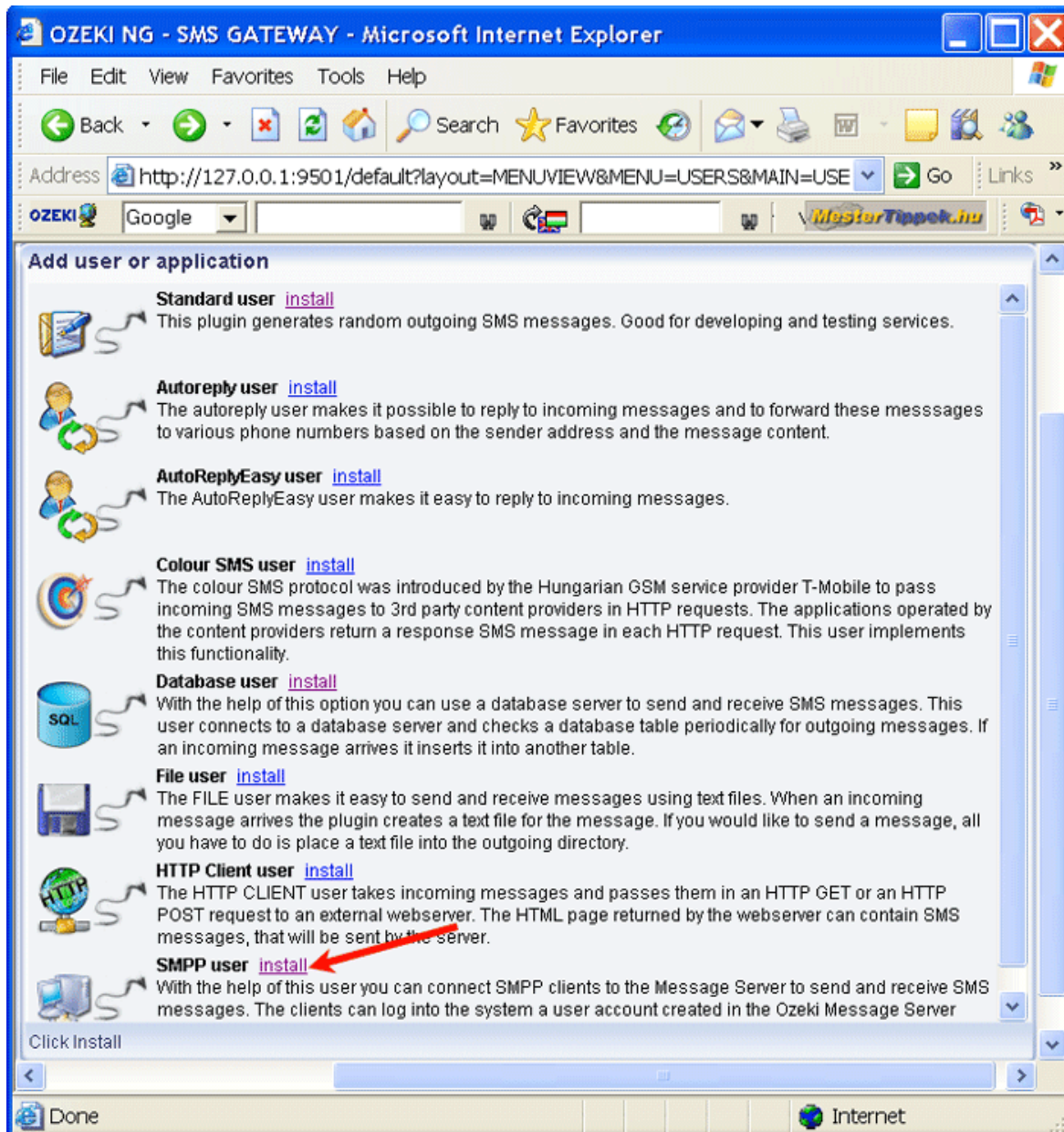


Figure 2 - Installing an SMPP user

When installing a user (type), you need to give it a unique username. Clicking the **Install** link will bring up the **SMPP user installation** panel. Here, you need to enter a unique username in the **Username** field.

This will take you to the **Authentication** tab of the **Configuration** panel.

The **Username** field contains the unique username you have provided in the previous panel. The **Password** field contains a password offered by the program. You can and should change it. Your password should be a combination of letters and digits (at least one or two of the latter). From now on, the username and password you have provided can be used to log in to the program (Figure 3).



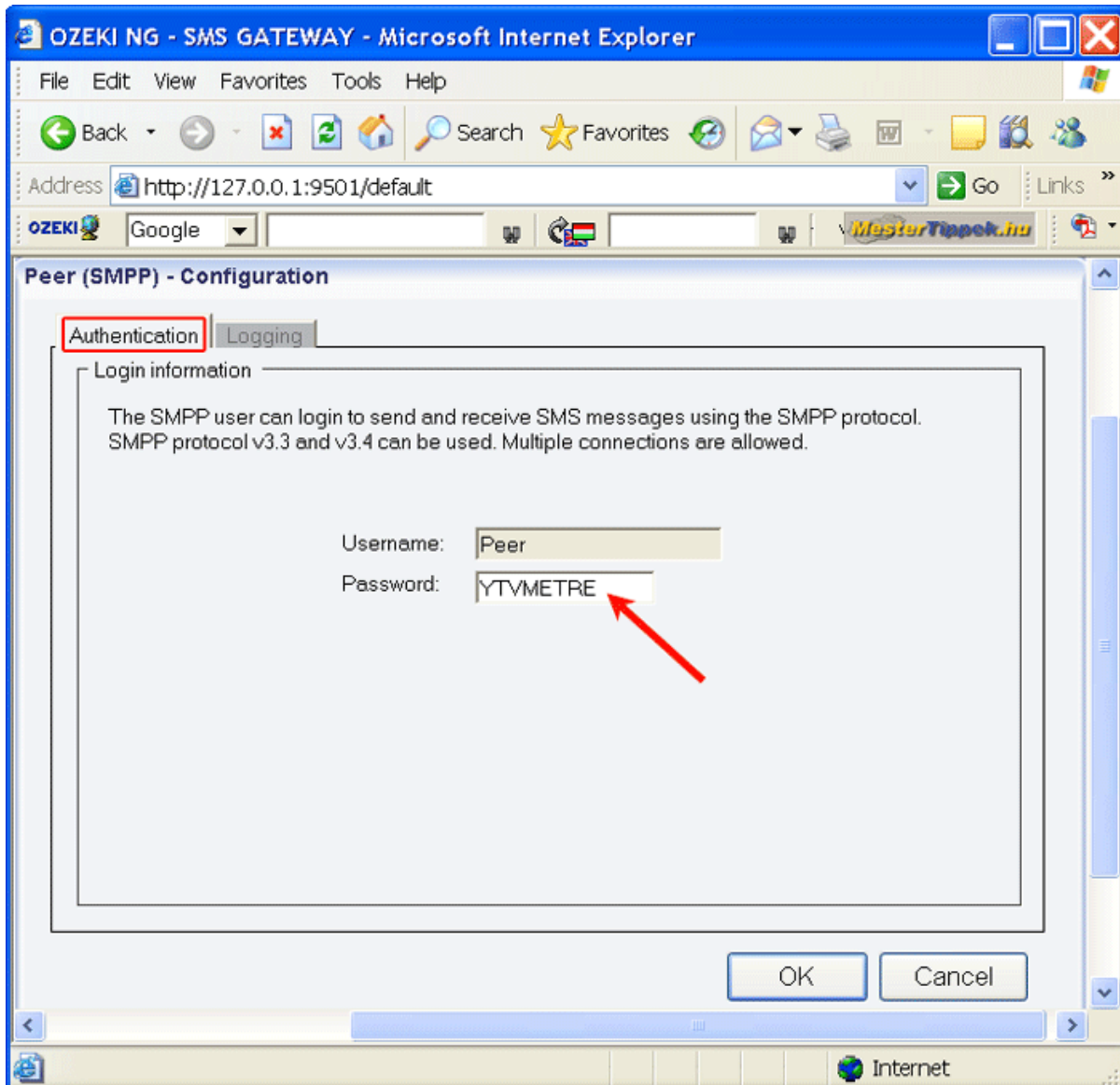


Figure 3 - User authentication

To configure logging related to the SMPP user, click the **Logging** tab in the **Configuration** panel.

The tab has a **Logging** and a **Log file settings** section. Here, you can choose whether to make the program write log entries about sent and received messages in human readable format and/or log low level communication (SMPP Protocol).

You should check at least the **Log sent and received messages in human readable format** checkbox, as logfiles can be useful in debugging communication problems (Figure 4).

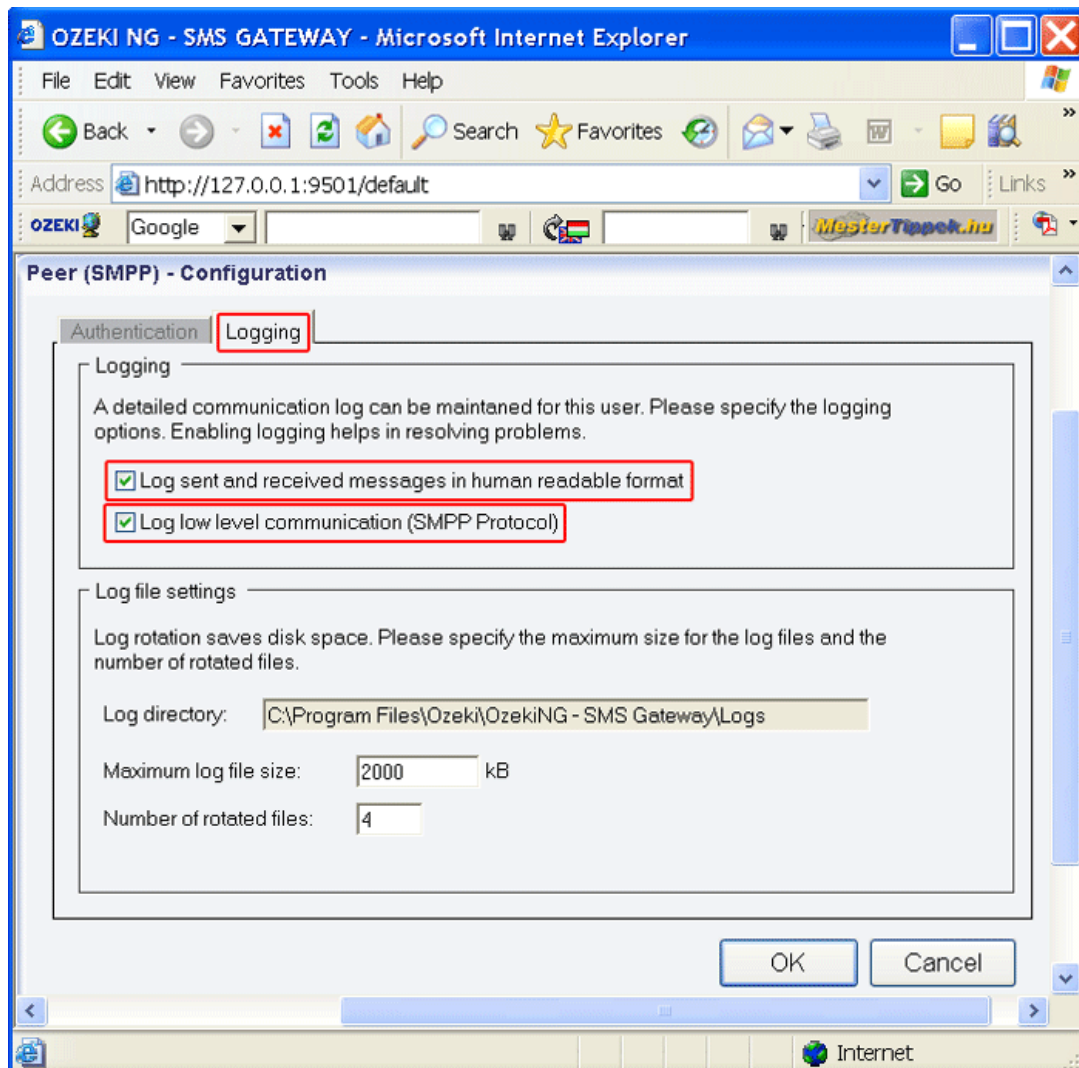


Figure 4 - Logging options

In the **Log file settings** section of the tab, you can make specifications for the size and the number of available logfiles.

Log rotation saves disk space, as it ensures that older (and probably no longer needed) logfiles will be automatically deleted from the log directory, which is specified in the **Log directory** text box. By default, the access path to the logfiles is: C:\Program Files\Ozeki\OzekiNG - SMS Gateway\Logs

In the **Maximum log file size** text box in the **Logfile settings** section, you can specify the maximum size of a logfile. Once this size is reached, a new logfile will be created. Specify the number of kilobytes for the size of a logfile by entering a positive whole number. By default, the maximum logfile size is 2000 kB.

In the **Number of rotated files** text box, specify the maximum number of rotated logfiles that are saved. Specify this number by entering a positive whole number. By default, the number of logfiles that are saved is 4 (see Figure 4 above).

If you are content with the default specifications, leave the text boxes unchanged.

To modify the configuration or to view server events related to an SMPP user, open the panel of the user's account. To do this, click the name of the user in the **Users and Applications** panel of the **Management Console**. In the panel of the user's account, click the link of the task you wish to perform (Figure 4).

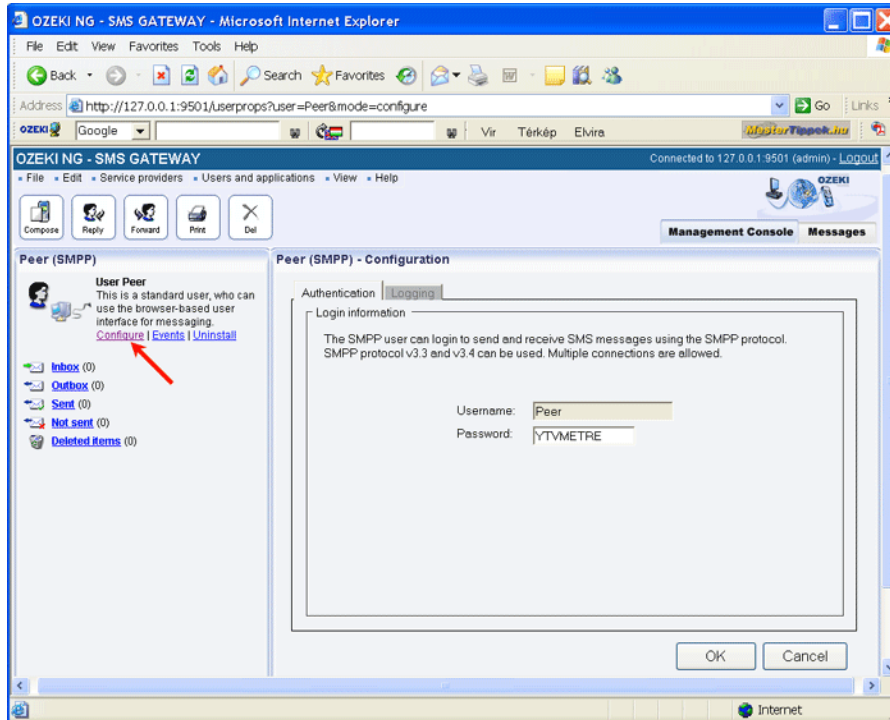


Figure 5 - Clicking a user-related task link

To configure or modify the configuration of the user, click **Configure**.  
To view the latest server events related to the user, click **Events**.  
To uninstall the user, click the **Uninstall** link.

## How to provide SMS Service for SMPP Client Applications

If you have Ozeki NG SMS Gateway installed on your server, you can provide SMS service for your applications (or your customers). Your applications can connect to Ozeki NG SMS Gateway over the SMPP protocol. This is possible because Ozeki NG SMS Gateway has a built in SMPP SMSC. In this guide you can read about how you can configure your Ozeki NG SMS Gateway to provide SMPP Service.

### 1. Introduction

In this example, we configure Ozeki NG SMS gateway to provide SMS service over the SMPP protocol for two SMS Client Applications (User John and User Paul). These applications will connect to the built in SMSC of Ozeki NG SMS Gateway (Figure 1). I assume the Ozeki NG SMS Gateway software was installed on a server that has an IP address of: 192.168.1.1.

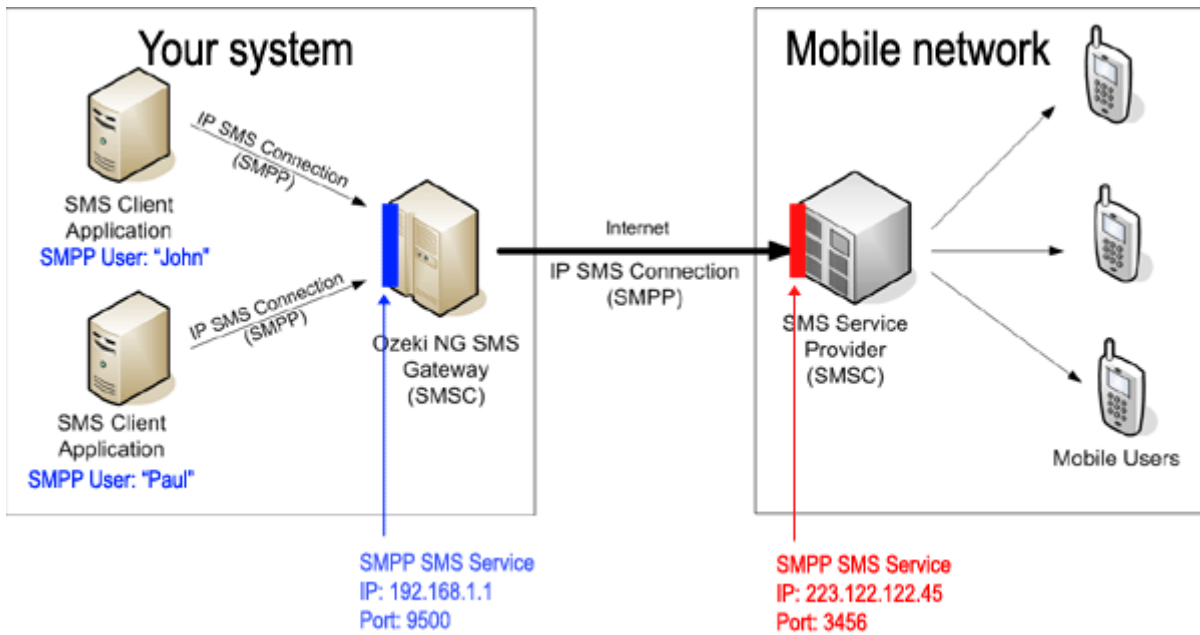


Figure 1 - SMPP Clients connect to the build in SMSC of Ozeki NG SMS Gateway

After installation Ozeki NG SMS Gateway will automatically start the build in SMSC on port 9500. This means that the SMPP Client Applications (User John and User Paul) will connect to **192.168.1.1** on port **9500**. The SMPP Protocol they will use is **SMPP v3.4** and the connection type will be **Transceiver**.

## 2. How to setup an SMPP user account for SMPP Client Application (User John)

To make it possible for User John to connect to the built in SMSC of the Ozeki NG SMS Gateway, you have to create an SMPP User account. To do this you should click on Add user in the Management console (Figure 2).

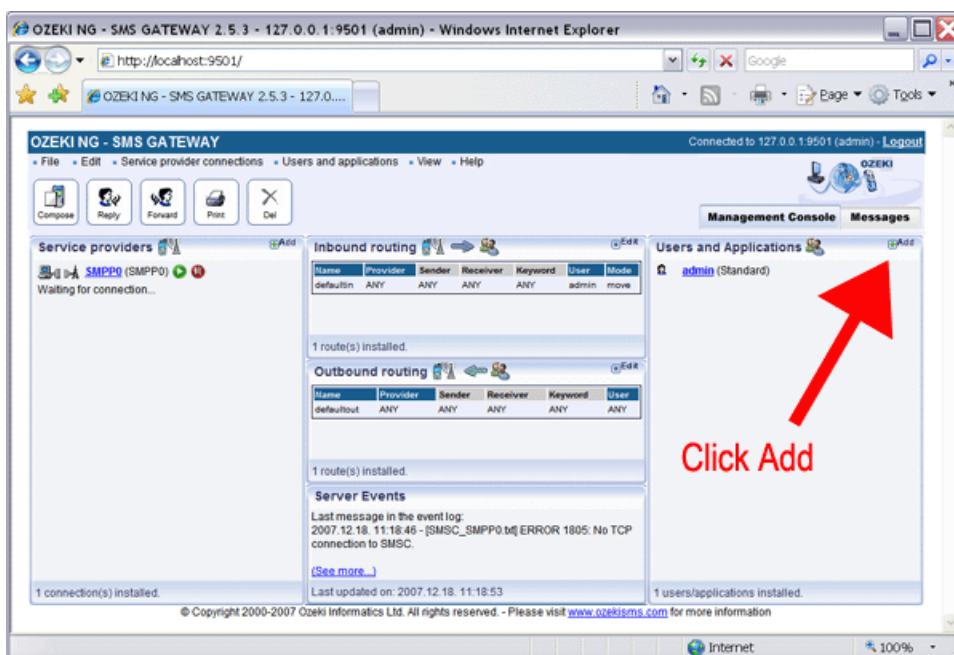




Figure 2 - Click on Add user.

The next step is to select the **SMPP User** type and click on install (Figure 3).

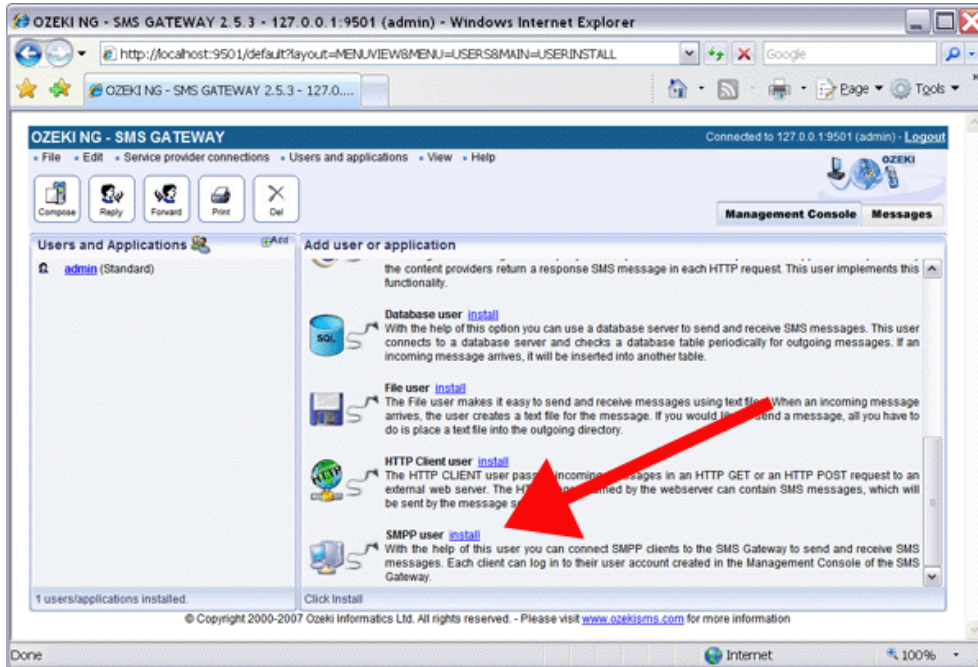


Figure 3 - Select user type SMPP User.

Then you have to provide the username and password. The username should be: **john** (Figure 4). The password can be **wpsd123** (Figure 5).

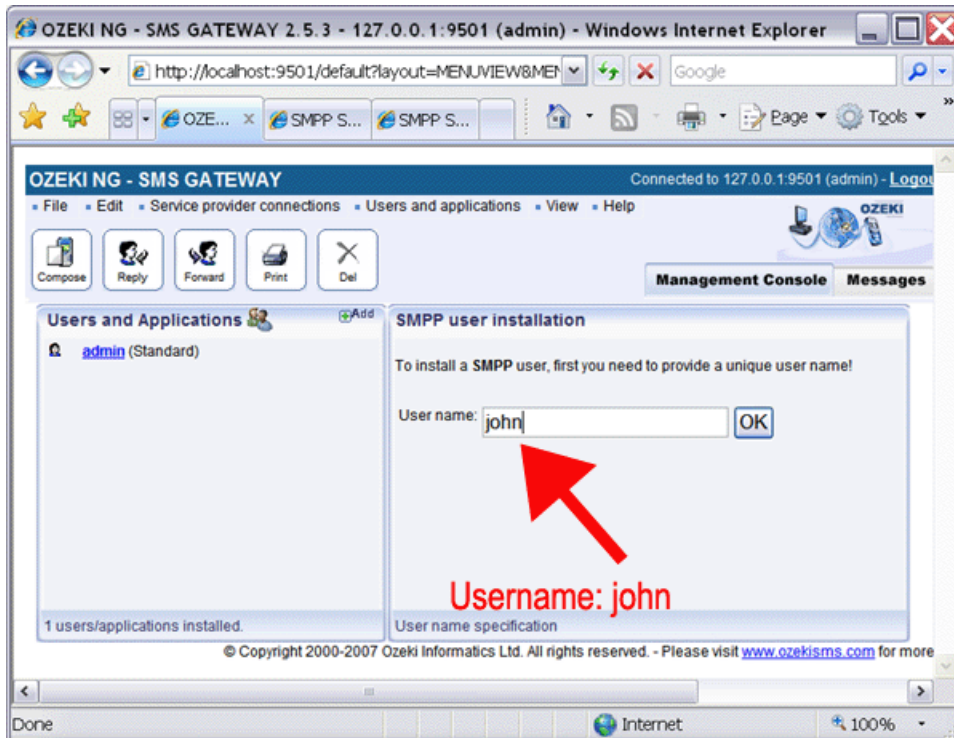


Figure 4 - SMPP Client username: john



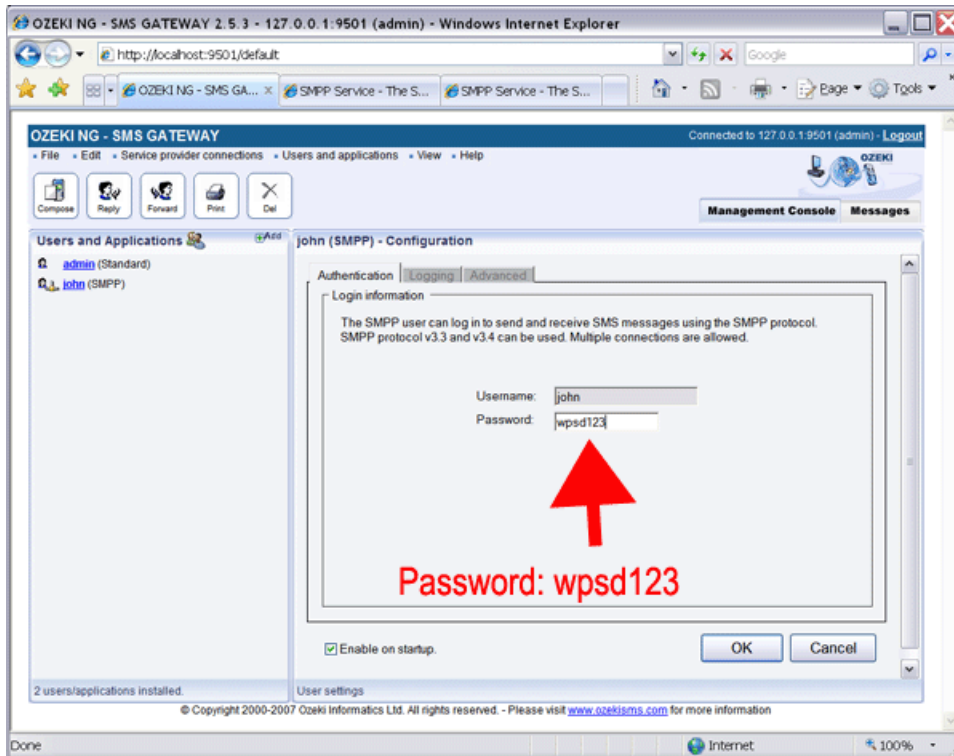


Figure 5 - SMPP Client password: wpsd123

After clicking OK on the SMPP user configuration form, your SMPP user account is successfully created. Following this your SMPP client application can connect to the build in SMSC of your Ozeki NG SMS Gateway using the following connection information. This connection information should be configured in the SMPP Client Application of User John:

SMPP Connection Information for User John:

SMPP Host:	192.168.1.1
Port:	9500
Username:	john
Password:	wpsd123
SMPP version:	3.4
SMPP bind:	transceiver
SMPP system type:	SMPP

More detailed information on how to create accounts for SMPP client connections, can be found in the [How to add an SMPP user guide](#). If you repeat the same steps for the client application user Paul, he will also be able to connect to the built in SMSC over SMPP. For example if you specify the password **wp44sd55** for user Paul, he can connect to your Ozeki NG SMS Gateway using the following parameters:

SMPP Host:	192.168.1.1
------------	-------------

Port:	9500
Username:	paul
Password:	wp44sd55
SMPP version:	3.4
SMPP bind:	transceiver
SMPP system type:	SMPP

### 3. Configuring an SMPP Service Provider connection

Setting up client connections of course, is not enough to get the SMS messages to the wireless network. To make it possible to deliver SMS messages to mobile users, you have to configure an SMS Service Provider connection. You can use IP SMS connections such as [SMPP](#), [UCP](#), [CIMD2](#) to connect to your SMS service provider over the Internet or you can simply [attach a GSM modem](#) to your computer with a phone-to-pc data cable to send and receive the SMS messages. In our example (presented on Figure 1.), we attach to the SMS service provider using the SMPP IP SMS protocol. We configure our Ozeki NG SMS Gateway to connect using SMPP to host 223.122.122.45, port 3456.

To configure this connection, please add an SMPP service provider connection by clicking on "Add" in the management console (Figure 6).

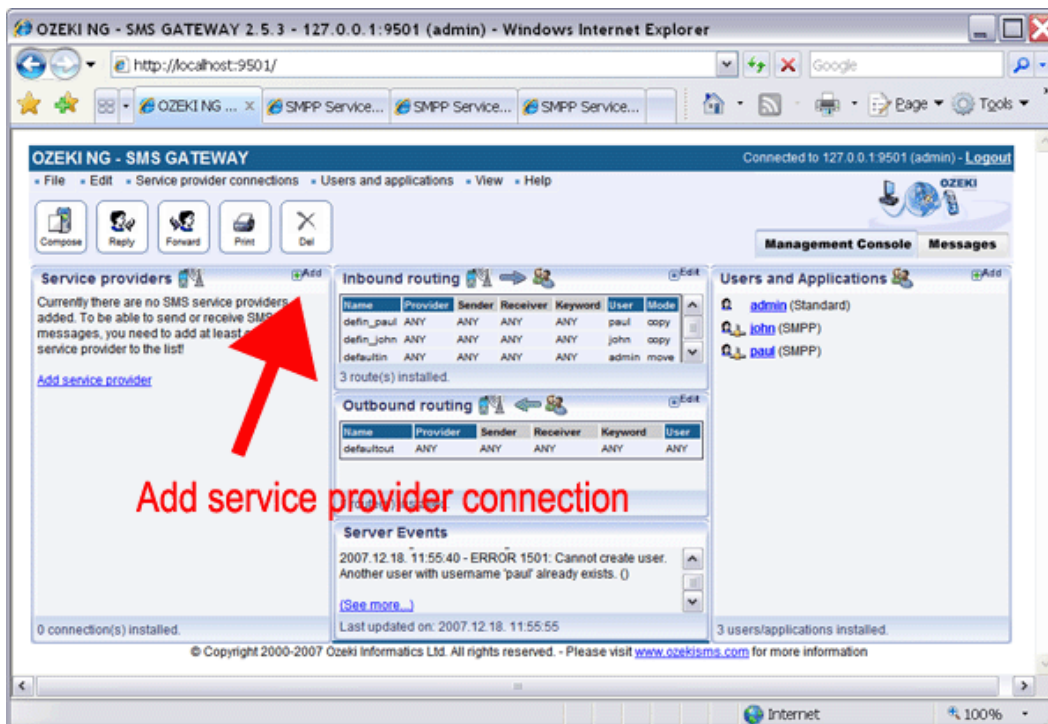


Figure 7 - Click add to start the service provider connection installation procedure

From the list, you have to select the **SMPP Connection**, then you have to click on install. This will install an SMPP service provider connection (Figure 7).

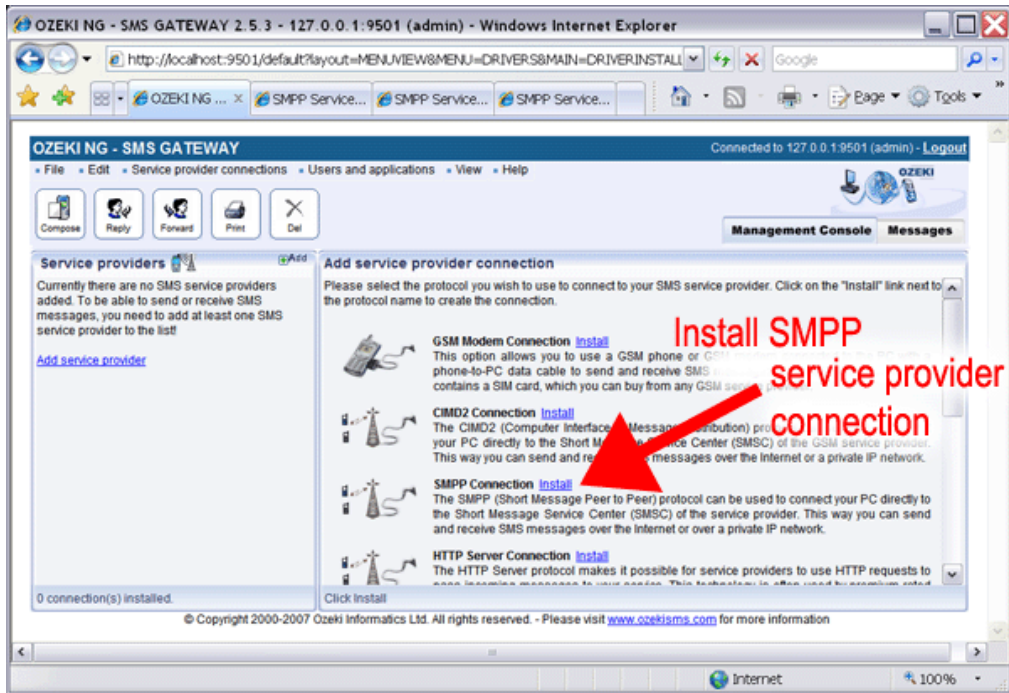


Figure 7 - Install an SMPP service provider connection

After you have clicked install, you will be presented with the configuration form of the SMPP service provider configuration. On this form you have to configure the connection details of the SMS Service provider connection. The connection details are provided by the SMS Service provider. For example if the GSM network operator Vodafone provides you the SMS Service, they will give you a data sheet with the following information:

Connection details provided by your SMS Service provider (e.g.: Vodafone):

SMPP Host:	223.122.122.45
Port:	3456
Username:	acctnt
Password:	ER32wp

You receive the information presented in above table when you sign up for their service. This information can be entered on the SMPP Service provider configuration form (Figure 8).

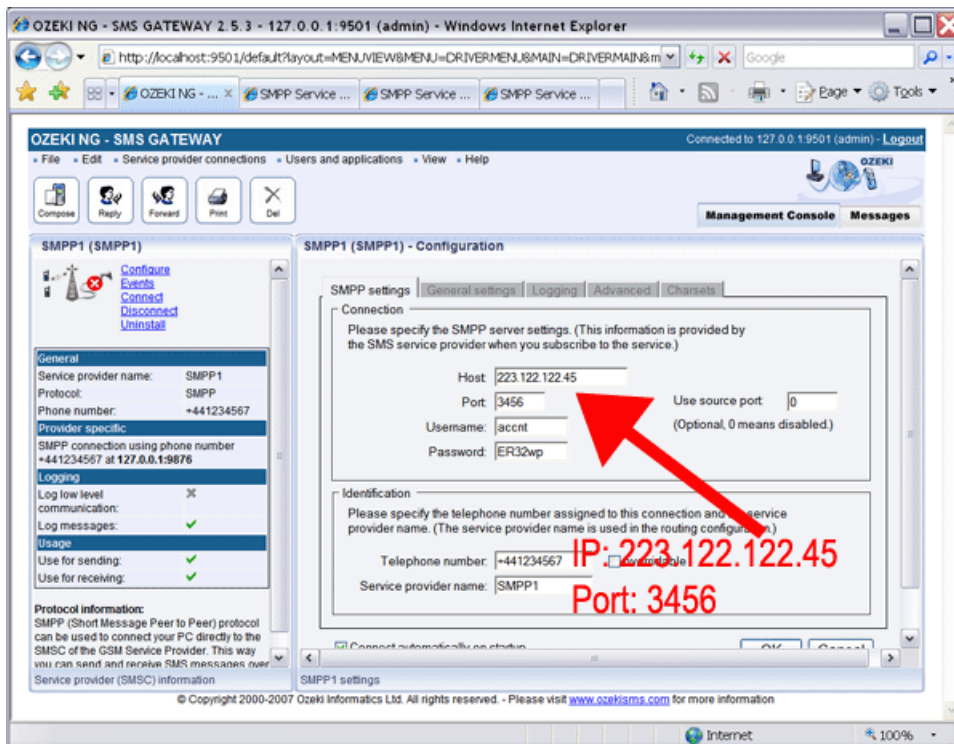


Figure 8 - Configure the SMPP connection details.

After the configuration details are entered you can click connect to start the service. That's all you have to do.

#### 4. More information

With Ozeki NG SMS Gateway you can add more than one service provider connection. If more than one connection is available you can use [inbound SMS routing](#) and [outbound SMS routing](#) to adjust the system according to your needs. You may also want to keep track of all the SMS Messages sent or received for accounting purposes. If this is a requirement, you can configure [SQL logging](#) to save a record of all outgoing and incoming messages into a database.

### Autoreply User

**This page explains how to install and configure an autoreply user for SMS messaging using the graphical user interface of the Ozeki NG - SMS Gateway software. You will be provided with step-by-step installation and configuration instructions, including explanations of configuration examples.**

Ozeki NG - SMS Gateway supports the installation and configuration of an autoreply user (among several other users and applications, see the [Users and Applications](#) page).

The autoreply user allows you to automatically reply to and forward incoming messages to various phone numbers, based on the sender address and the message content.

You can use the [graphical user interface](#) of Ozeki NG - SMS Gateway to install and configure an autoreply user.

## Installation

To start installing and configuring an autoreply user, click the **Add** button in the top right-hand corner of the **Users and Applications** panel on the right of the **Management Console**. You can also add a user by clicking the **Add user** item in the **Users and applications** menu (Figure 1).

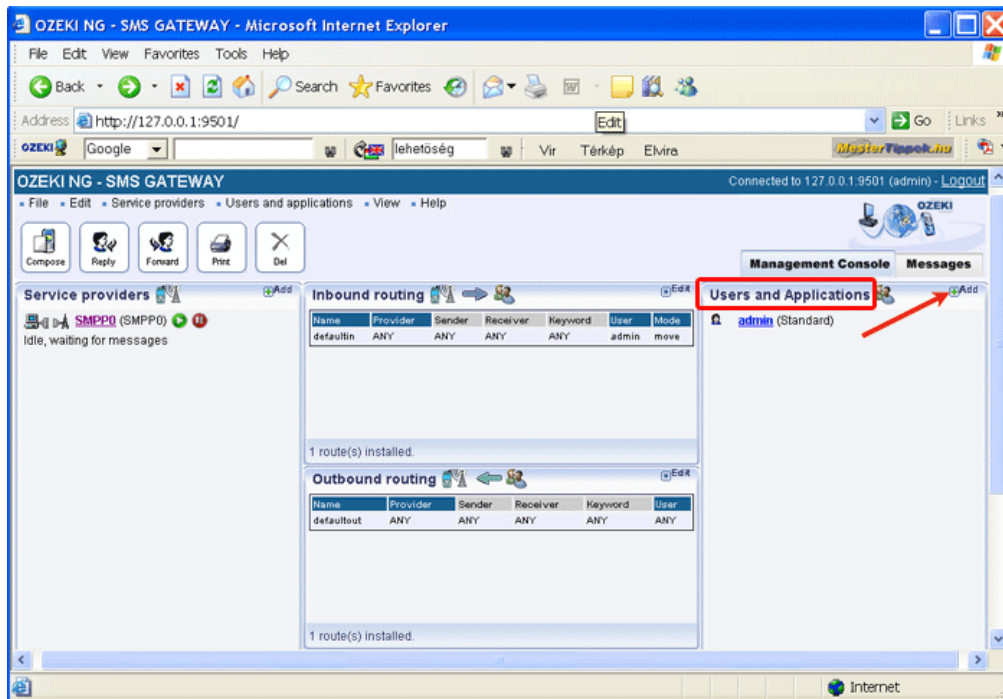


Figure 1 - Adding a user

This will bring up an interface consisting of two panels.

The panel on the left contains a list of users that have been installed. In the bar at the bottom of the panel you can read how many users have been installed.

The panel on the right contains a list of users that can be installed.

Each user in the left-hand panel is listed with a unique name (and the user type stated in brackets).

Each user in the right-hand panel is listed with the name of its type and a brief description of what it can be used for.

To start installing an autoreply user, click the **Install** link in the respective entry in the list (Figure 2).



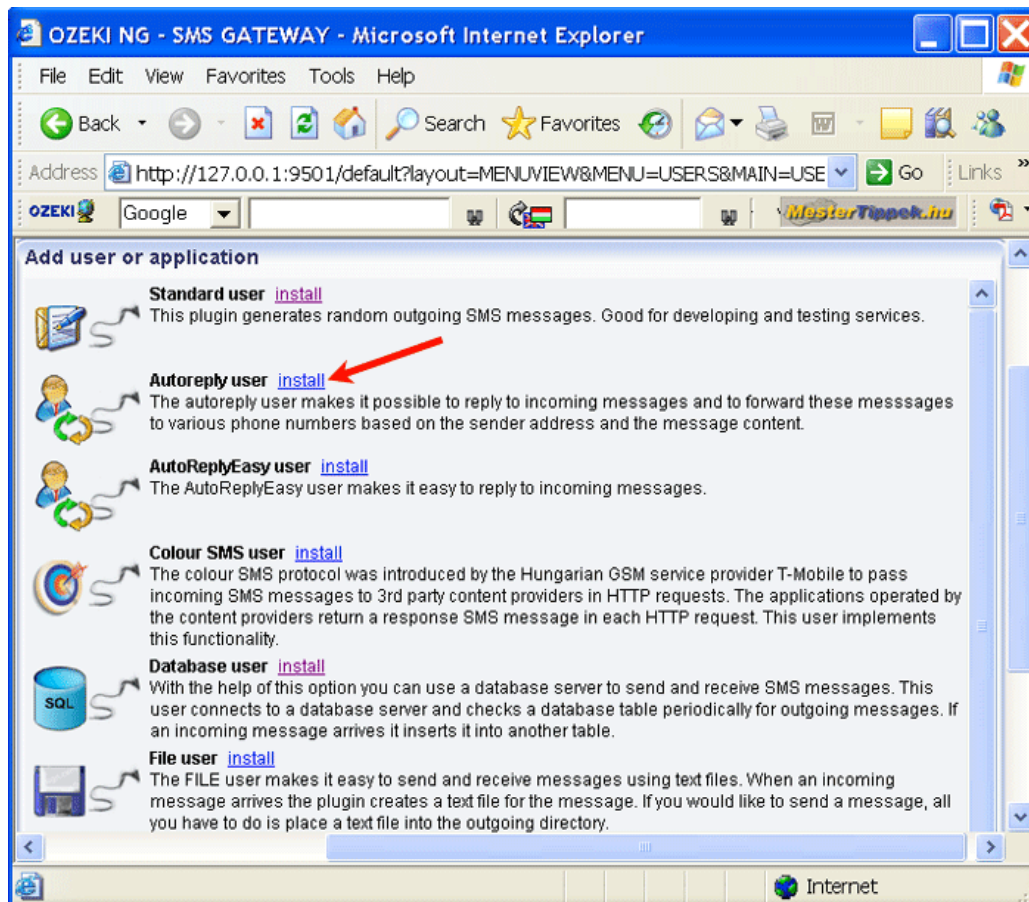


Figure 2 - Installing an autoreply user

When installing a user (type), you need to give it a unique username. Clicking the **Install** link will bring up the **Autoreply user installation** panel. Here, you need to enter a unique username in the **Username** field.

## Configuration

The **Autoreply script** tab of the **Configuration** panel will show up after you have specified a unique username for the autoreply user (Figure 3).

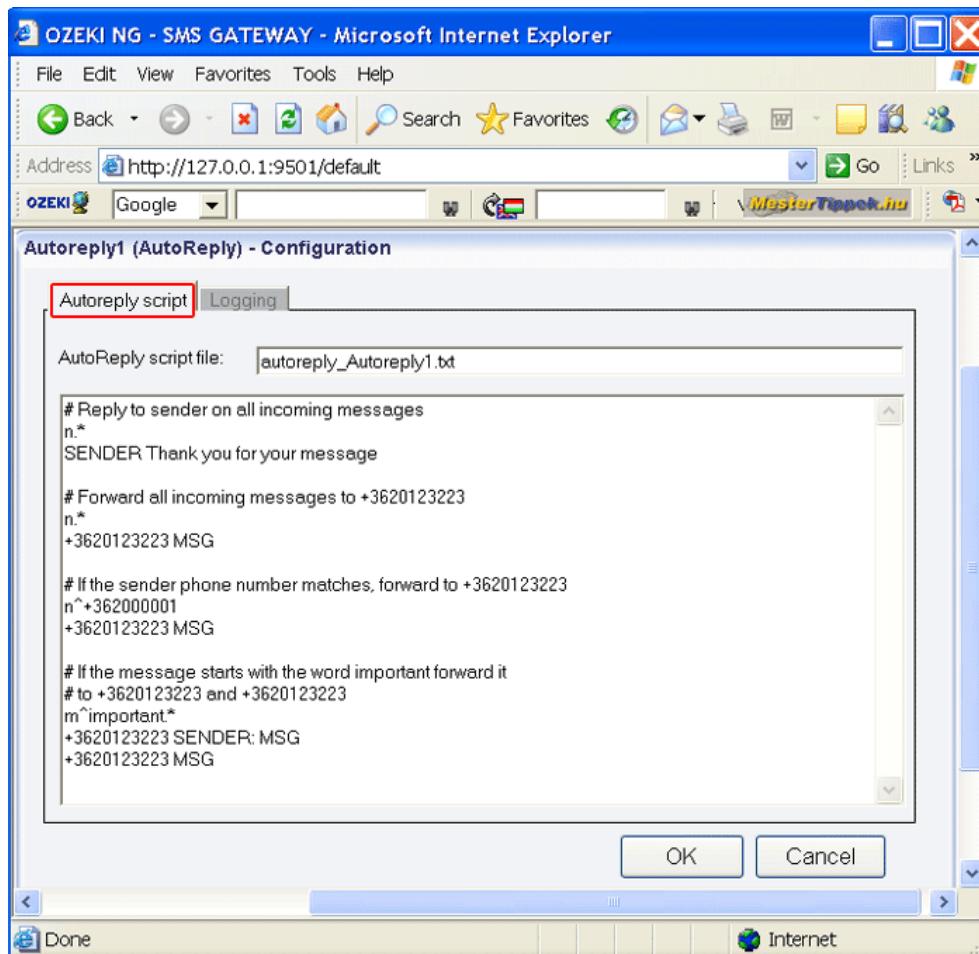


Figure 3 - The Autoreply script tab

This panel contains two edit boxes. The upper edit box is for the name of the autoreply script file. The default name includes the unique name you have given the autoreply user in the **Autoreply user installation** panel.

If you are content with the default name, leave this edit box unchanged. If not, rename the default autoreply script file.

In the lower edit box, you can edit a script for one or more automatic reply and message forwarding rules. To maintain readability, you can include comments in your script. Indicate them with a hashmark (#) at the beginning of each line of a comment. The edit box contains a configuration script, which you can use as a template to edit your script.

Each automatic reply or message forwarding rule consists of a part called filter and a part called action. The filter decides whether the action should be applied to an incoming message. The filter can be used to identify certain phone numbers or incoming message text and react accordingly. The action part of the rule can be used to create a reply or to forward the message to another GSM phone number.

## Example configurations

### Replying to all incoming messages Rule:

```
n.*  
SENDER Thank you for your message
```

**Interpretation:** Reply to the sender of every incoming message.

**Explanation:** In the filter of the rule, **n.\*** means that this rule should be applied to all incoming messages (**n** means that the filter applies to the sender phone number, and **.\*** means that every number is accepted.)

In the action of the rule, **SENDER** means that the sender of the incoming message is the recipient of the reply message. **Thank you for your message** is the text of the reply message.

### Forwarding all incoming messages to a specified phone number

**Rule:**

```
n.*  
  
+36203105366 MSG
```

**Interpretation:** Forward all incoming messages to +36203105366.

**Explanation:** In the filter of the rule, **n.\*** means that this rule should be applied to all incoming messages (see the previous example).

In the action of the rule, **+36203105366** means the recipient phone number that the reply message will be sent to. (Make sure you specify the phone number in international format, starting with a leading plus sign (+)). **MSG** means that the text of the incoming message will be inserted into the outgoing message. To forward an incoming SMS message to more than one phone number, add a new line to the rule, containing another phone number and **MSG** (e.g.: **+36205222245 MSG**) You need to specify each recipient phone number in a separate line.

### Forwarding to a specific number if the sender phone number matches

**Rule:**

```
n^+36209937723  
  
+36205222245 MSG
```

**Interpretation:** If an incoming SMS message is from the +36209937723 phone number, forward it to +36205222245.

**Explanation:** In the filter of the rule, **n.^+36209937723** means that this rule should be applied if the phone number is +36209937723.

In the action of the rule, **+36205222245** means the recipient phone number that the reply message will be sent to. **MSG** means that the text of the incoming message will be inserted into the outgoing message. To forward an incoming SMS message to more than one phone number, add a new line to the rule, containing another phone number and **MSG** (eg.: **+36205722246 MSG**). You need to specify each recipient phone number in a separate line.

## Forwarding to one or more phone numbers based on the keyword of the incoming message

### Rule:

```
# If the message starts with the word "important",  
forward it  
# to +36205222245 and +36203105366  
  
m^important.*  
  
+36203105366 SENDER: MSG  
  
+36205222245 MSG
```

**Interpretation:** If the message starts with the word "important", forward it to +36205222245 and +36203105366 including the sender phone number in the text of the message.

**Explanation:** Above the rule there is a comment written in two lines, each starting with a hashmark sign (#). The comment describes what the rule means. In the filter of the rule, **m^important.\*** means that this rule should be applied if the message starts with the word "important".

In the action of the rule, **+36203105366 SENDER: MSG** means that the incoming message will be forwarded to +36203105366 including the sender phone number in the text of the message.

The **+36205222245 MSG** line means that the incoming message will be forwarded to +36205222245. The message forwarded to this number will *not* include the sender phone number of the incoming message.

To configure logging related to the autoreply user, click the **Logging** tab in the **Configuration** panel.

The tab has a **Logging** and a **Log file settings** section. Here, you can choose whether to make the program write log entries about sent and received messages in human readable format and/or log SMS messaging related to rules that have been applied (see the section about the **Autoreply script** tab above).

You should check one or both of the checkboxes, as logfiles can be useful in debugging communication problems (Figure 4).

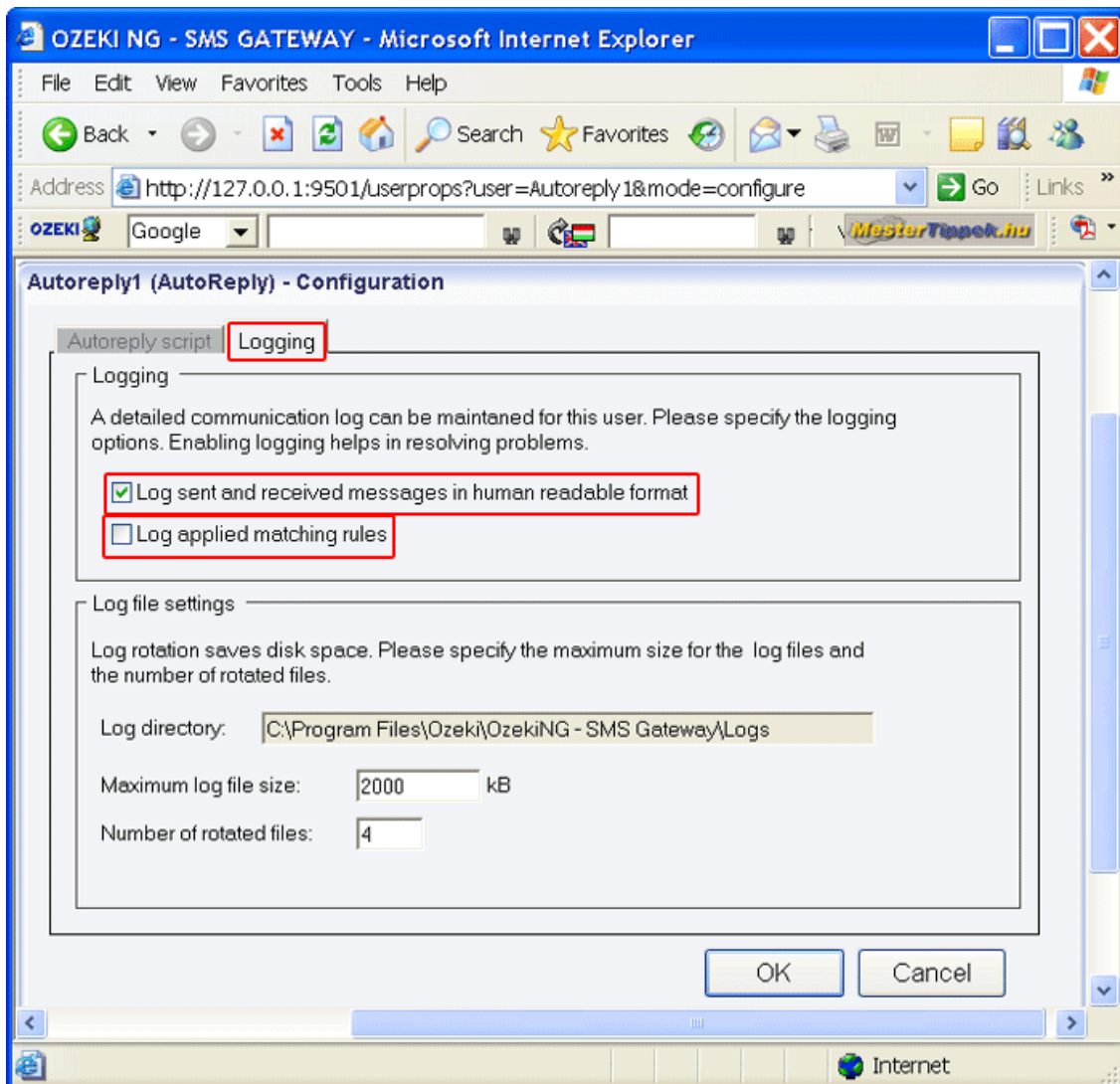


Figure 4 - Logging options

In the **Log file settings** section of the tab, you can make specifications for the size and the number of available logfiles.

Log rotation saves disk space, as it ensures that older (and probably no longer needed) logfiles will be automatically deleted from the log directory, which is specified in the **Log directory** text box. By default, the access path to the logfiles is: C:\Program Files\Ozeki\OzekiNG - SMS Gateway\Logs

In the **Maximum log file size** text box in the **Logfile settings** section, you can specify the maximum size of a logfile. Once this size is reached, a new logfile will be created. Specify the number of kilobytes for the size of a logfile by entering a positive whole number. By default, the maximum logfile size is 2000 kB.

In the **Number of rotated files** text box, specify the maximum number of rotated logfiles that are saved. Specify this number by entering a positive whole number. By default, the number of logfiles that are saved is 4 (see Figure 4 above).

If you are content with the default specifications, leave the text boxes unchanged.



To modify the configuration or to view server events related to an installed user, open the panel of the user's account. To do this, click the name of the user in the **Users and Applications** panel of the **Management Console**. In the panel of the user's account, click the link of the task you wish to perform (Figure 5).

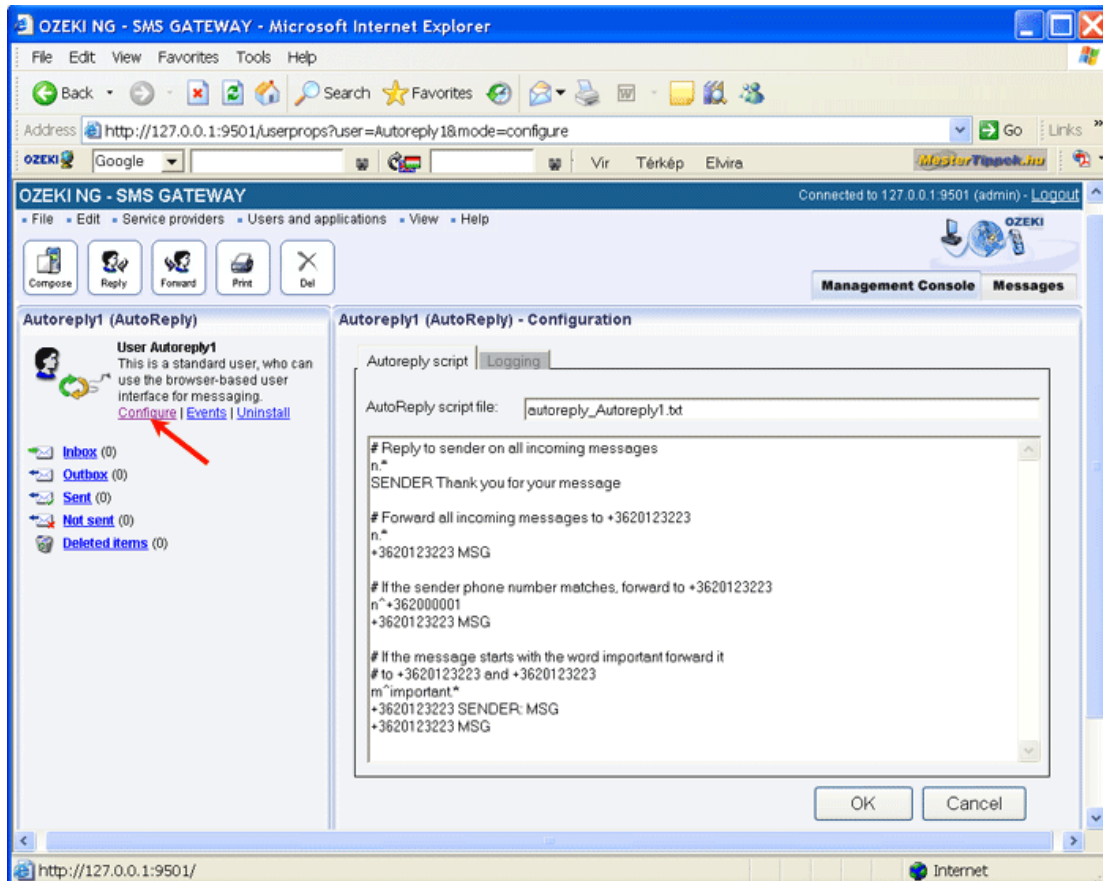


Figure 5 - Clicking a user-related task link

## AutoReplyEasy User

**This page explains how to install and configure an AutoReplyEasy user for SMS messaging using the graphical user interface of the Ozeki NG - SMS Gateway software.**

Ozeki NG - SMS Gateway supports the installation and configuration of an AutoReplyEasy user (among several other users and applications, see the [Users and Applications](#) page).

The AutoReplyEasy user allows you to automatically reply to incoming messages, sending a reply message to the sender phone number of the incoming message.

This feature makes the AutoReplyEasy user similar to the [Autoreply User](#). However, there are some differences between them.

The Autoreply user allows you to reply to and forward incoming messages to various phone numbers, based on the sender address and the message content. The AutoReplyEasy user,

however, only allows you to automatically send a reply message to the sender phone number of the recipient message. The reply can be a plain text or a WAPPUSH SMS. A WAPPUSH SMS is basically a specially encoded message which includes a link to a WAP or webpage address.

Unlike the Autoreply user, the AutoReplyEasy user does not require you to edit rules following a rule syntax in the autoreply script file. Instead of having to set rules in the script file, you only have to edit your reply message. (This is the reason for the distinction "Easy" in its name.)

The reply message can contain the following special keywords. These keywords will be replaced to the appropriate content in the message text before the reply message is sent.

\$MSG	The incoming message text
\$SENDER	The originator number
\$RECEIVER	The recipient number

You can use the [graphical user interface](#) of Ozeki NG - SMS Gateway to install and configure an AutoReplyEasy user.

## Installation

To start installing and configuring an AutoReplyEasy user, click the **Add** button in the top right-hand corner of the **Users and Applications** panel on the right of the **Management Console**. You can also add a user by clicking the **Add user** item in the **Users and applications** menu (Figure 1).

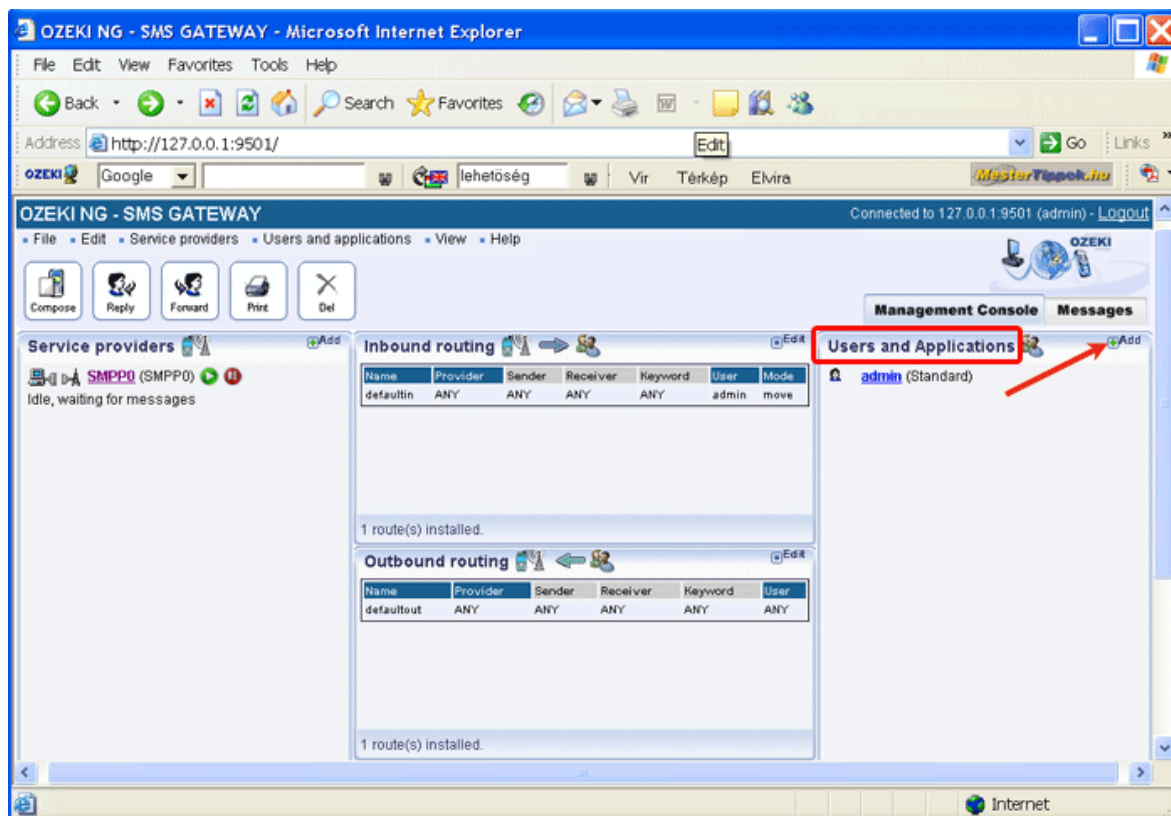


Figure 1 - Adding a user

This will bring up an interface consisting of two panels.

The panel on the left contains a list of users that have been installed. In the bar at the bottom of the panel you can read how many users have been installed.

The panel on the right contains a list of users that can be installed.

Each user in the left-hand panel is listed with a unique name (and the user type stated in brackets).

Each user in the right-hand panel is listed with the name of its type and a brief description of what it can be used for.

To start installing an AutoReplyEasy user, click the **Install** link in the respective entry in the list (Figure 2).

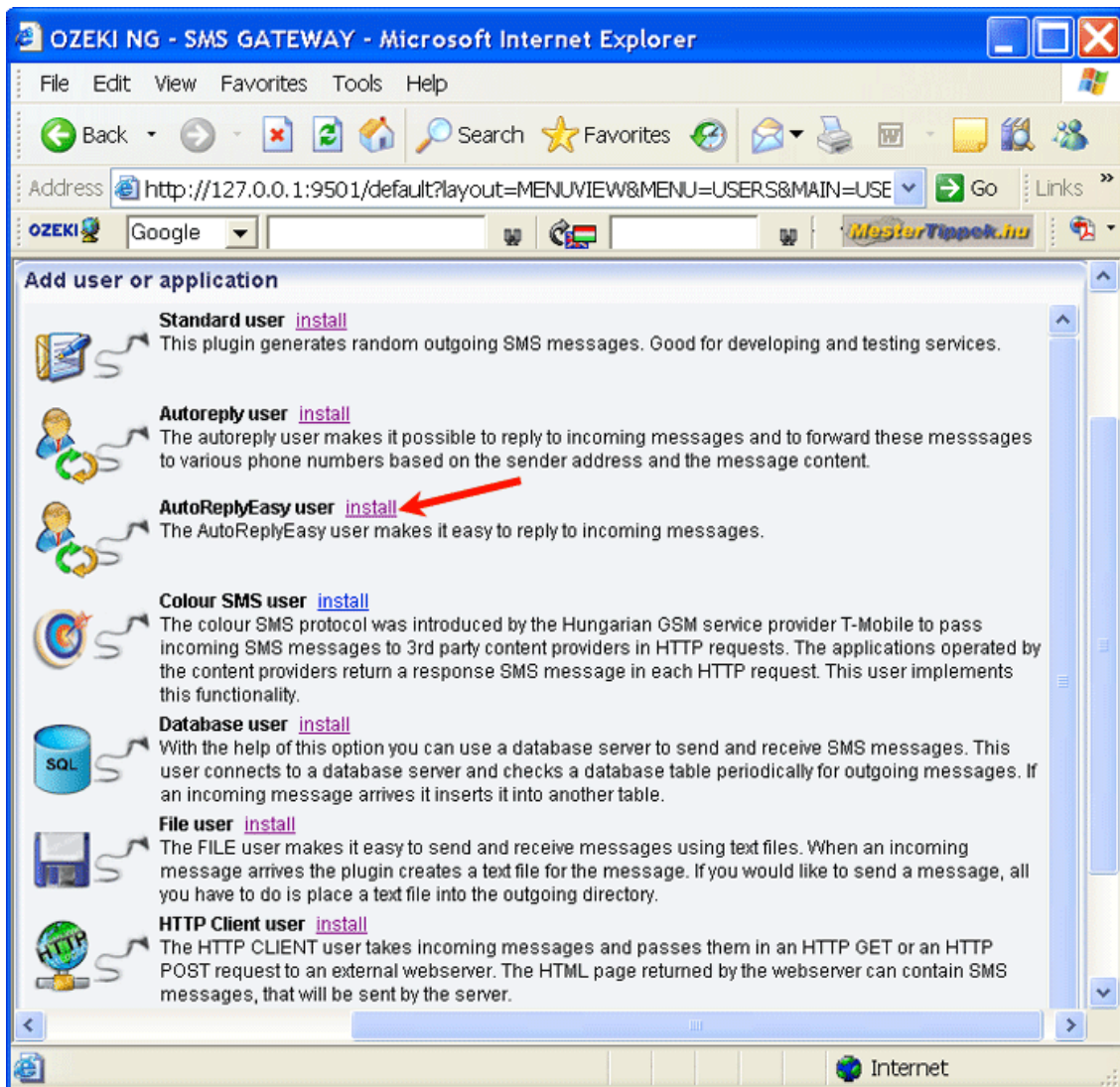


Figure 2 - Installing an AutoReplyEasy user

When installing a user (type), you need to give it a unique username. Clicking the **Install** link will bring up the **AutoReplyEasy user installation** panel. Here, you need to enter a unique username in the **Username** field.

## Configuration

The **Autoreply script** tab of the **Configuration** panel will show up after you have specified a unique username for the AutoReplyEasy user (Figure 3).

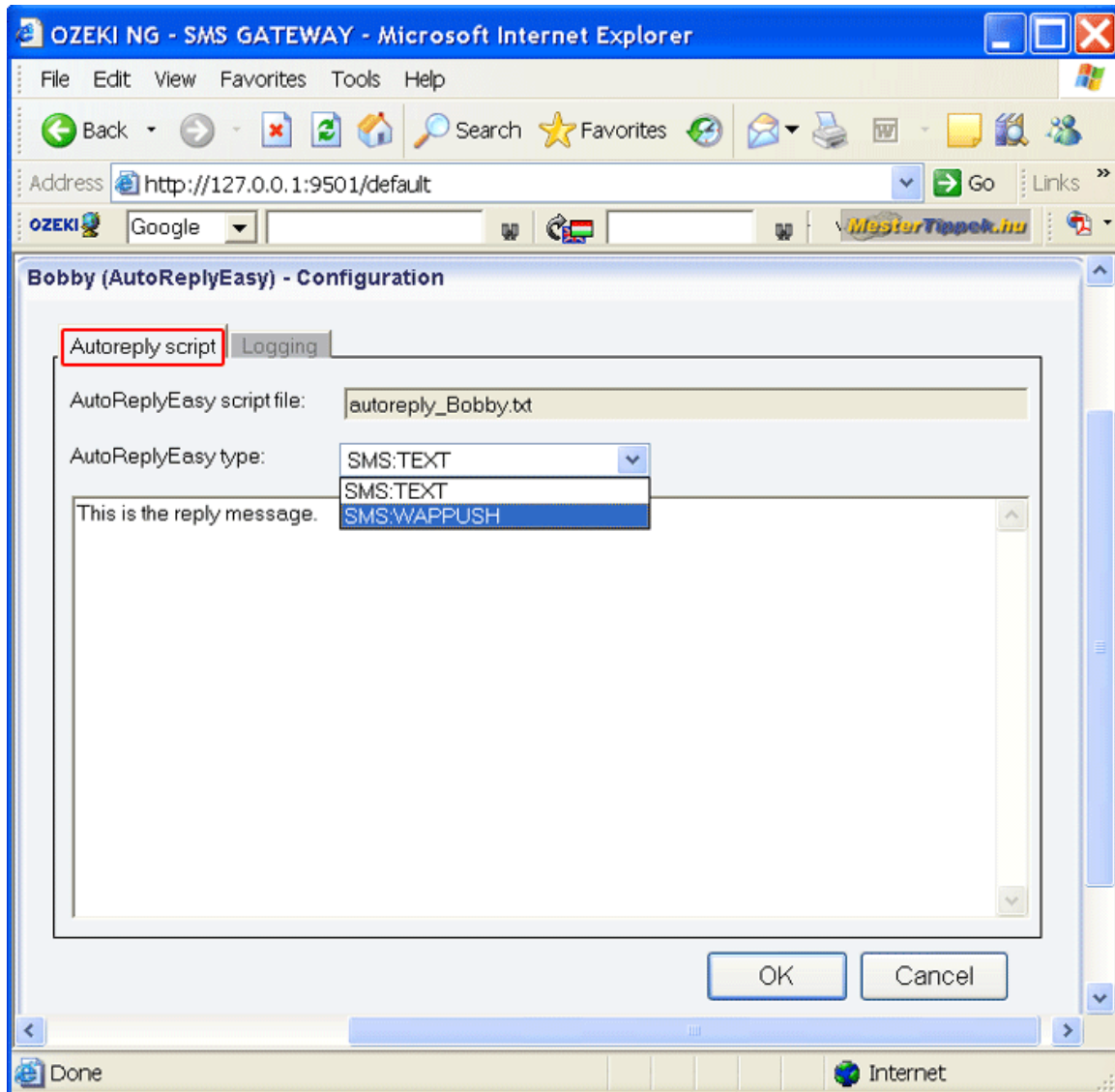


Figure 3 - The AutoReplyEasy script tab

This tab contains an uneditable text box, a dropdown menu and an editable text box. The uneditable text box is for the name of the AutoReplyEasy script file. This file name, which includes the unique name you have specified for your AutoReplyEasy user during the installation, is provided by the program. In the **AutoReplyEasy type** dropdown menu, you can select the type of your reply message. In the editable text box below, you can simply edit your reply message.

To configure logging related to the AutoReplyEasy user, click the **Logging** tab in the **Configuration** panel.

The tab has a **Logging** and a **Log file settings** section. Here, you can choose whether to make the program write log entries about sent and received messages in human readable format and/or log SMS messaging related to rules that have been applied.

You should check one or both of the checkboxes, as logfiles can be useful in debugging communication problems (Figure 4).



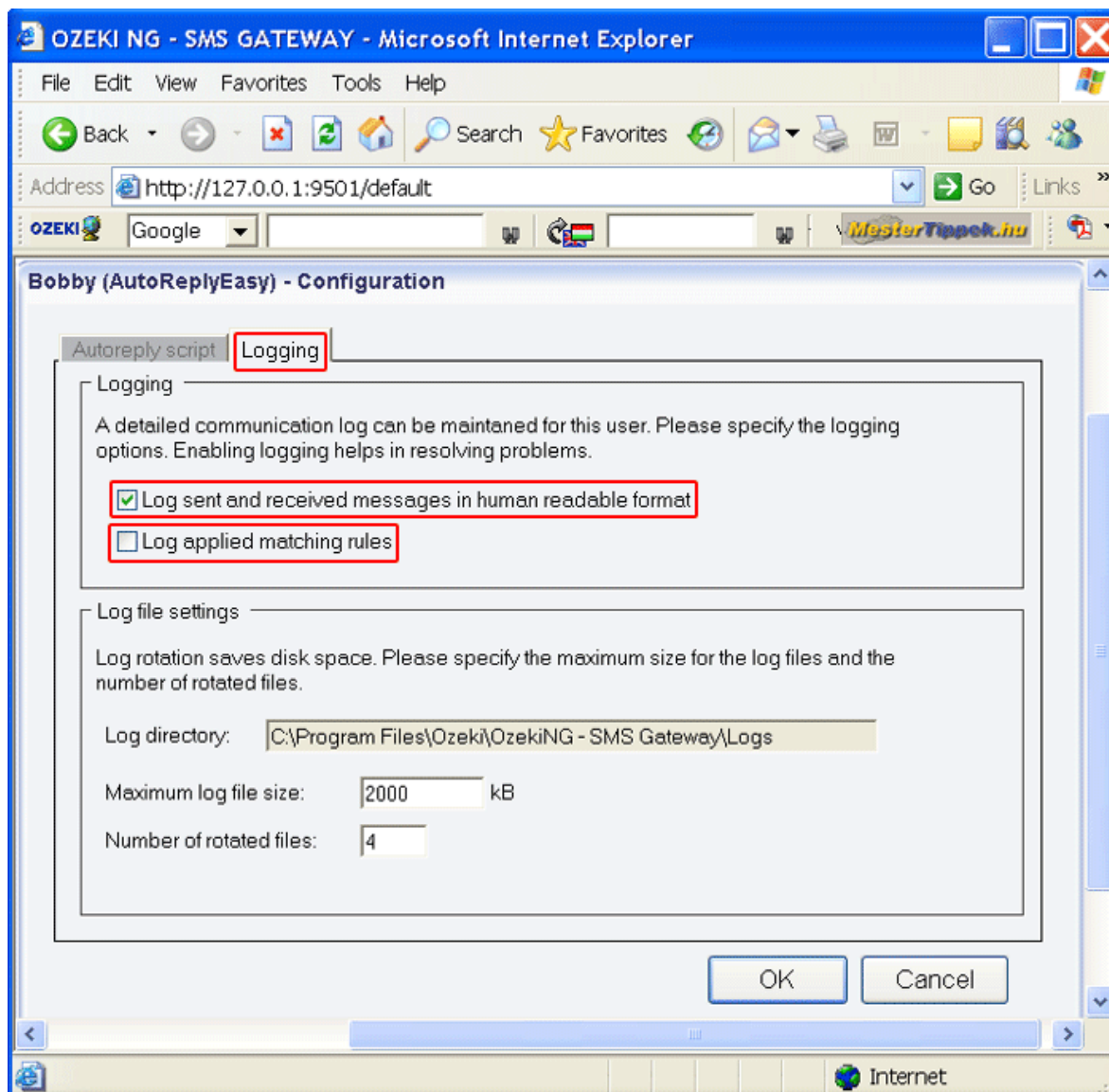


Figure 4 - Logging options

In the **Log file settings** section of the tab, you can make specifications for the size and the number of available logfiles.

Log rotation saves disk space, as it ensures that older (and probably no longer needed) logfiles will be automatically deleted from the log directory, which is specified in the **Log directory** text box. By default, the access path to the logfiles is: C:\Program Files\Ozeki\OzekiNG - SMS Gateway\Logs

In the **Maximum log file size** text box in the **Logfile settings** section, you can specify the maximum size of a logfile. Once this size is reached, a new logfile will be created. Specify the number of kilobytes for the size of a logfile by entering a positive whole number. By default, the maximum logfile size is 2000 kB.

In the **Number of rotated files** text box, specify the maximum number of rotated logfiles that are saved. Specify this number by entering a positive whole number. By default, the number of logfiles that are saved is 4 (see Figure 4 above).

If you are content with the default specifications, leave the text boxes unchanged.

To modify the configuration or to view server events related to an installed user, open the panel of the user's account. To do this, click the name of the user in the **Users and Applications** panel of the **Management Console**. In the panel of the user's account, click the link of the task you wish to perform.

## File user

**This chapter explains how to install and configure a File user for SMS messaging using the graphical user interface of the Ozeki NG - SMS Gateway software. You will be provided with step-by-step instructions on how to install and configure this user, along with explanations about the different file formats you can use to send and receive SMS messages with the File user.**

Ozeki NG - SMS Gateway allows, among others (see the [Users and Applications](#) page), the installation and configuration of a file user.

A File user allows you to send and receive messages using text files. When an incoming message arrives, the File user creates a text file for the message and places it into the incoming directory. If you would like to send a message, all you have to do is place a text file into the outgoing directory. The File user will periodically check this outgoing directory for messages to be sent. If it finds messages there, they will be sent out by the File user.

When you install a File user, Ozeki NG - SMS Gateway will automatically create the incoming and the outgoing directory along with other directories for SMS messages related to the File user. These directories can be found in a collection directory named **smsTemp** by default. You can rename this collection directory and the subdirectories. However, make sure you specify them correctly for the File user in the respective edit boxes containing the paths in the **General** tab of the **Configuration** panel (see the Configuration section below).

You can use the [graphical user interface](#) of Ozeki NG - SMS Gateway to install and configure a File user.

## Installation

To start installing and configuring a File user, click the **Add** button in the top right-hand corner of the **Users and Applications** panel on the right of the **Management Console**. You can also add a user by clicking the **Add user** item in the **Users and applications** menu (Figure 1).

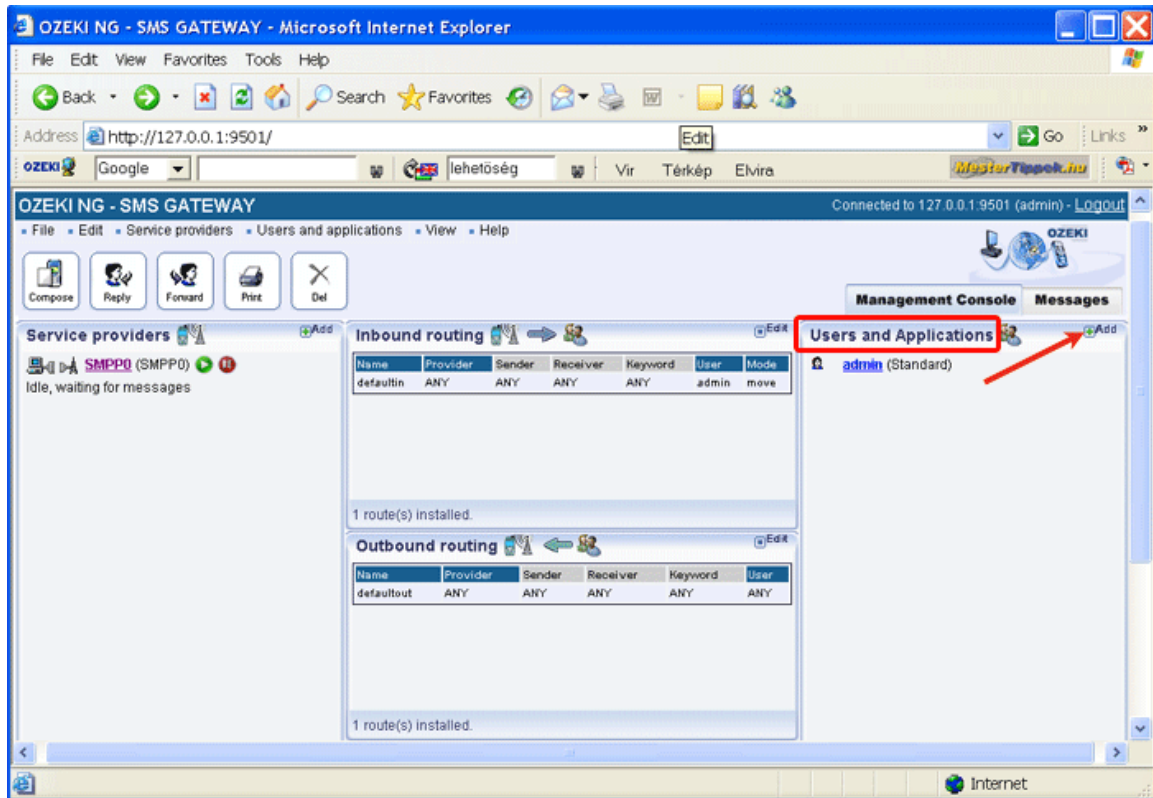


Figure 1 - Adding a user

This will bring up an interface consisting of two panels.

The panel on the left contains a list of users that have been installed. In the bar at the bottom of the panel you can read how many users have been installed.

The panel on the right contains a list of users that can be installed.

Each user in the left-hand panel is listed with a unique name (and the user type stated in brackets).

Each user in the right-hand panel is listed with the name of its type and a brief description of what it can be used for.

To start installing a File user, click the **Install** link in the respective entry in the list (Figure 2).

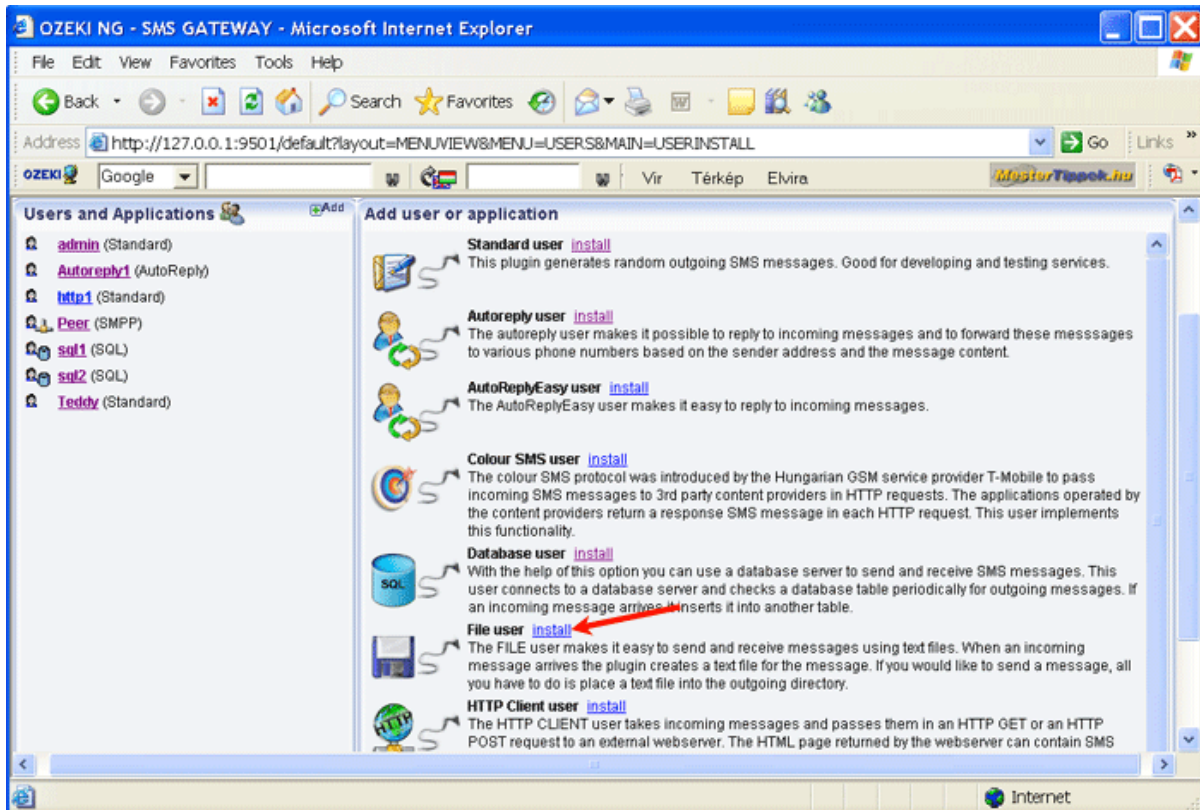


Figure 2 - Installing a File user

When installing a user (type), you need to give it a unique username. Clicking the **Install** link will bring up the **File user installation** panel. Here, you need to enter a unique username in the **Username** field.

### General configuration

The **General** tab of the **Configuration** panel will show up after you have specified a unique username for the File user (Figure 3).

The upper section of the tab contains the **File format** dropdown menu. Select an appropriate file format: **List**, **Simple** or **Verbose**. (For more information, see the File formats section below.)

Below the **File format** dropdown menu, there is an edit box. In this, you can specify how often the program should check the outgoing directory for messages to send. Enter the number of seconds in numerical format, representing a positive whole number. If you are content with the default specification (every 2 seconds), leave the edit box unchanged (Figure 3).

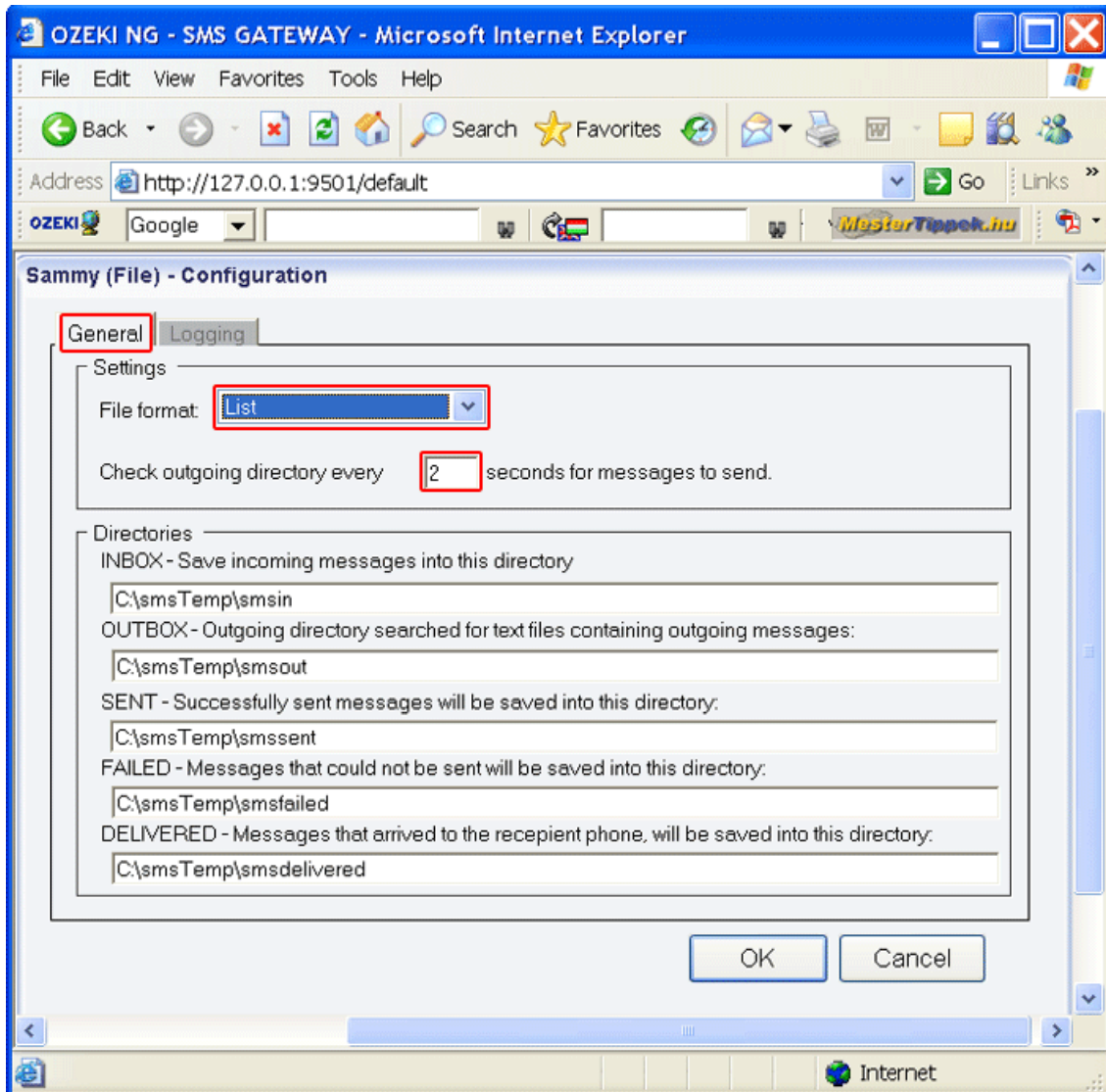


Figure 3 - Setting the file format and the query frequency

The lower section of the tab contains five edit boxes containing paths to directories. Each path includes a different subdirectory name. As mentioned above, the installation of the File user automatically creates different directories for messages. The status of a message defines which directory it can be found in. Each path leads to a directory containing messages of a specific status (Figure 4).



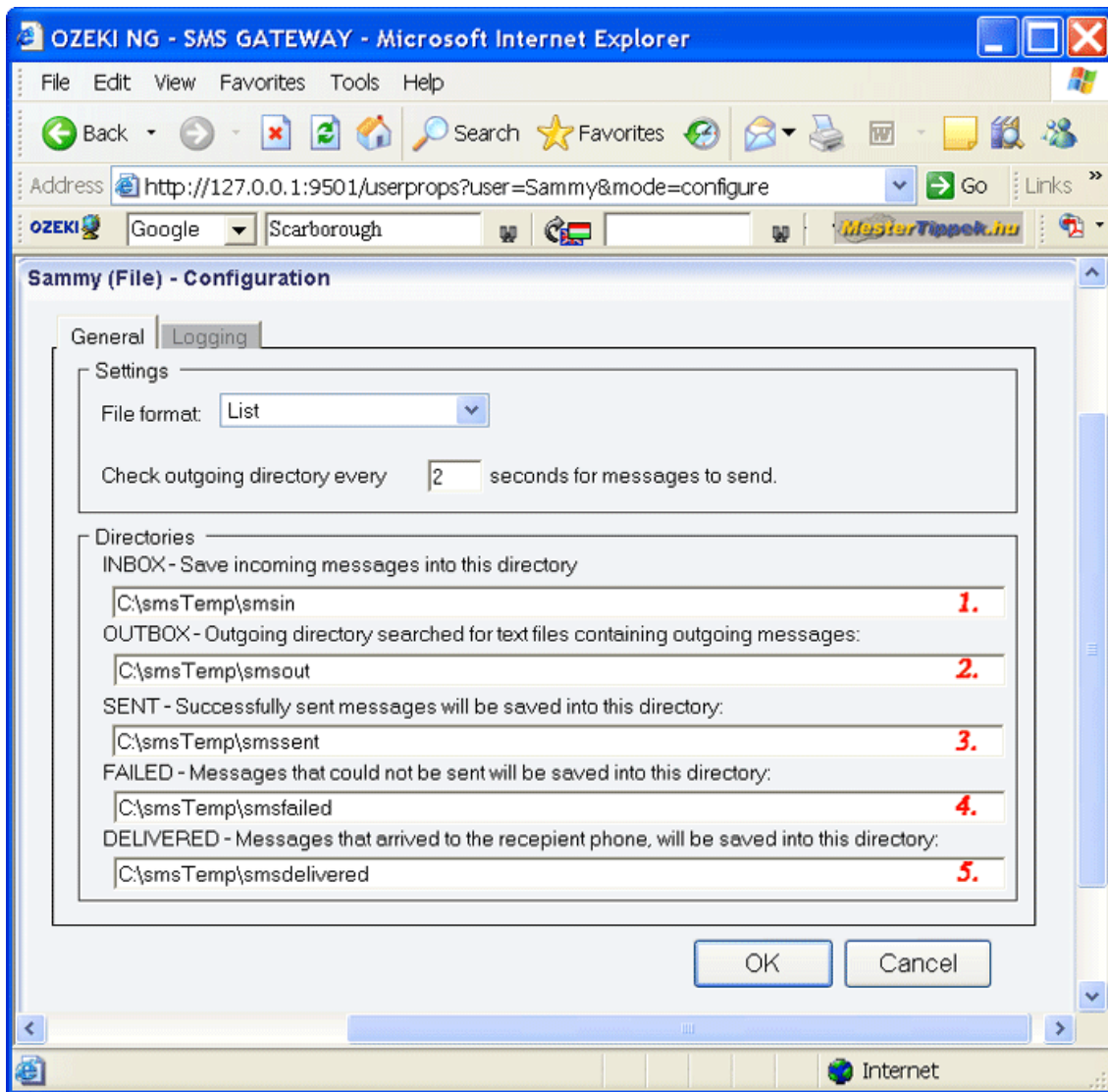


Figure 4 - Default paths

The first directory (INBOX) is for incoming messages, i.e., messages delivered to Ozeki NG - SMS Gateway and destined to the File user (according to [inbound routing](#) rules).

The second directory (OUTBOX) is for outgoing messages, i.e., messages originated by the File user for Ozeki NG - SMS Gateway to send out (according to [outbound routing](#) rules).

The third directory (SENT) is for messages that have been successfully sent out and accepted by an SMS Center for delivery.

The fourth directory (FAILED) is for messages that have failed to be sent out. These messages have not been accepted by the SMS Center for delivery.

The fifth directory (DELIVERED) is for messages that have been delivered to the recipient phone. When Ozeki NG - SMS Gateway receives a delivery report from the SMS Center, a sent message will be inserted into this directory.

### **Sending an SMS message**

When you wish to send a message using the file plugin your application and the SMS engine will work on the same set of files. This cooperation can have conflicts if the same file is accessed by the SMS engine and your application at the same time. To avoid the possible conflicts you can use a locking mechanism when you use the the File API.

In the following example I will give you the steps you should take if you wish to send files using a safe way. (These steps are particularly important if you are using the network to put files to be sent into the SMSout directory. If you use FTP, NFS or Samba to access the remote directory make sure you follow these steps.)

To perform sending 4 directories are used:

- 1.) C:\smsTemp\smsout\ - the outgoing directory
- 2.) C:\smsTemp\smssent\ - the directory that holds the messages that were successfully sent
- 3.) C:\smsTemp\smsfailed\ - the directory that holds the messages that could not be sent.
- 4.) C:\smsTemp\smsdelivered\ - the directory that holds the messages that have arrived to the destination handset.

To send an SMS first you should create a "lock" file in the outgoing directory. A lock file is used to make sure the SMS Engine will not start to read the real file containing the messages while the file is still beeing written. The lock file is an empty file, that has a name that matches the real file. The lock file name has a special extension: .lock. This extension is appended to the end of the filename. After the lock file is created you can edit the real file containing the outgoing message text. When you are finished simply delete the lock file.

Step 1.)

**Create:** C:\smsTemp\smsout\mysms.sml.lock

Step 2.)

**Create:** C:\smsTemp\smsout\mysms.sml

**Write :** C:/smsout/mysms.sml

Step 3.)

**Delete:** C:\smsTemp\smsout\mysms.sml.lock

After you have created your file, you need to wait. The SMS Engine will delete your file, and will try to send the messages. When the sending is done a new text file will be placed into the smssent or the smsfailed directory based on the sending results. When the file is created the same locking steps are performed.

Please take a look at the following diagram:

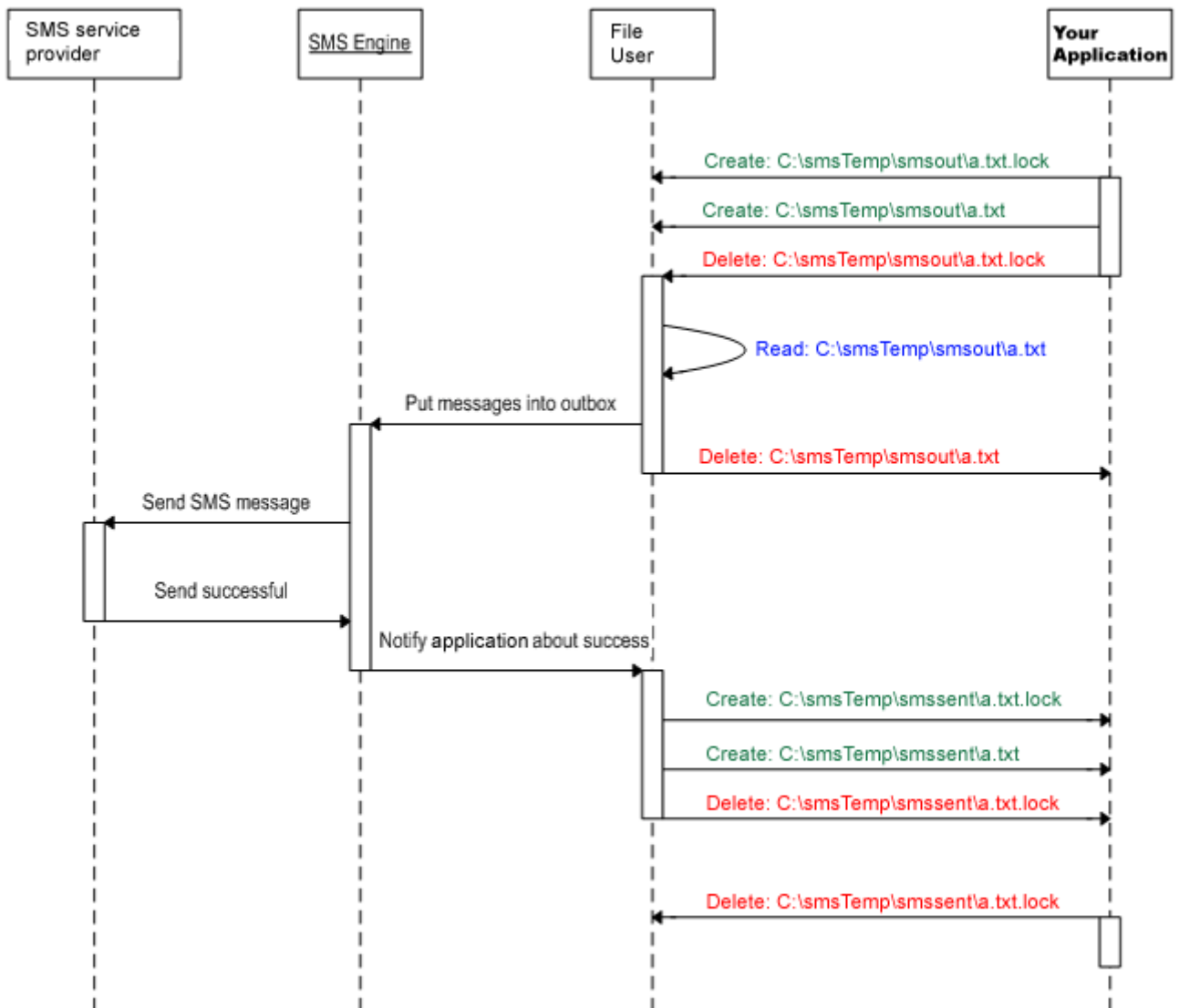


Figure 1 - Sending an SMS using the file user

If the new text file is saved into the sent directory, it means the message was successfully delivered to the SMS network. If delivery reports are configured on the service provider connection configuration form and delivery reports are supported by the SMS service provider, you will receive a status report sms when the SMS is delivered to the destination handset. If this happens, the SMS engine will create a text file with the same locking steps in the smsdelivered directory.

### File formats

As mentioned above, Ozeki NG - SMS Gateway supports the following file formats: simple, verbose and list. You can use any of these formats to send a message. To select a particular format use the configuration form of the file user.

### The simple file format

If you select the simple file format in the dropdown menu (see Figure 3 above), each incoming message will be saved in a separate file. The name of the file is the *sender phone number*, and the only line of the file contains the message. For example:

```
c:\smsout\+36203105366
```

```
Hello world
```

To send messages using the simple file format, create a separate textfile for each outgoing message and place these files into the **smsout** directory. The name of the textfile has to be the recipient phone number. When the message has been sent out, the textfile will be automatically deleted from the directory.

Note that if you want to send more than one message to the same recipient phone number, you can only place a new message into the outgoing directory if the previous message has been sent out and is no longer there. This is because you cannot have two files with the same name in the same directory. If the previously inserted file is still in the directory (has not yet been sent out), you can only insert the new file by overwriting the previous file. Therefore, if you insert a new file with the same name (which is the telephone number of the recipient) into the outgoing directory, your previous SMS message will not be sent out at all. This is because the file containing it will be replaced with a new one. Replacing the previous file is essentially equal to deleting it.

Accordingly, if you select the simple file format, an incoming message from a specific sender phone number will overwrite (delete) the previous message from the same number. Therefore, it is always only the latest message from a specific phone number that will be saved in the inbox. This may be inconvenient if you wish to save more than one SMS message from the same sender. Take this into consideration when you select the file format in the respective dropdown menu.

On the other hand, this file format may be convenient for position tracking SMS applications. The movement of vehicles can be tracked with a GSM device transmitting the vehicle's position coordinates via SMS to the File user of Ozeki NG - SMS Gateway. In this case, it may not be problematic (or it may even be desirable) that only the latest report is saved in the inbox.

### **The verbose file format**

The verbose file format is similar to the simple file format inasmuch as each message resides in a separate file. The difference is that the file contains more information than just the message text. The main advantage of this file format is that you can place into the directory more than one file containing a message to the same destination (phone number). You can give each file any name, which has to be different from the name(s) of any other files(s). Note that the extension of the file has to be **.sms**.

The first line in the file has to contain the sender phone number, the second line contains the recipient phone number, and the message text follows these in the next line. For example:

```
c:\smsout\anyname.sms
```

```
+36203105366  
+36209937723
```

```
The message text
```

### The list file format

The list file format is a convenient way to send and receive a large number of SMS messages. In this case more than one message is stored in the same file.

For outgoing messages you should create a text file in which each line contains a message with the recipient's phone number (in international format) before it. The phone number and the message text is separated by a space character. When the messages are ready to be sent, place the file into the outgoing (smsout) directory. The file name needs to have the **.sml** extension (sml stands for SMS list). For example:

```
c:\smsout\list.sml
```

```
+36205555366 This is the first message  
+36209937723 This is the second message  
+36307789723 Use Ozeki NG - SMS Gateway!
```

### The XML file format

The XML file format you can use is:

```
<Envelope>  
  <MessageType>SMS:TEXT</MessageType>  
  
  <Originator>+36203105366</Originator>  
  
  <Receipient>+36209937723</Receipient>  
  
  <Subject>Hello world</Subject>  
</Envelope>
```

You should place this text file into the c:\tmpsmsout directory. For example you can save it as "c:\tmp\smsout\mysms.txt"

Please note that if you wish to change the file extension to xml from txt, you must modify the extension setting on the "Special" tab of the file plugin configuration form.

### Logging configuration

To configure logging related to the File user, click the **Logging** tab in the **Configuration** panel.

The tab has a **Logging** and a **Log file settings** section. Here, you can choose whether to make the program write log entries about sent and received messages in human readable format and/or log file content.

You should check one or both of the checkboxes, as logfiles can be useful in debugging communication problems (Figure 5).



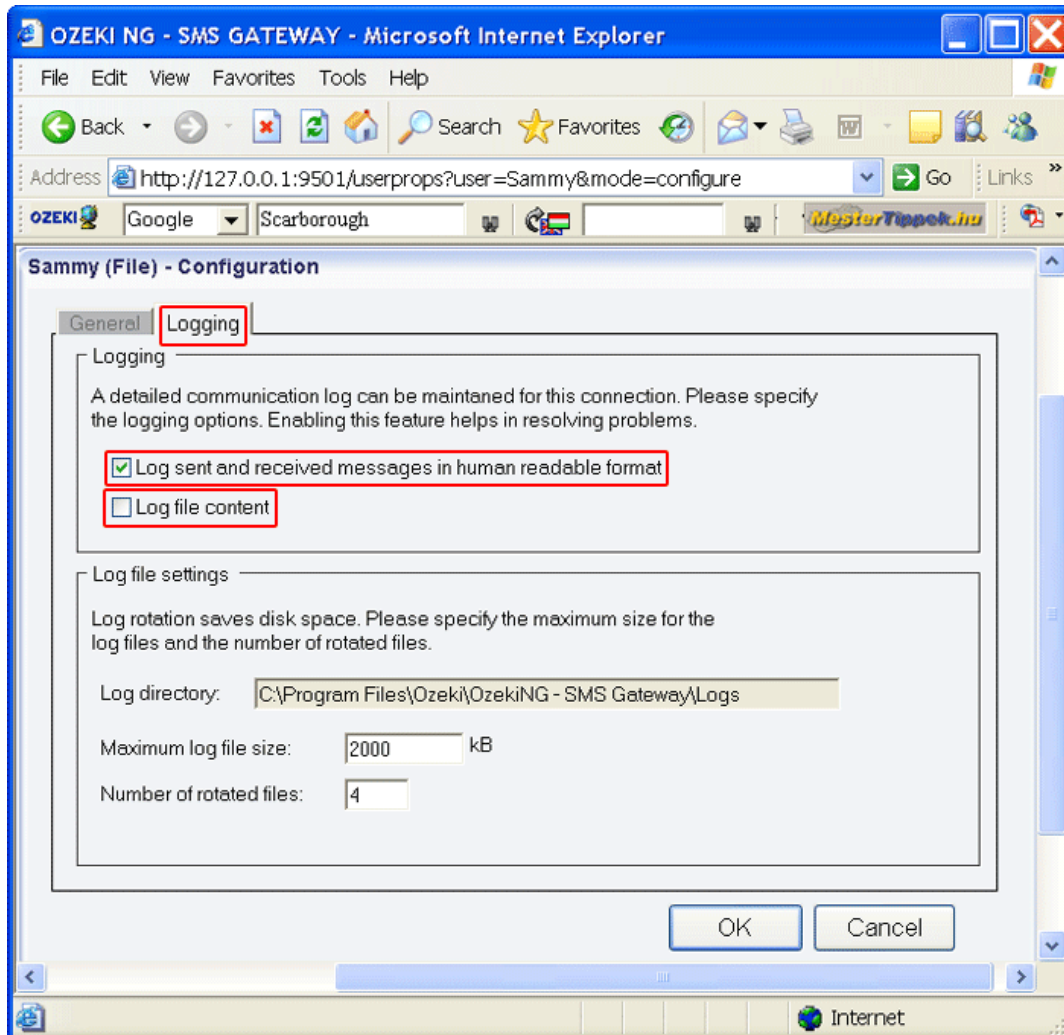


Figure 5 - Logging options

In the **Log file settings** section of the tab, you can make specifications for the size and the number of available logfiles.

Log rotation saves disk space, as it ensures that older (and probably no longer needed) logfiles will be automatically deleted from the log directory, which is specified in the **Log directory** text box. By default, the path to the logfiles is: C:\Program Files\Ozeki\OzekiNG - SMS Gateway\Logs

In the **Maximum log file size** text box in the **Logfile settings** section, you can specify the maximum size of a logfile. Once this size is reached, a new logfile will be created. Specify the number of kilobytes for the size of a logfile by entering a positive whole number. By default, the maximum logfile size is 2000 kB.

In the **Number of rotated files** text box, specify the maximum number of rotated logfiles that are saved. Specify this number by entering a positive whole number. By default, the number of logfiles that are saved is 4 (see Figure 4 above).

If you are content with the default specifications, leave the text boxes unchanged.

To modify the configuration or to view server events related to an installed user, open the panel of the user's account. To do this, click the name of the user in the **Users and Applications** panel of the **Management Console**. In the panel of the user's account, click the link of the task you wish to perform (Figure 6).

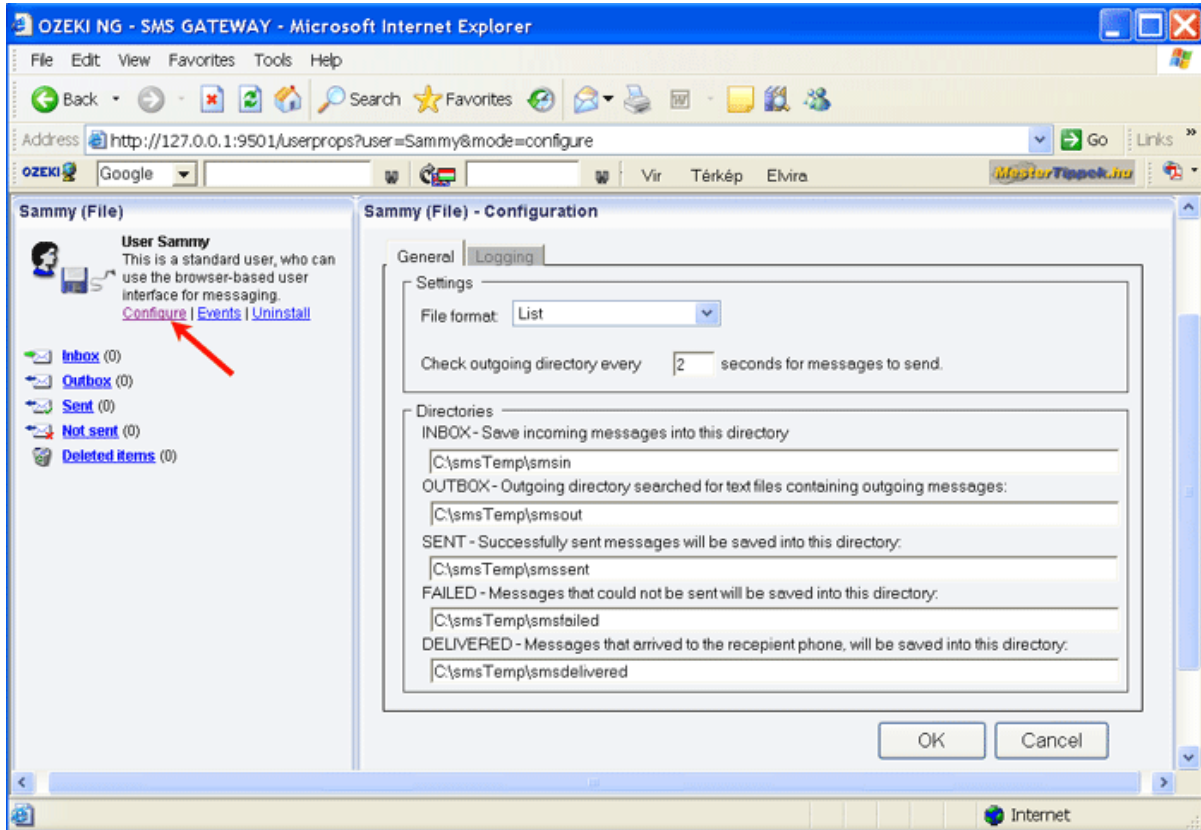


Figure 6 - Clicking a user-related task link

## HTTP Client User

**This chapter explains how to install and configure an HTTP Client user for SMS messaging using the graphical user interface of the Ozeki NG - SMS Gateway software.**

Ozeki NG - SMS Gateway allows, among others (see the [Users and Applications](#) page), the installation and configuration of an HTTP Client user.

The HTTP Client takes incoming messages and passes them in an HTTP GET or an HTTP POST request to an external webserver. The HTML page returned by the webserver can contain SMS messages that will be sent by the server (Figure 1).



Figure 1 - Ozeki NG - SMS Gateway as an HTTP SMS Gateway

The HTTP client is a very convenient feature of Ozeki NG Gateway, as it can translate mobile communication into HTTP-based communication. The Ozeki NG Gateway works as both a gateway and a translator between mobile communication and the Internet. It enables you to create HTTP client connections that can forward messages to a web address (URL).

You can use the [graphical user interface](#) of Ozeki NG - SMS Gateway to install and configure any user.

To start installing and configuring an HTTP Client user, click the **Add** button in the top right-hand corner of the **Users and Applications** panel on the right of the **Management Console**. You can also add a user by clicking the **Add user** item in the **Users and applications** menu (Figure 2).

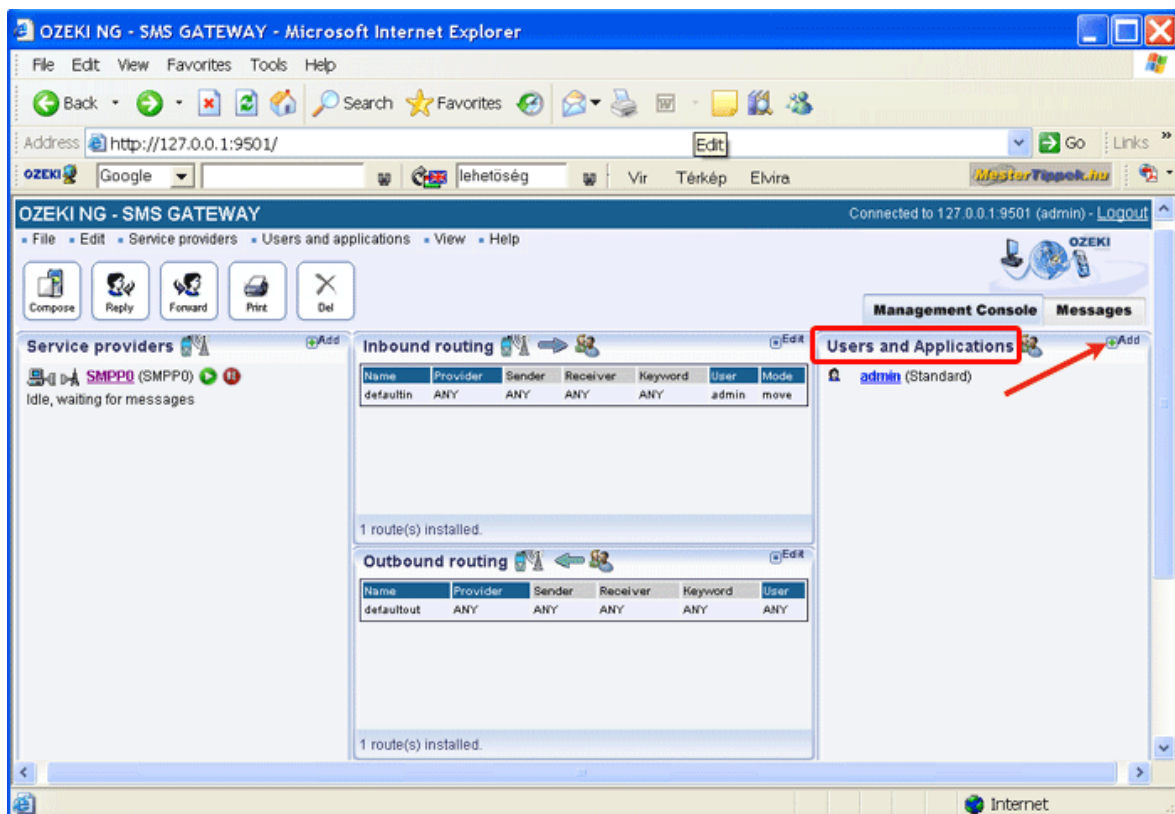


Figure 2 - Adding a user

This will bring up an interface consisting of two panels.

The panel on the left contains a list of users that have been installed. In the bar at the bottom of the page you can read how many users have been installed.

The panel on the right contains a list of users that can be installed.

Each user in the left-hand panel is listed with a unique name (and the user type stated in brackets).

Each user in the right-hand panel is listed with the name of its type and a brief description of what it can be used for.

To add an HTTP user, click the **Install** link in the respective entry in the list (Figure 3).

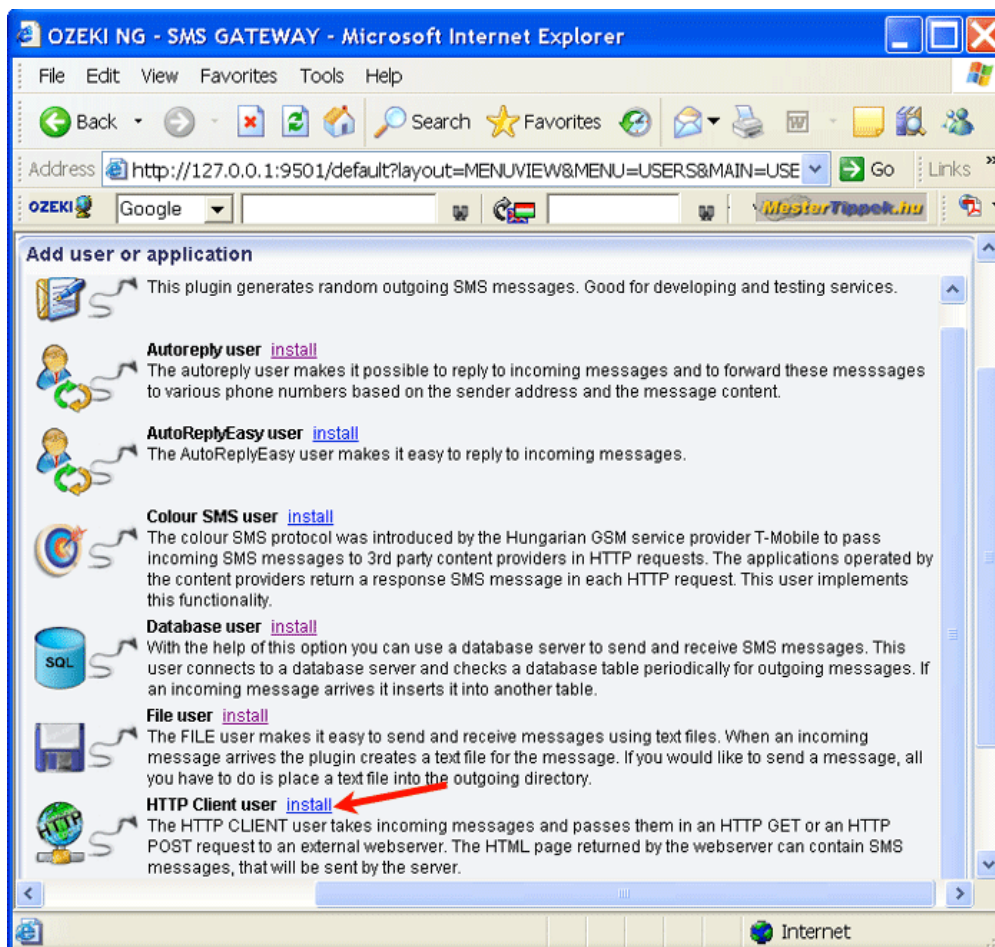


Figure 3 - Installing an HTTP Client user

When installing a user (type), you need to give it a unique username. Clicking the **Install** link will bring up the **HTTP Client user installation** panel. Here, you need to enter a unique username in the **Username** field.

Once you have installed an HTTP Client user, you can start to configure it. After you have provided a unique name for the HTTP Client user and clicked **OK**, the **Configuration** panel will open.

The first tab that will show up is the **HTTP settings** tab.

In this panel you need to specify HTTP Client settings. This information is provided by the SMS service provider when you subscribe to the service (Figure 4).



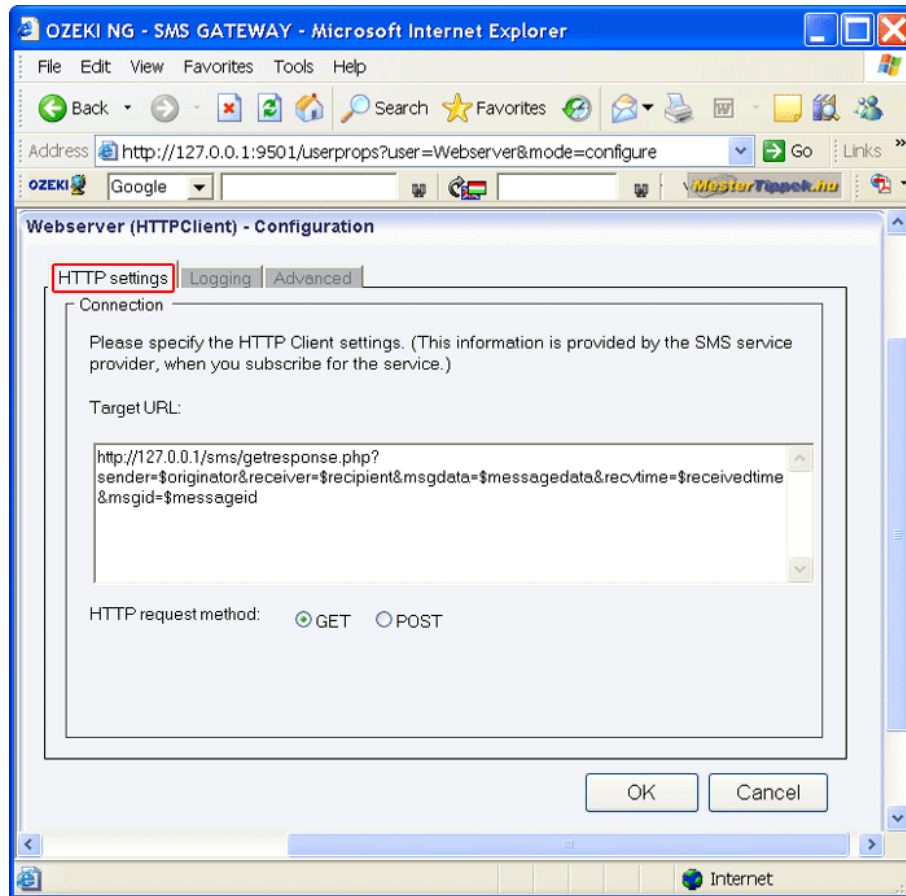


Figure 4 - The HTTP settings tab

In the **Target URL** template you can specify the URL of the HTTP server. This URL can contain certain keywords that will be replaced before the URL is called. The following keywords can be used:

Keyword	Description
\$originator	This denotes the sender telephone number.
\$recipient	This denotes the recipient telephone number.
\$messagetype	This the text containing the <a href="#">SMS message format</a> .
\$messagedata	This contains the message text.
\$receivedtime	This is the timestamp, denoting when the message was received.
\$senttime	This is the timestamp, denoting when the message was sent.
\$messageid	This is the unique identifier string of the message. This identifier is generated by Ozeki NG - SMS Gateway.
\$dcs	The SMS data coding scheme.
\$pid	The protocol identifier.
\$operator	The instance name of the service provider connection that received the message.

Below this template, you can specify the HTTP request method by selecting the **GET** or the **POST** radio button.



The HTTP transaction is initiated by the SMS Gateway and is served by a web based application. ASP, PHP, JSP are good options to create a web based application that can process the incoming messages. These applications can optionally return one or more response SMS messages in the HTTP response. The format for the HTTP response is discussed on the [SMS Message format page](#). An example of the response your application can return is:

```
{SMS:TEXT}{Vodafone}{+447778888888}{+447779999999}{Hello world}
```

To configure logging related to the HTTP user, click the **Logging** tab in the **Configuration** panel.

The tab has a **Logging** and a **Log file settings** section. Here, you can choose whether to make the program write log entries about sent and received messages in human readable format and/or log low level communication. Choosing the latter option will make the program produce logfiles containing binary codes representing the communication data.

You should check at least the **Log sent and received messages in human readable format** checkbox, as logfiles can be useful in debugging communication problems (Figure 5).

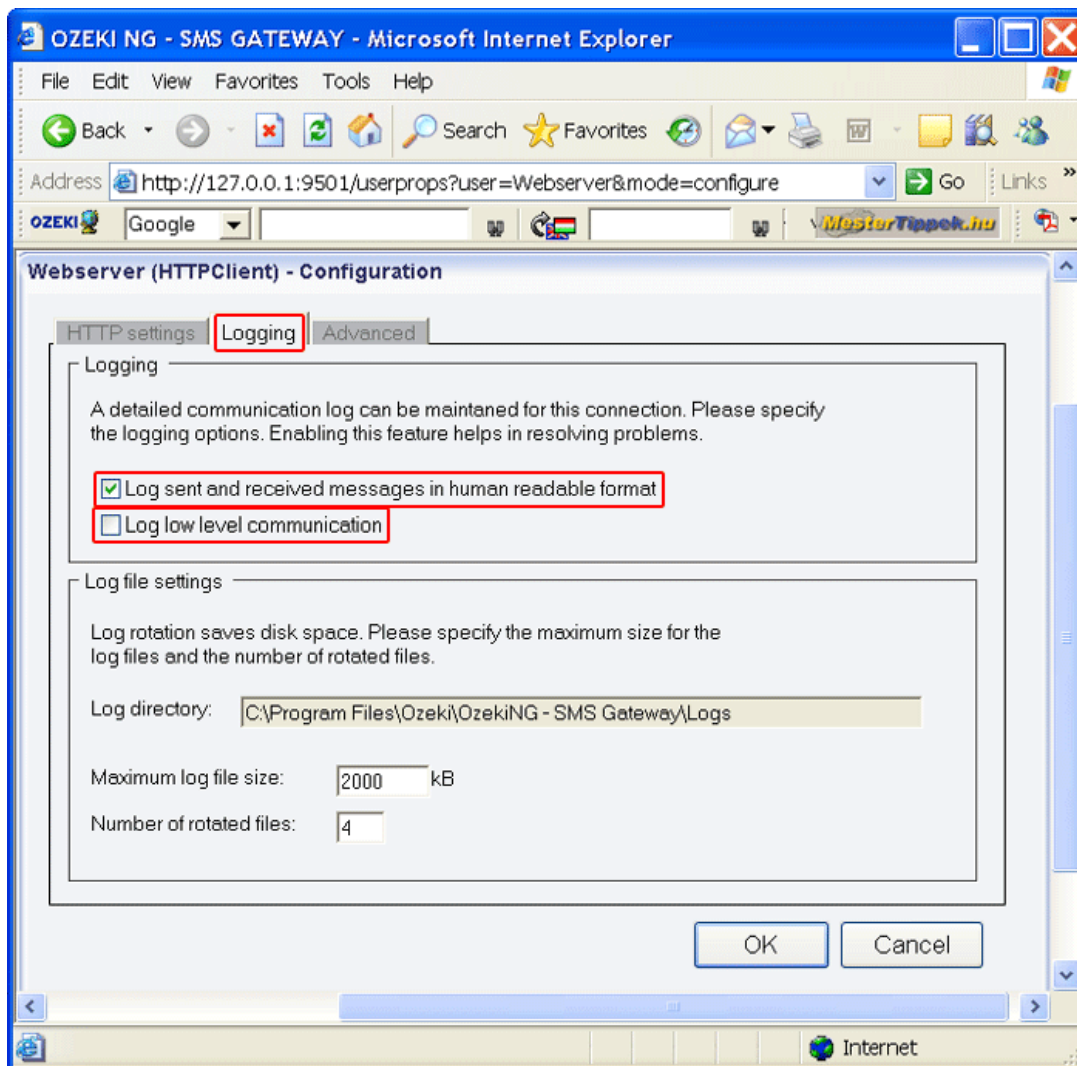


Figure 5 - Logging options

In the **Log file settings** section of the tab, you can make specifications for the size and the number of available logfiles.

Log rotation saves disk space, as it ensures that older (and probably no longer needed) logfiles will be automatically deleted from the log directory, which is specified in the **Log directory** text box. By default, the access path to the logfiles is: C:\Program Files\Ozeki\OzekiNG - SMS Gateway\Logs

In the **Maximum log file size** text box in the **Logfile settings** section, you can specify the maximum size of a logfile. Once this size is reached, a new logfile will be created. Specify the number of kilobytes for the size of a logfile by entering a positive whole number. By default, the maximum logfile size is 2000 kB.

In the **Number of rotated files** text box, specify the maximum number of rotated logfiles that are saved. Specify this number by entering a positive whole number. By default, the number of logfiles that are saved is 4 (see Figure 5 above).

If you are content with the default specifications, leave the text boxes unchanged.

To modify the configuration or to view server events related to an HTTP Client user, open the panel of the user's account. To do this, click the name of the user in the **Users and Applications** panel of the **Management Console**. In the panel of the user's account, click the link of the task you wish to perform (Figure 6).

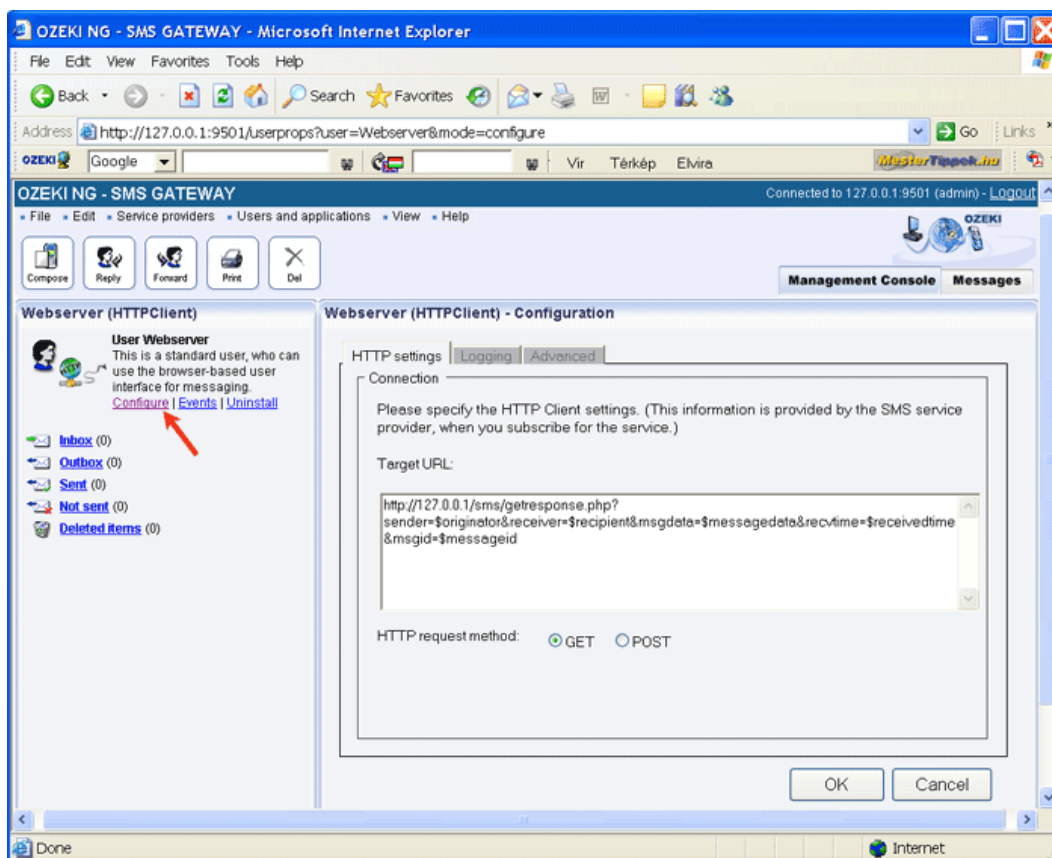


Figure 6 - Clicking a user-related task link

## Colour SMS User

This chapter explains how to install and configure a Colour SMS user for SMS messaging using the graphical user interface of the Ozeki NG - SMS Gateway software.

Ozeki NG - SMS Gateway allows, among others (see the [Users and Applications](#) page), the installation and configuration of a Colour SMS user.

The Colour SMS protocol was developed by T-mobile Hungary for premium rate SMS services. It is an easy to use HTTP based SMS protocol. When a customer tries to access a premium rate SMS service by sending an SMS to a premium rate phone number, the SMSC transfers this message as an HTTP post request to the HTTP Server operated by the content provider. The content provider returns a response to the HTTP request in XML format. This response is sent as an SMS message back to the customer. The HTTP server operated by the service provider is Ozeki NG - SMS Gateway. This user implements this functionality (Figure 1).

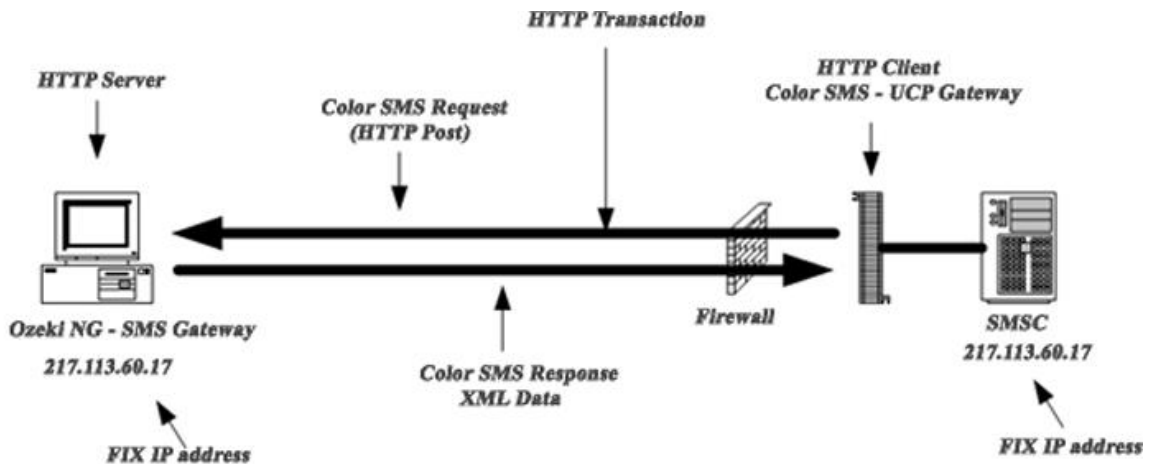


Figure 1 - Colour SMS transport

Due to the nature of the HTTP protocol, it is always required to return a response to incoming messages in a short period of time. The Colour SMS protocol is often used with other connection methods, such as UCP to make delayed responses to incoming messages possible. Using a UCP connection, response messages can be sent at a later time, which is useful if you would like to set up periodic SMS notifications, such as weekly news service.

You can use the [graphical user interface](#) of Ozeki NG - SMS Gateway to install and configure any user.

To start installing and configuring a Colour SMS user, click the **Add** button in the top right-hand corner of the **Users and Applications** panel on the right of the **Management Console**. You can also add a user by clicking the **Add user** item in the **Users and applications** menu. (Figure 2).

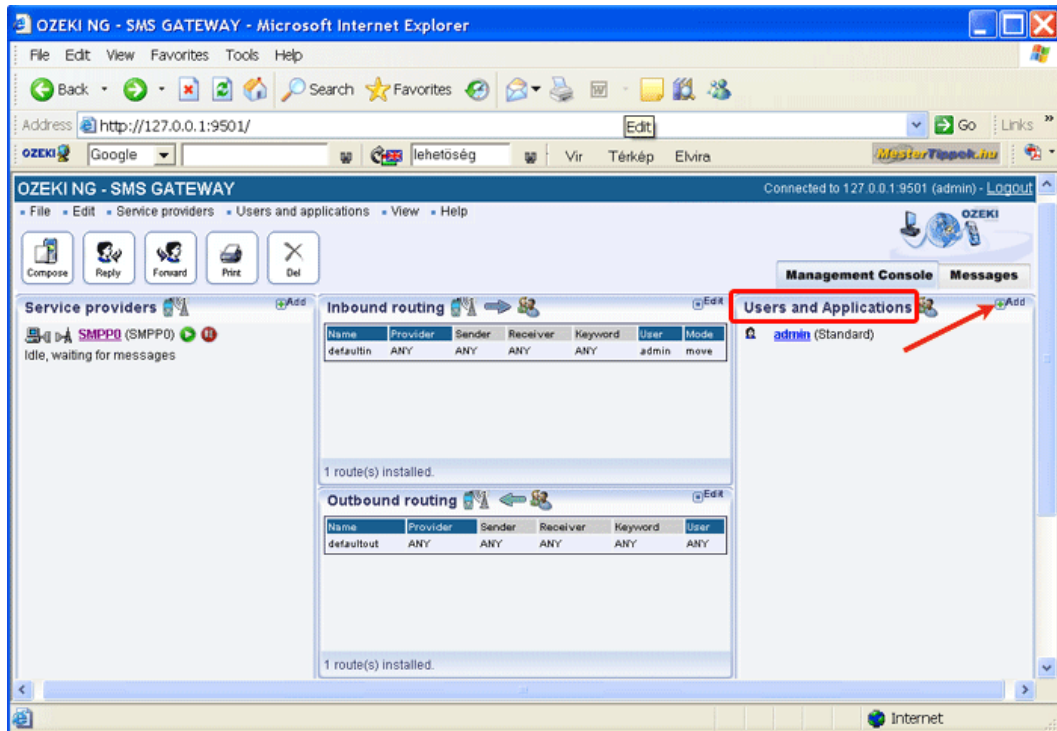


Figure 2 - Adding a user

This will bring up an interface consisting of two panels.

The panel on the left contains a list of users that have been installed. In the bar at the bottom of the page you can read how many users have been installed.

The panel on the right contains a list of users that can be installed.

Each user in the left-hand panel is listed with a unique name (and the user type stated in brackets).

Each user in the right-hand panel is listed with the name of its type and a brief description of what it can be used for.

To add a Colour SMS user, click the **Install** link in the respective entry in the list (Figure 3).



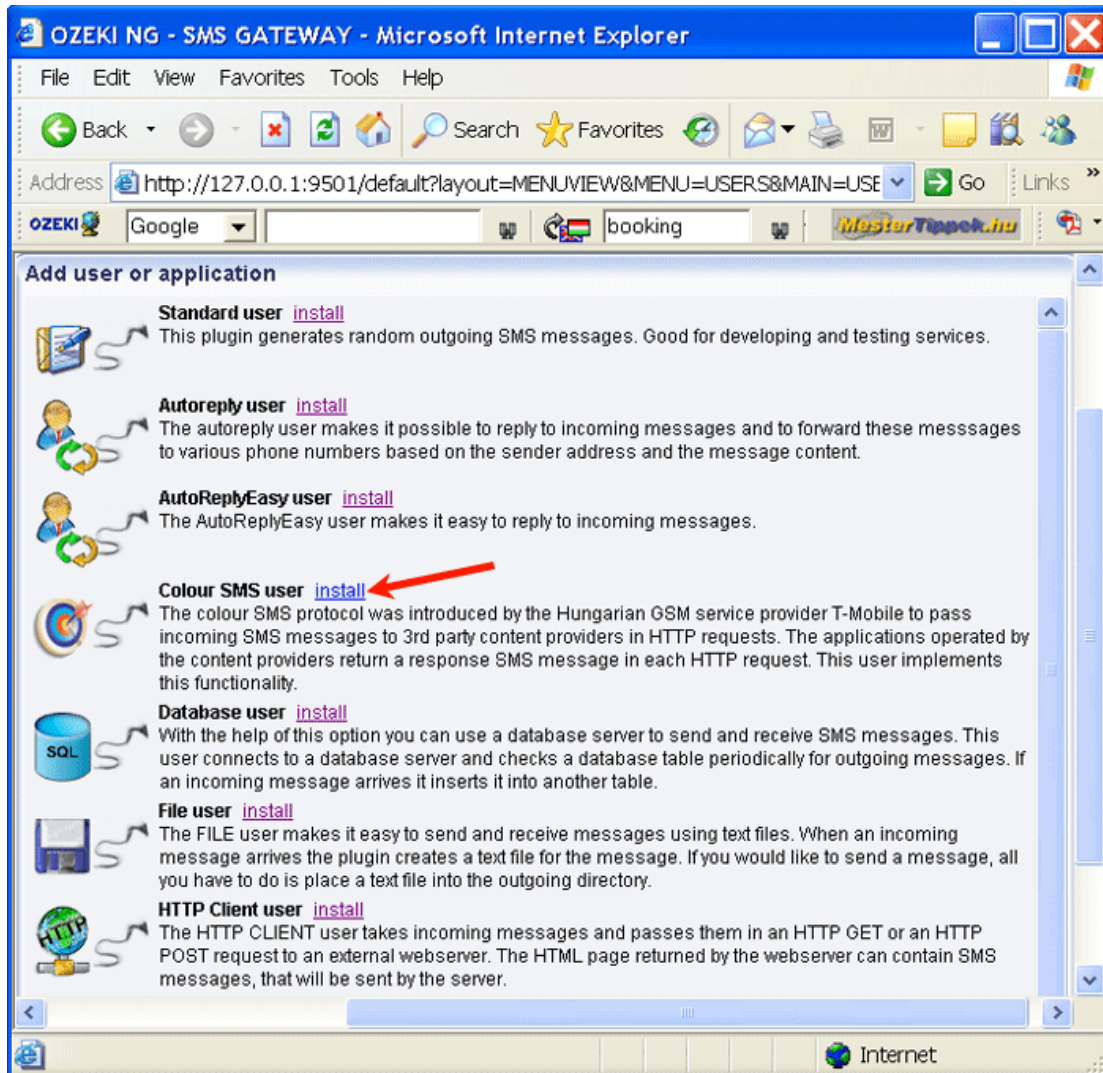


Figure 3 - Installing a Colour SMS user

When installing a user (type), you need to give it a unique username. Clicking the **Install** link will bring up the **Colour SMS user installation** panel. Here, you need to enter a unique username in the **Username** field.

Once you have installed a Colour SMS user, you can start to configure it. After you have provided a unique name for the Colour SMS user and clicked **OK**, the **Configuration** panel will open.

The first tab that will show up is the **HTTP settings** tab.

In this panel you need to specify HTTP Client settings. This information is provided by the SMS service provider when you subscribe to the service (Figure 4).



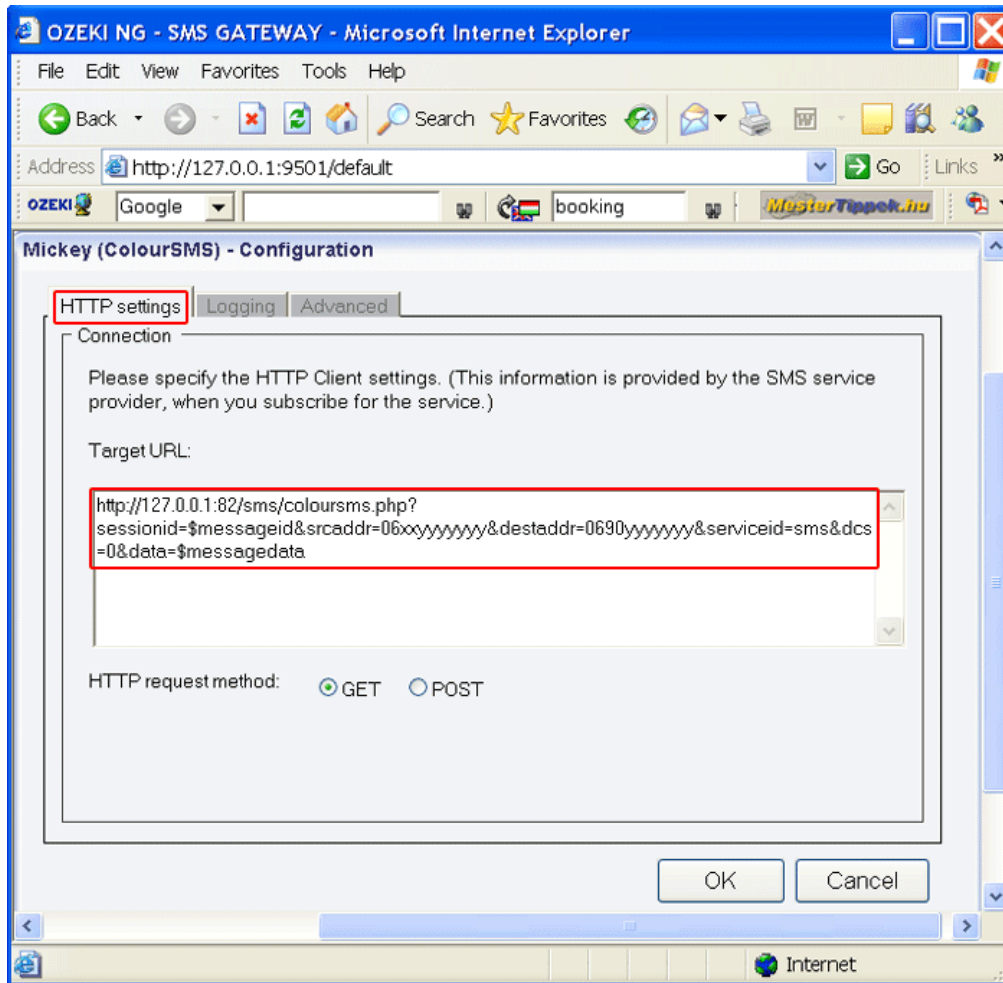


Figure 4 - The HTTP settings tab

In the **Target URL** template you can specify the URL of the HTTP server. This URL can contain certain keywords that will be replaced before the URL is called.

Below this template, you can specify the HTTP request method by selecting the **GET** or the **POST** radio button.

To configure logging related to the Colour SMS user, click the **Logging** tab in the **Configuration** panel.

The tab has a **Logging** and a **Log file settings** section. Here, you can choose whether to make the program write log entries about sent and received messages in human readable format and/or log low level communication. Choosing the latter option will make the program produce logfiles containing binary codes representing the communication data.

You should check at least the **Log sent and received messages in human readable format** checkbox, as logfiles can be useful in debugging communication problems (Figure 5).

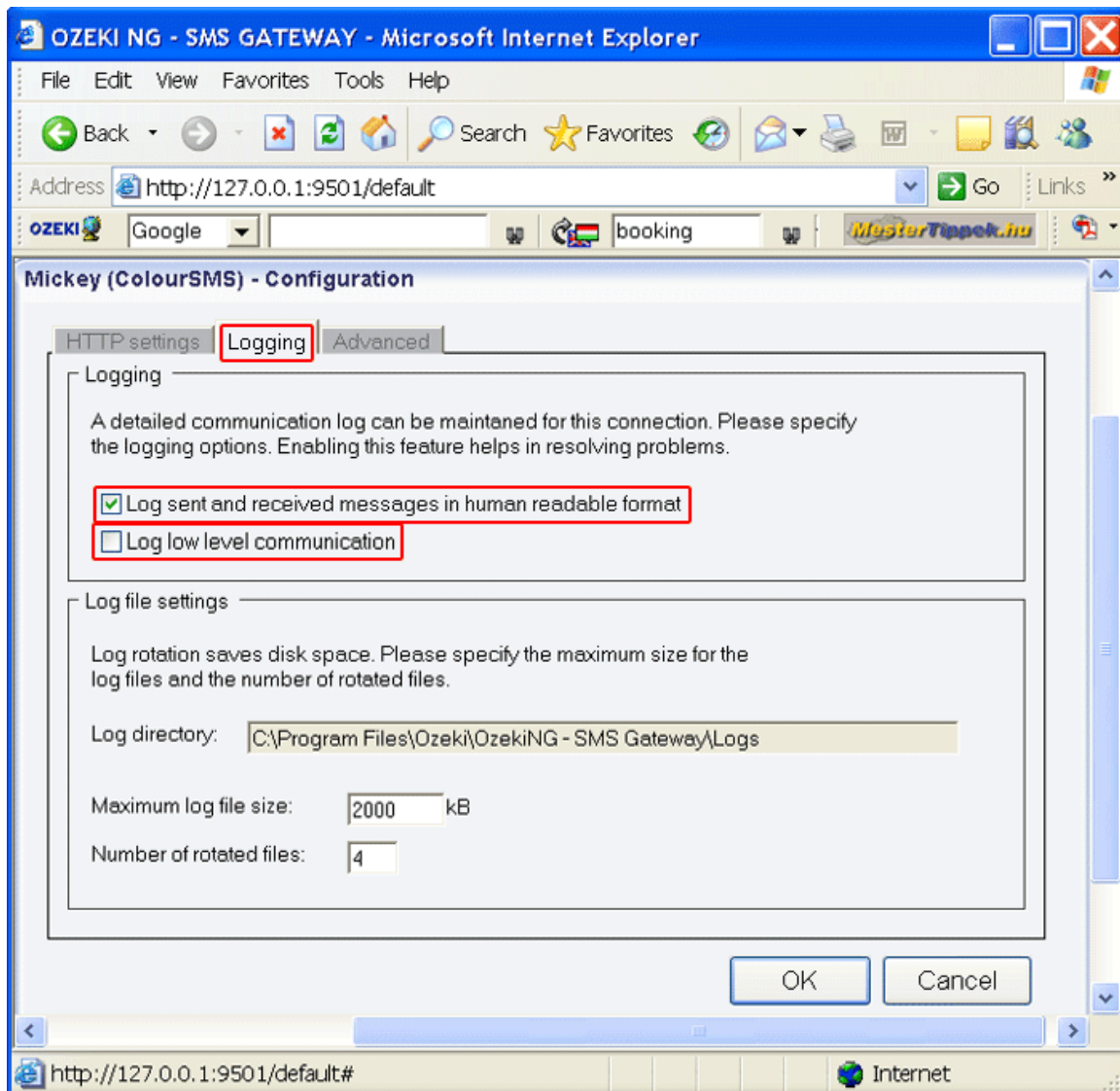


Figure 5 - Logging options

In the **Log file settings** section of the tab, you can make specifications for the size and the number of available logfiles.

Log rotation saves disk space, as it ensures that older (and probably no longer needed) logfiles will be automatically deleted from the log directory, which is specified in the **Log directory** text box. By default, the access path to the logfiles is: C:\Program Files\Ozeki\OzekiNG - SMS Gateway\Logs

In the **Maximum log file size** text box in the **Logfile settings** section, you can specify the maximum size of a logfile. Once this size is reached, a new logfile will be created. Specify the number of kilobytes for the size of a logfile by entering a positive whole number. By default, the maximum logfile size is 2000 kB.

In the **Number of rotated files** text box, specify the maximum number of rotated logfiles that are saved. Specify this number by entering a positive whole number. By default, the number of logfiles that are saved is 4 (see Figure 5 above).

If you are content with the default specifications, leave the text boxes unchanged.

To modify the configuration or to view server events related to a Colour SMS user, open the panel of the user's account. To do this, click the name of the user in the **Users and Applications** panel of the **Management Console**. In the panel of the user's account, click the link of the task you wish to perform (Figure 6).

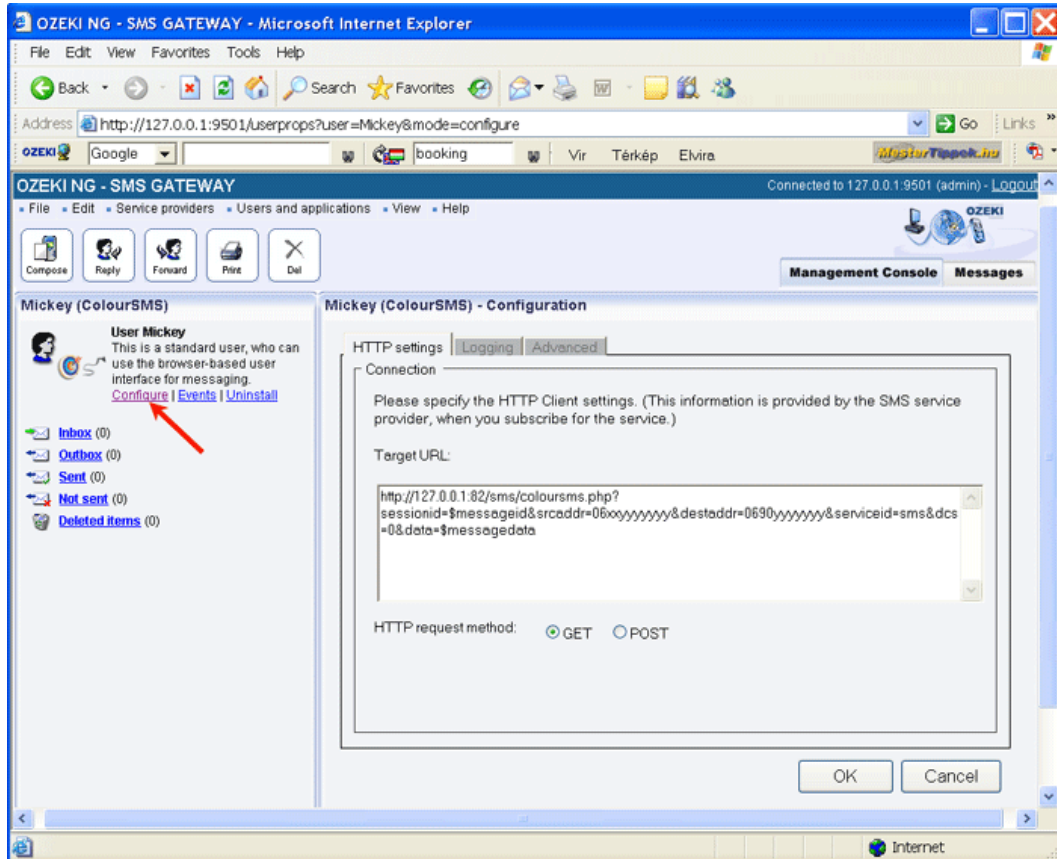


Figure 6 - Clicking a user-related task link

## E-mail User

**This chapter provides an introduction to the E-mail user. You can learn what it can be used for, and how to install it using the graphical user interface of the Ozeki NG - SMS Gateway software. You are also provided with links to respective pages instructing you how to configure it to send an e-mail as an SMS message and to send an SMS message as an e-mail.**

Ozeki NG - SMS Gateway allows, among others (see the [Users and Applications](#) page), the installation and configuration of an E-mail user. This is an automated user that can be used to realize two-way e-mail - SMS gateway service. It can forward an incoming e-mail as an SMS message to a specified phone number (or phone numbers), and an incoming SMS message as an e-mail to a specified e-mail address or e-mail addresses (Figure 1).

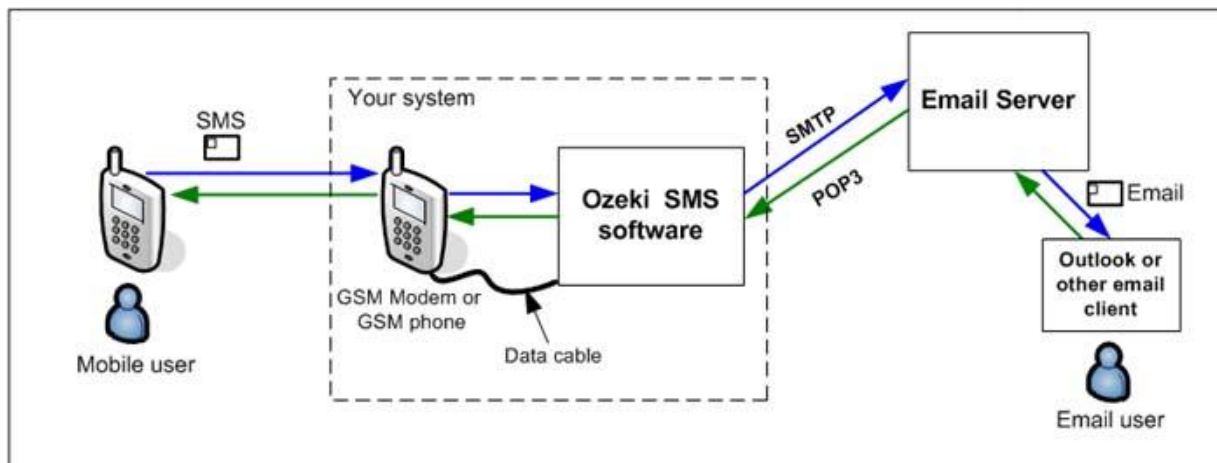


Figure 1 - System architecture of the service

The Ozeki NG - SMS Gateway software acts as an e-mail client, using an SMTP server to send, and a POP3 server to receive messages. You can use its [graphical user interface](#) to install and configure an E-mail user.

For detailed instructions on how to realize a two-way E-mail - SMS gateway service and a detailed explanation of Figure 1, check out the [How to Set up an E-mail - SMS Gateway](#) page.

To start installing and configuring an E-mail user, click the **Add** button in the top right-hand corner of the **Users and Applications** panel on the right of the **Management Console**. You can also add a user by clicking the **Add user** item in the **Users and applications** menu (Figure 2).

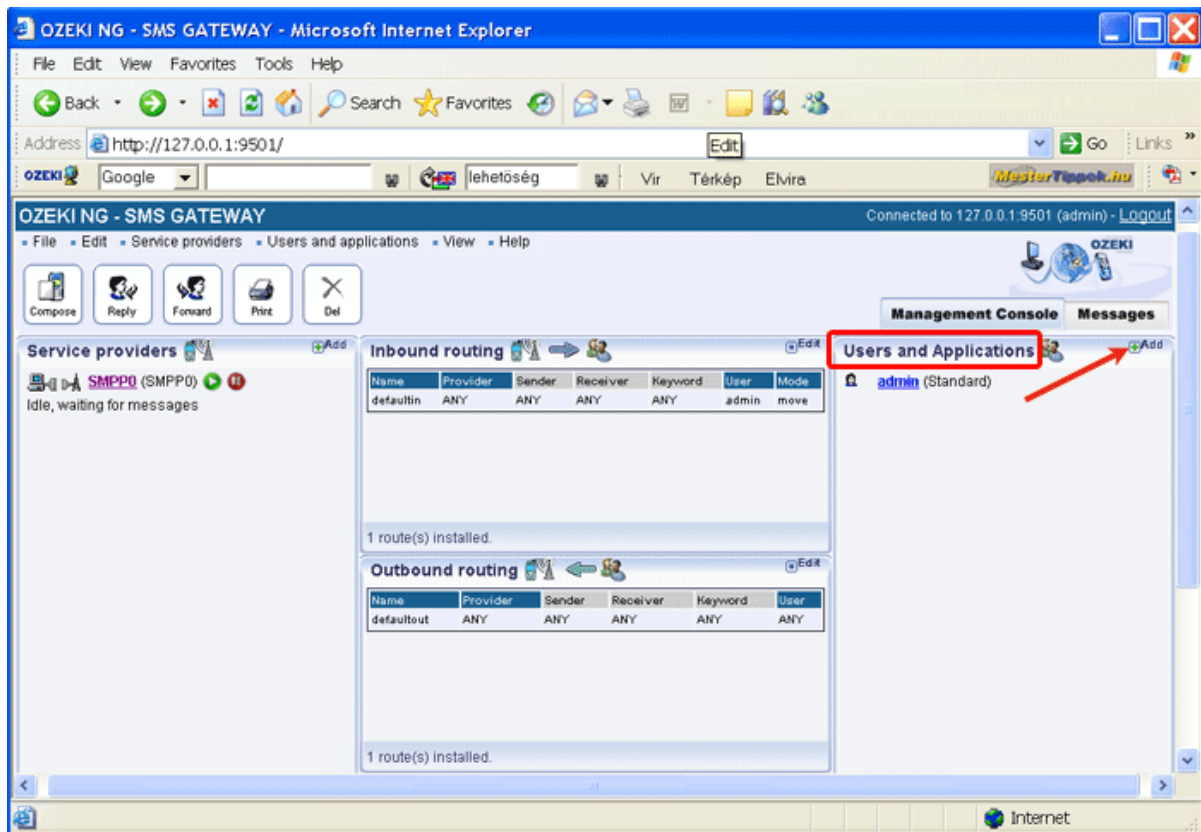


Figure 2 - Adding a user

This will bring up an interface consisting of two panels.

The panel on the left contains a list of users that have been installed. In the bar at the bottom of the panel you can read how many users have been installed.

The panel on the right contains a list of users that can be installed.

Each user in the left-hand panel is listed with a unique name (and the user type stated in brackets).

Each user in the right-hand panel is listed with the name of its type and a brief description of what it can be used for.

To start installing an E-mail user, click the **Install** link in the respective entry in the list (Figure 3).



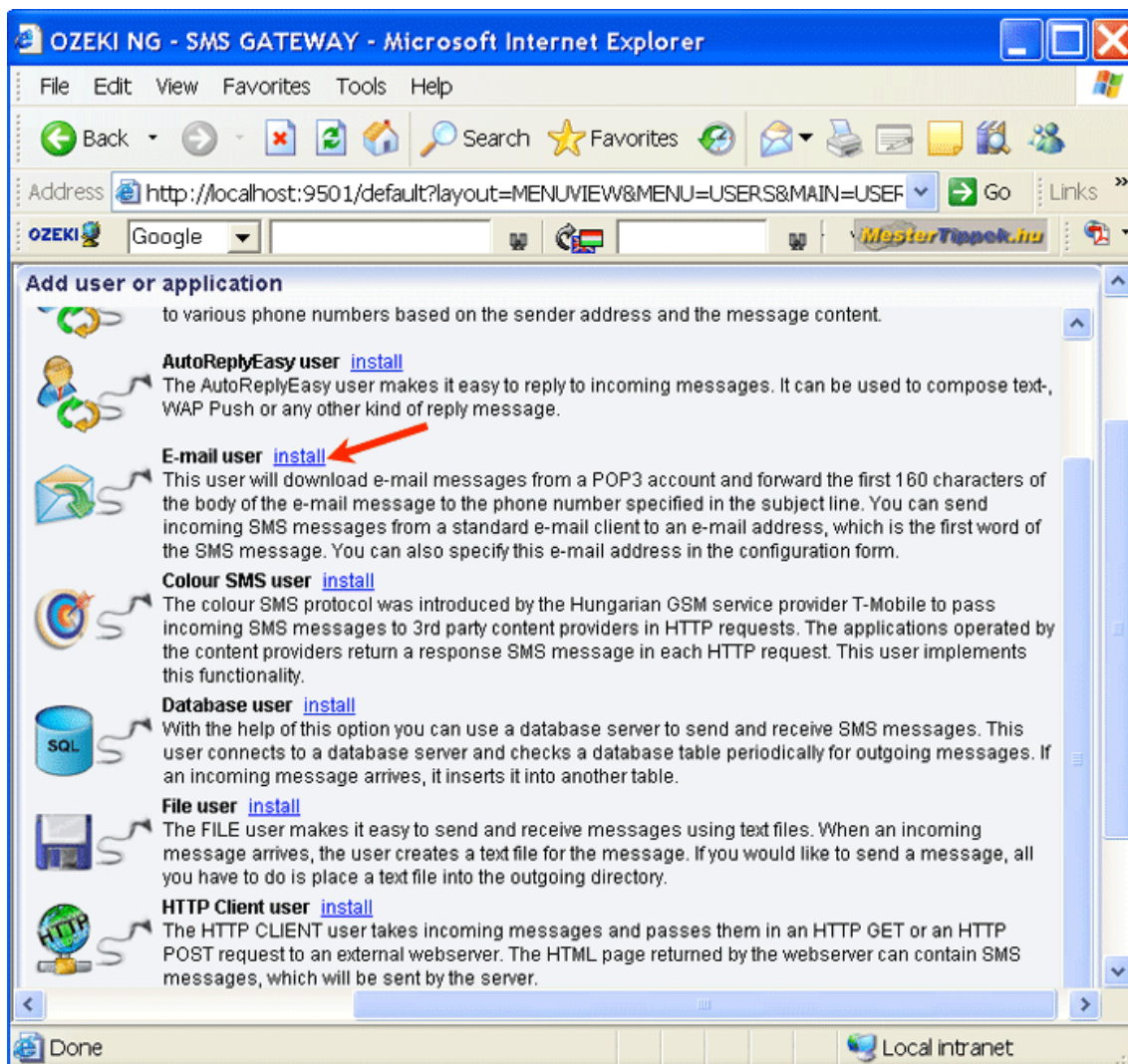


Figure 3 - Installing an E-mail user

When installing a user (type), you need to give it a unique username. Clicking the **Install** link will bring up the **E-mail user installation** panel. Here, you need to enter a unique username in the **Username** field.

After specifying a unique username for the E-mail user, the **E-mail to SMS** tab of the **Configuration** panel will show up. Now you can start to configure the user.

To find out how to configure it to forward an incoming e-mail as an incoming SMS message to a specified phone number, check out the [E-mail to SMS Configuration](#) page.

To learn how to configure it to send an incoming SMS message to a specified e-mail address, read the [SMS to E-mail Configuration](#) page.

To modify the configuration or to view server events related to an installed user, open the panel of the user's account. To do this, click the name of the user in the **Users and Applications** panel of the **Management Console**. In the panel of the user's account, click the link of the task you wish to perform (Figure 4).

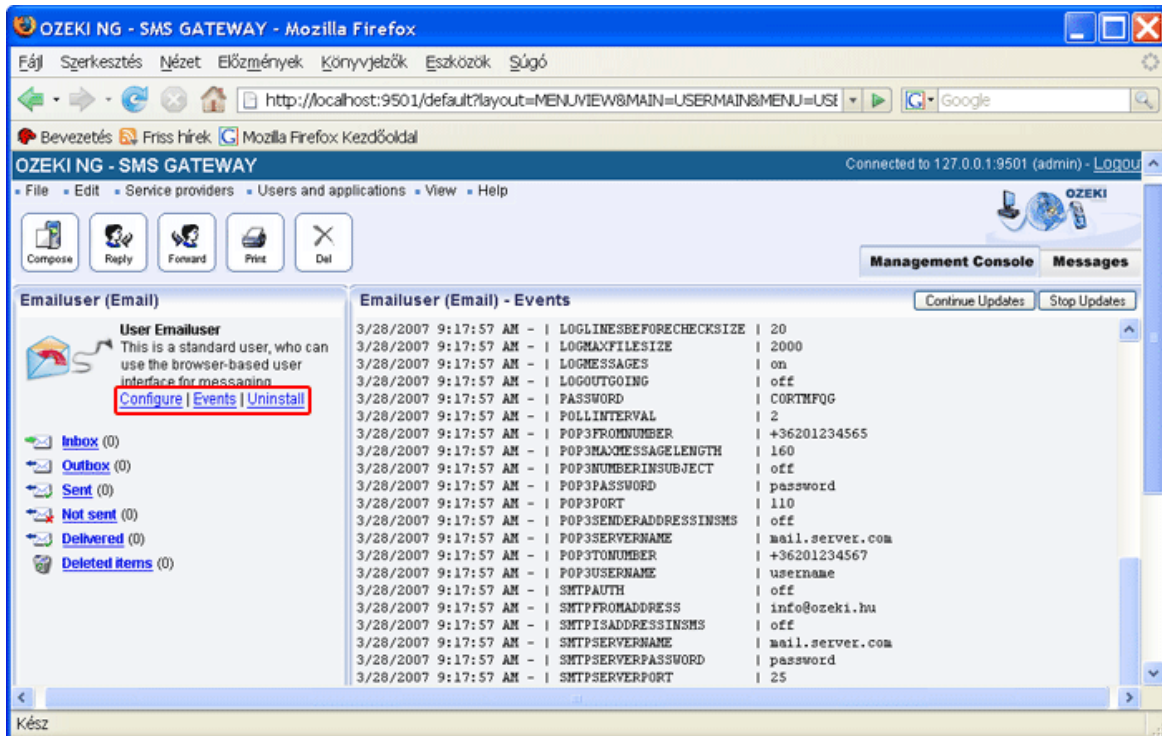


Figure 4 - User-related task links

## E-mail to SMS Configuration

This section provides you with step-by-step instructions on how to configure the E-mail user of the Ozeki NG - SMS Gateway software to forward an incoming e-mail as an SMS message to a specified phone number.

The E-mail user, which is one of the installable users of Ozeki NG - SMS Gateway, can forward an incoming e-mail as an SMS message to a specified phone number. It will periodically download e-mails from a POP3 e-mail account and forward the first 160 characters of the body of an e-mail to the phone number specified in the configuration form of the user. It can also forward an e-mail as an SMS message to a phone number (or phone numbers) specified in the subject line of the e-mail (Figure 1).

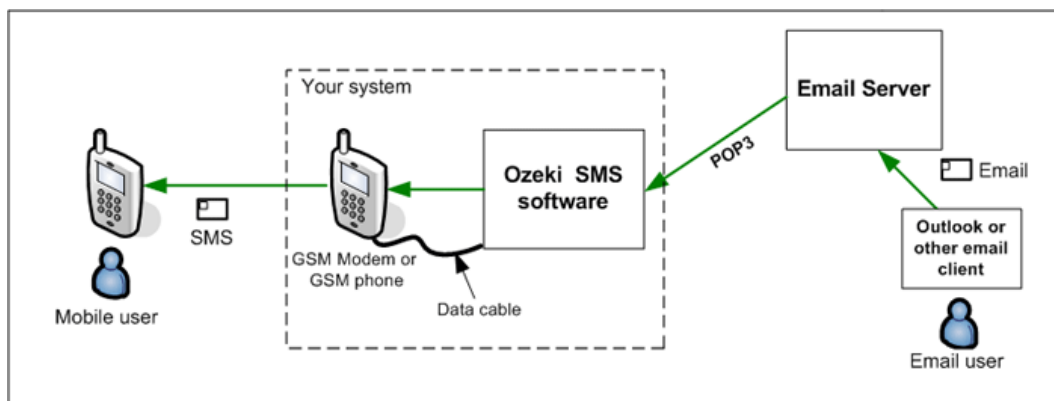


Figure 1 - Incoming e-mail sent out as SMS

After the installation of the E-mail user (for installation instructions, check out the [E-mail User](#) page), you can start to configure it using the [graphical user interface](#) of the software.

After specifying a unique username for the E-mail user, which is the last step of the [installation](#), the **E-mail to SMS** tab of the **Configuration** panel will show up. This tab consists of the **POP3 settings** and the **SMS settings** section (Figure 2).

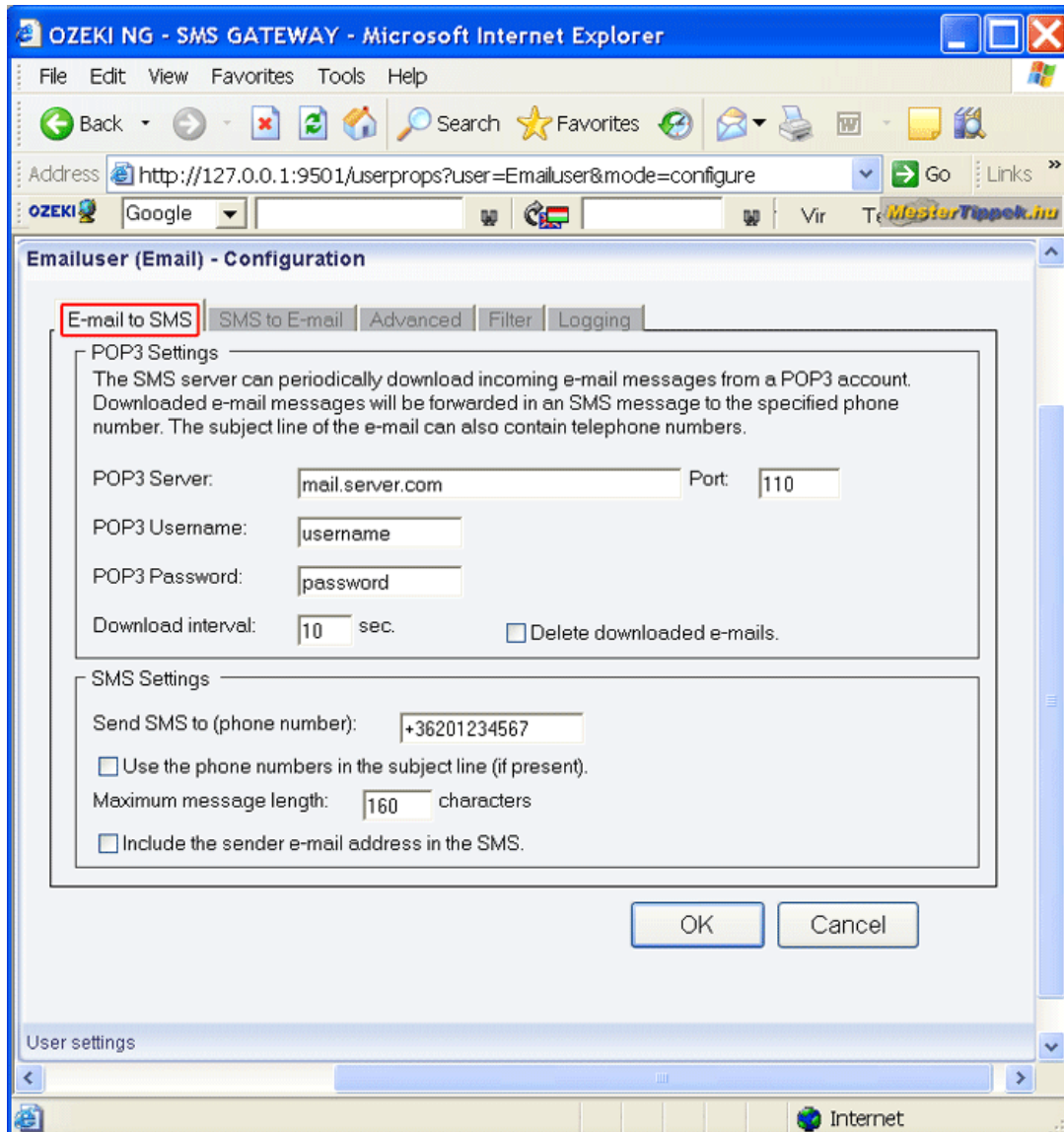


Figure 2 - The E-mail to SMS tab

As mentioned above, Ozeki NG - SMS Gateway can periodically download incoming e-mail messages from a POP3 account. The downloaded e-mail messages will be forwarded by SMS to a specified phone number. The subject line of the e-mail can also contain telephone numbers.

In the **POP3 Server** edit box in the **POP3 settings** section, specify the address of the server.

In the **Port** edit box, enter the number of the POP3 port.

In the **POP3 Username** edit box, specify the username of the POP3 user account.

In the **POP3 Password** edit box, specify the password of the POP3 user account.

In the **Download interval** edit box, you can specify how often the program should check the POP3 account for new messages to download.

In the **SMS settings** section, specify a recipient phone number in the **Send SMS to (phone number)** edit box. This is the phone number that the SMS (the first 160 characters of the e-mail) will be sent to. Specify it in international format, starting with the leading plus sign (+).

If you check the **Use the phone numbers in the subject line** checkbox below, the SMS will be sent to the phone number(s) in the subject line of the e-mail if it contains any. In this case, the SMS message will not be sent to the phone number specified in the **Send SMS to (phone number)** edit box. It will only be sent to the phone number(s) specified in the e-mail subject line. If it contains more than one phone number, they have to be separated with a semicolon.

It should look something like this:

+36703384532;+36303658734;+36203462111

In the **Maximum message length** edit box, specify how many of the first characters of the e-mail message should be sent as an SMS message. Enter the number in numerical format representing a positive whole number. If you specify a larger number than 160, a concatenated (i.e. more than one) SMS message will be sent. A long message will be split into single pieces. Then, each piece can contain a maximum of 153 characters. This is because the information for concatenation needs to be stored in the SMS. Each piece will be sent as a single SMS message. When they reach the destination, the recipient mobile phone will combine them back to one long message. If you are content with the default value (160) in the edit box, leave it unchanged.

If you check the **Include the sender e-mail address in the SMS** checkbox, you can include the sender e-mail address at the beginning of the downloaded e-mail message.

In the **Filter** tab, you can make specifications as to which e-mails should be forwarded as SMS messages to one or more mobile phones. As you may receive a large number of e-mails (including a great deal of spam), you may have to pay a large amount of money if all of them are forwarded via SMS. Therefore, it is advisable to specify the sender(s), the receiver(s) and the keyword(s) in the subject lines of the e-mails to be forwarded via SMS (Figure 3).



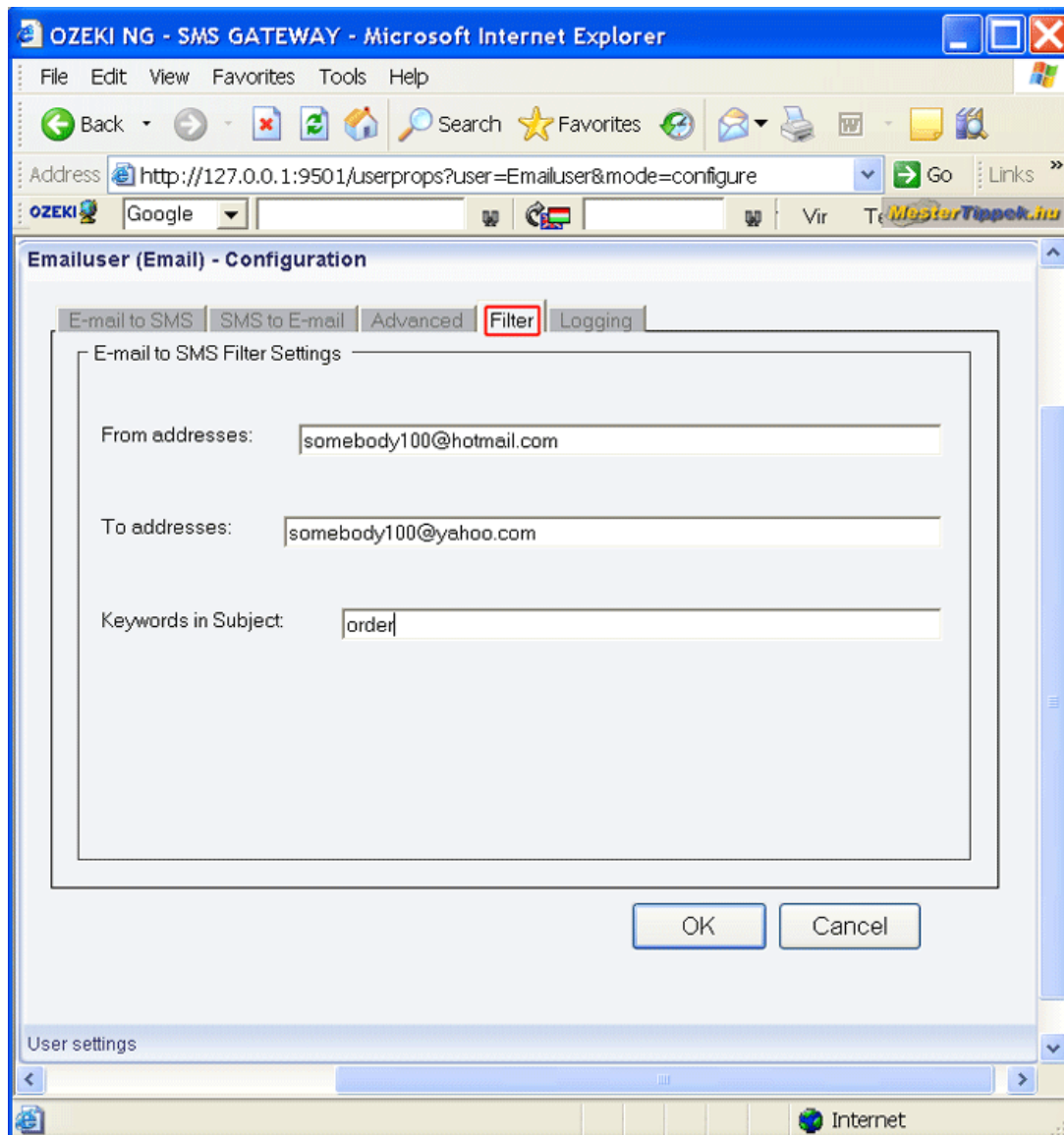


Figure 3 - The Filter tab

In the **From addresses** edit box, you can specify the e-mail address(es) from which e-mails should be forwarded via SMS. You can enter one or more e-mail addresses, separated with a semicolon (;).

In the **To addresses** edit box, you can specify the e-mail address(es) of recipients whose incoming e-mails should be forwarded via SMS. You can enter one or more e-mail addresses, separated with a semicolon (;).

In the **Keywords in Subject** edit box you can specify one or more keywords that should be included in the subject line(s) of email(s) to be forwarded via SMS. You can enter one or more keywords, separated with a semicolon (;).

The specifications in Figure 3 above will result in the E-mail user forwarding *only* e-mails sent from somebody100@hotmail.com to somebody100@yahoo.com, including the keyword "order" in their subject lines. You could add other sender and recipient e-mail addresses or



keywords in the respective edit box, which would increase the set of e-mails to be forwarded as SMS messages.

If you need different specifications, e.g. you want the E-mail user to forward an e-mail *only* if the sender address is somebody100@hotmail.com, the recipient is someone200@yahoo.com, and the keyword is "invoice", you need to add and configure another E-mail user. If you put someone200@yahoo.com next to somebody100@yahoo.com, and "invoice" next to "order", the number of possible combinations of the sender address, the recipient address and the keyword will be increased. As a result, if an e-mail is from somebody100@hotmail.com, the recipient is somebody100@yahoo.com and the keyword is "invoice", then the email will be forwarded as an SMS message. To avoid this, specify the sender, the recipient and the keyword in the **Filter** tab in the **Configuration** panel of a different E-mail user. (You can add, install and configure as many users as you like.)

To find out how to configure the E-mail user of the Ozeki NG - SMS Gateway to send an incoming SMS message as an e-mail, check out the [SMS to E-mail Configuration](#) page.

For detailed instructions on how to realize a two-way E-mail - SMS gateway service, check out the [How to Set up an E-mail - SMS Gateway](#) page.

## SMS to E-mail Configuration

**This page provides you with step-by-step instructions on how to configure the E-mail user of the Ozeki NG - SMS Gateway software to forward an incoming SMS message as an e-mail to a specified e-mail address.**

The E-mail user, which is one of the installable users of Ozeki NG - SMS Gateway, can forward incoming SMS messages from a standard e-mail client to a specified e-mail address (or e-mail addresses). It will send e-mails using an SMTP server. The e-mail address is the first word of the SMS message. You can also specify this e-mail address in the configuration form of the E-mail user.

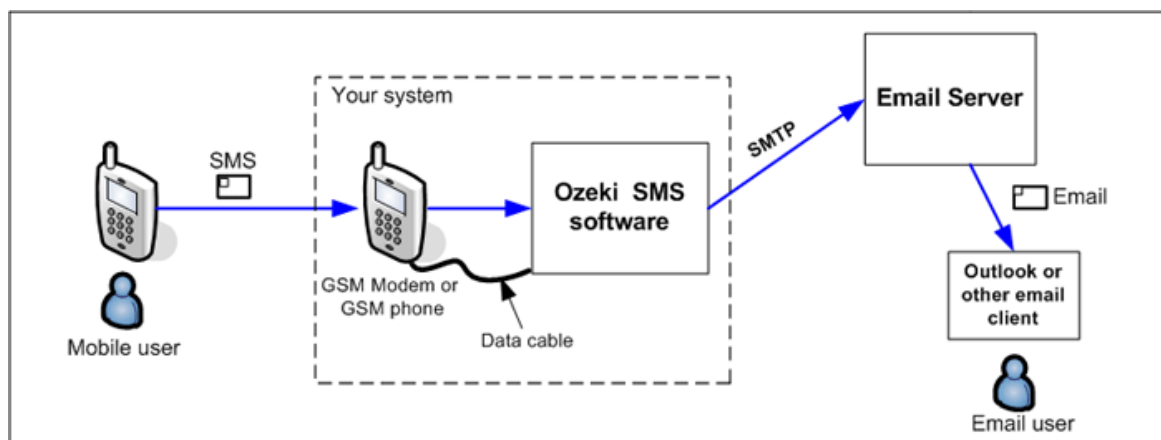


Figure 1 - Incoming SMS sent out as e-mail

You can use the [graphical user interface](#) of Ozeki NG - SMS Gateway to send an incoming SMS message as an e-mail.

After specifying a unique username for the E-mail user, the **Configuration** panel will show up. To start performing the SMS to E-mail configuration, click the **SMS to E-mail** tab.

This tab consists of the **E-mail Settings** and the **SMTP Server** section (Figure 2).

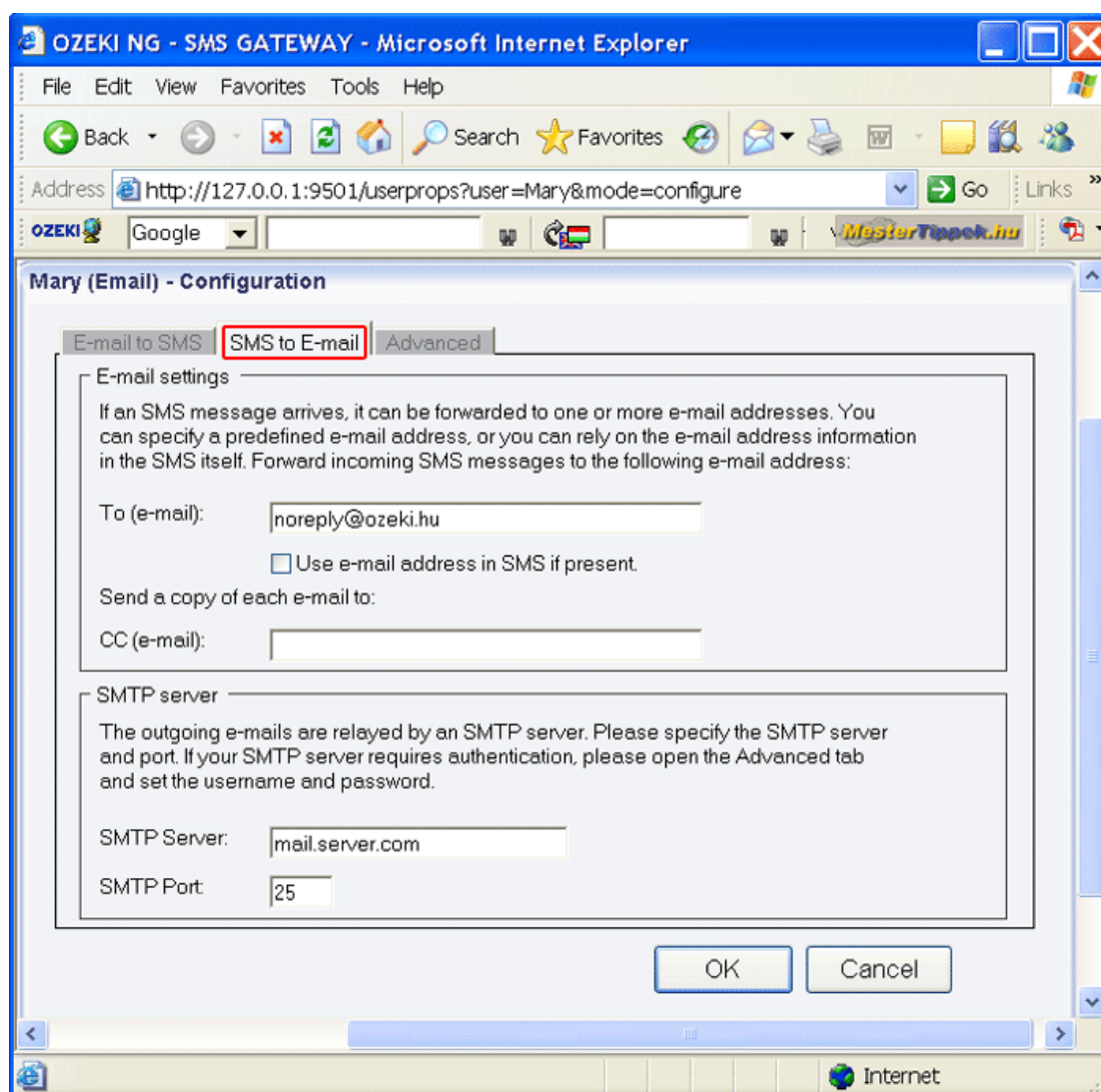


Figure 2 - The SMS to E-mail tab

If an SMS message arrives, it can be forwarded to one or more e-mail addresses. You can specify a e-mail address in the configuration form, or you can rely on the e-mail address information in the SMS itself.

In the **To (e-mail)** edit box in the **E-mail settings** section, you can specify the e-mail address to send incoming SMS messages to.

Check the **Use e-mail address in SMS if present** checkbox below the edit box to make the program send the SMS message to the e-mail address specified in the SMS message itself. If you check this checkbox, the e-mail will not be sent to the e-mail address specified in the configuration form. It will only be sent to the e-mail address(es) specified in the SMS itself.

The e-mail addresses have to be separated with a colon. It should look something like this:  
someaddress@hotmail.com;anotheraddress@yahoo.com;a\_third\_address@freemail.hu

In the **CC (e-mail)** edit box at the bottom of the **E-mail settings** section, you can specify another e-mail address to send a copy of an incoming SMS message to. Note, however, that if you rely on the e-mail addresses in the SMS itself, the e-mails will not be sent to this address. Then, they will only be sent to the e-mail addresses specified in the SMS.

Outgoing e-mails are relayed by an SMTP server. In the **SMTP server** section, you can specify the address and the port of the SMTP server. Enter the information in the respective edit boxes.

If your SMTP server requires authentication, open the **Advanced** tab and set the username and password (Figure 3).

Some SMTP servers require user authentication for security reasons. To send messages using such an SMTP server, check the **My SMTP server requires authentication** checkbox, and specify your SMTP username and password in the respective edit boxes.

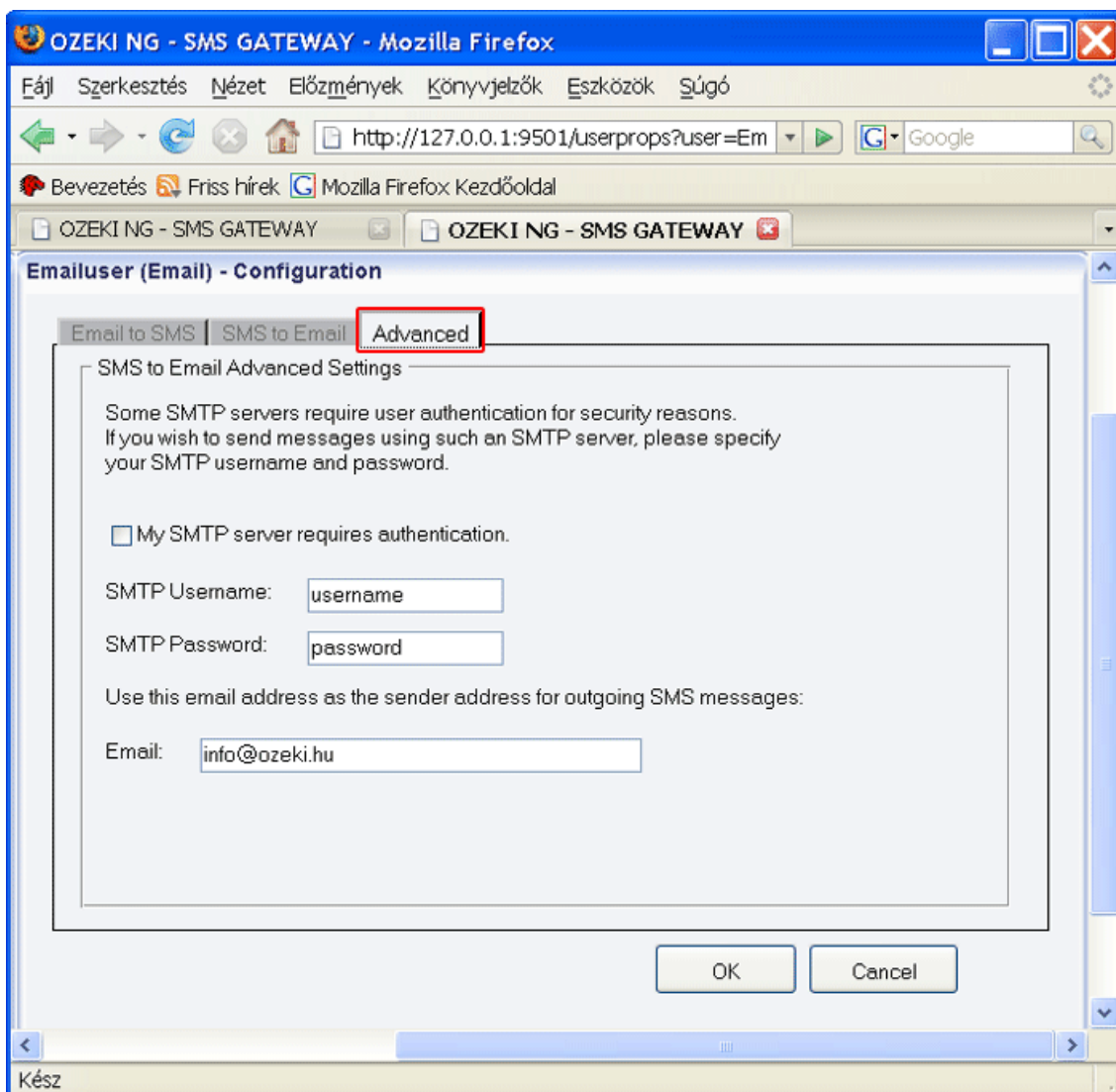


Figure 3 - The Advanced tab

In the **E-mail** edit box at the bottom of the tab, you can specify an e-mail address as the sender address for outgoing e-mails.

To find out how to configure it to forward an incoming e-mail as an incoming SMS message to a specified phone number, check out the [E-mail to SMS Configuration](#) page.

For detailed instructions on how to realize a two-way E-mail - SMS gateway service, check out the [How to Set up an E-mail - SMS Gateway](#) page.

## Autoreply Database User

This guide gives you information on how to create an autoresponding application that uses information stored in your database. The solution presented on this webpage can be used with any database server (Microsoft SQL, Oracle, MySQL, Sybase, etc...). This solution is ideal to create the following service (Figure 1):

- 1.) A mobile user sends in a keyword in an SMS message to the system.
- 2.) The system looks up the response SMS message from the database based on this keyword.
- 3.) The system sends the response SMS message back to the mobile user.

I assume you already have a [working service provider connection](#) configured, that is capable of sending and receiving messages (e.g. you have a GSM modem attached to your server computer and your GSM modem is configured in Ozeki NG).

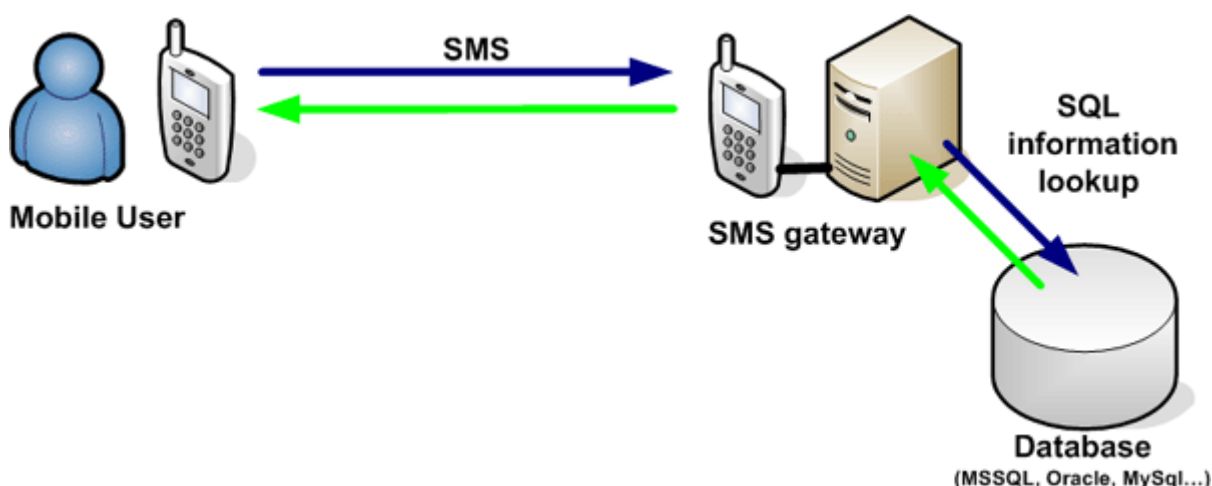


Figure 1 - System architecture

### Step 1 - Setup the Autoreply Database User

In order to create the explained service first you need to install an Autoreply Database User (Figure 2). Detailed information about how this user can be installed is available in the ["Autoreply Database User installation guide"](#).

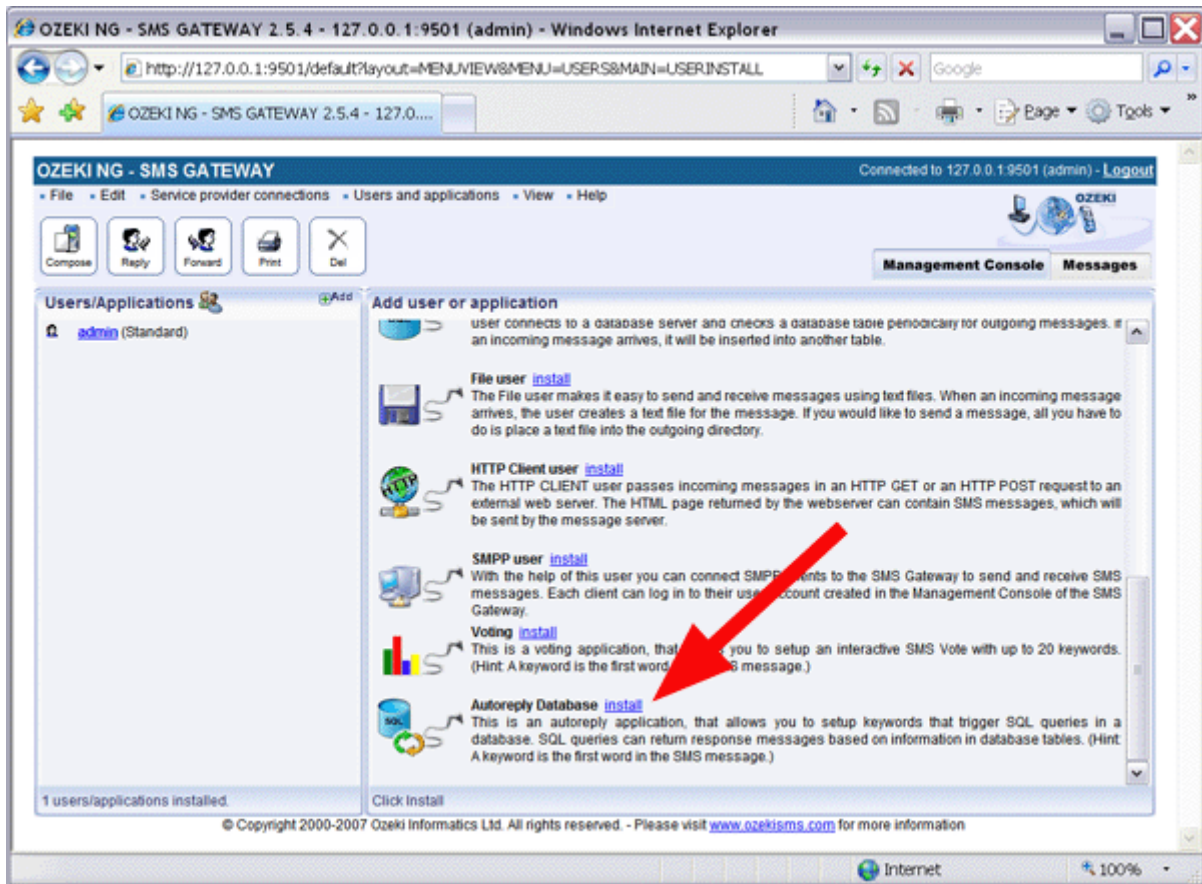


Figure 2 - Install the Autoreply Database User for SMS information queries

**Step 2 - Create the database layout**

The next step is to create your database table, that stores the response SMS messages (Figure 3). In our example we use Microsoft SQL Express as the database server. The following guide gives you information on how you can create a database layout using SQL Express: [Create database layout for SMS autoreponses](#). In our example we use the following table. (Of course you can change the table layout according to your needs and you can use multiple database tables.)

```
> select * from autoreplymessage;
id          keyword          msg
-----
1          default          There is no data for this
keyword.
2          red              Red is a good color.
3          blue             Blue is not the best option.

(3 rows affected)
```

Figure 3 - Database table layout for SMS information query

**Step 3 - Configure the Autoreply Database User to use your database**



When your database is ready, you need to enter the database connection information (connection type and connection string) into the database settings configuration form of the Autoreply Database user. This configuration form can be opened by clicking on the "Database setup" menu item (Figure 4).

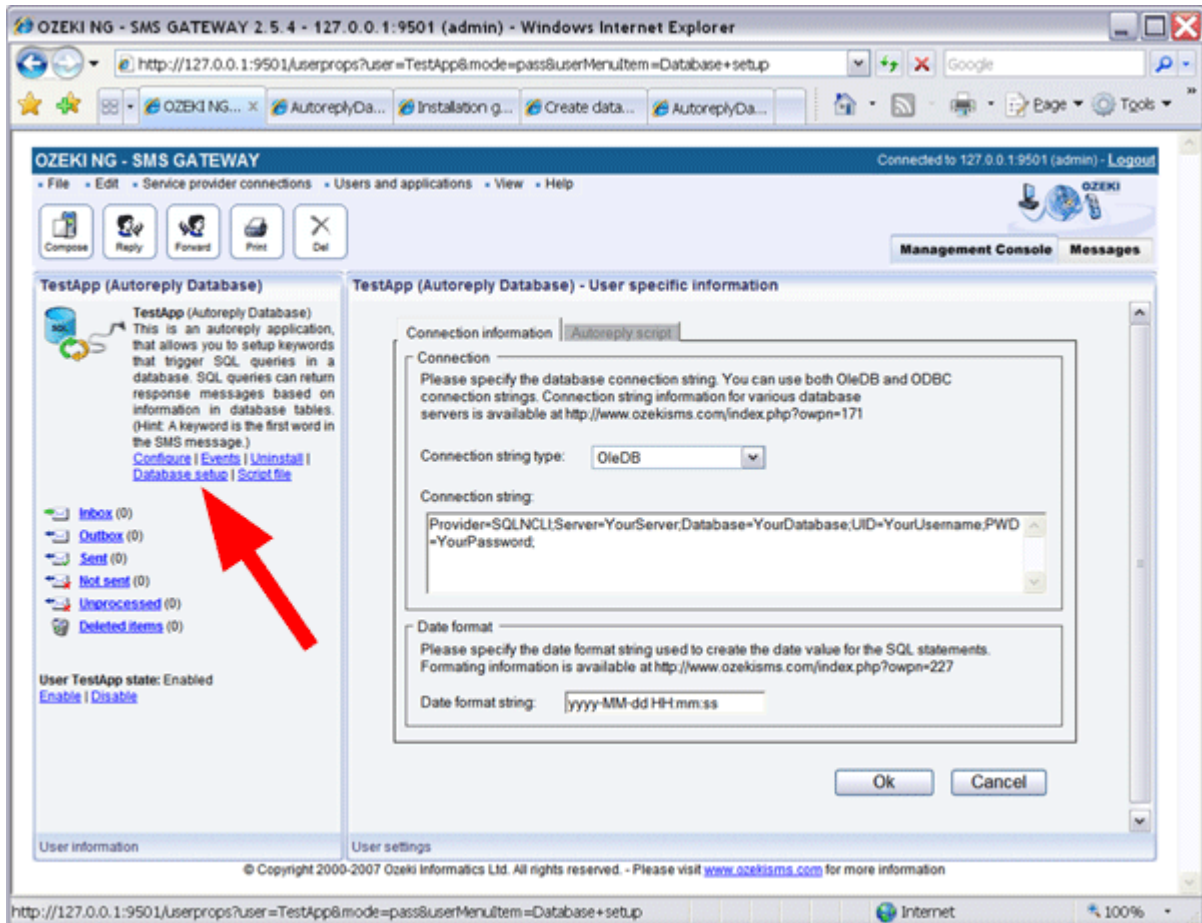


Figure 4 - Database settings for SMS information query

On this form you can select the database connection type and you can enter the connection string. In our example (for SQL Express) the connection information that should be used is:

Connection type:

**OleDb**

Connection string:

**Provider=SQLNCLI;Server=.\SQLEXPRESS;User ID=ozekiuser;password=ozekipass;Database=ozeki;Persist Security Info=True**

For other database servers, such as Oracle, MySQL, etc..., you can find information about how to format the connection string in the [Database Connection Strings guide](#).

#### Step 4 - Write the autoresponding command script

The final step to make SMS information query possible is to write the script file. The script file is a plain text file that controls which SQL command should be executed when an incoming SMS arrives. You can edit the scriptfile with notepad or any other text editor. In our example the location of the script file is:

**C:\Program Files\Ozeki\OzekiNG - SMS Gateway\config\TestApp\sqlscript.txt**

The contents of the script file in our example has three sections (Figure 5). The first two sections are triggered for a response SMS if the keyword "RED" or "BLUE" is received in an SMS message. The final section creates the default response message if something else was received.

```
C:\Program Files\Ozeki\OzekiNG - SMS Gateway\config\TestApp\sqlscript.txt
k^RED
SELECT '$sender',msg from autoreplymessage where keyword='red'
k^BLUE
SELECT '$sender',msg from autoreplymessage where keyword='blue'
k.*
SELECT '$sender',msg from autoreplymessage where keyword='default'
```

Figure 5 - example script file

The structure of the autoreply script is explained in the following documents:

[Script file structure for SMS information query from database](#)  
[Sample script file for SMS information query from database.](#)

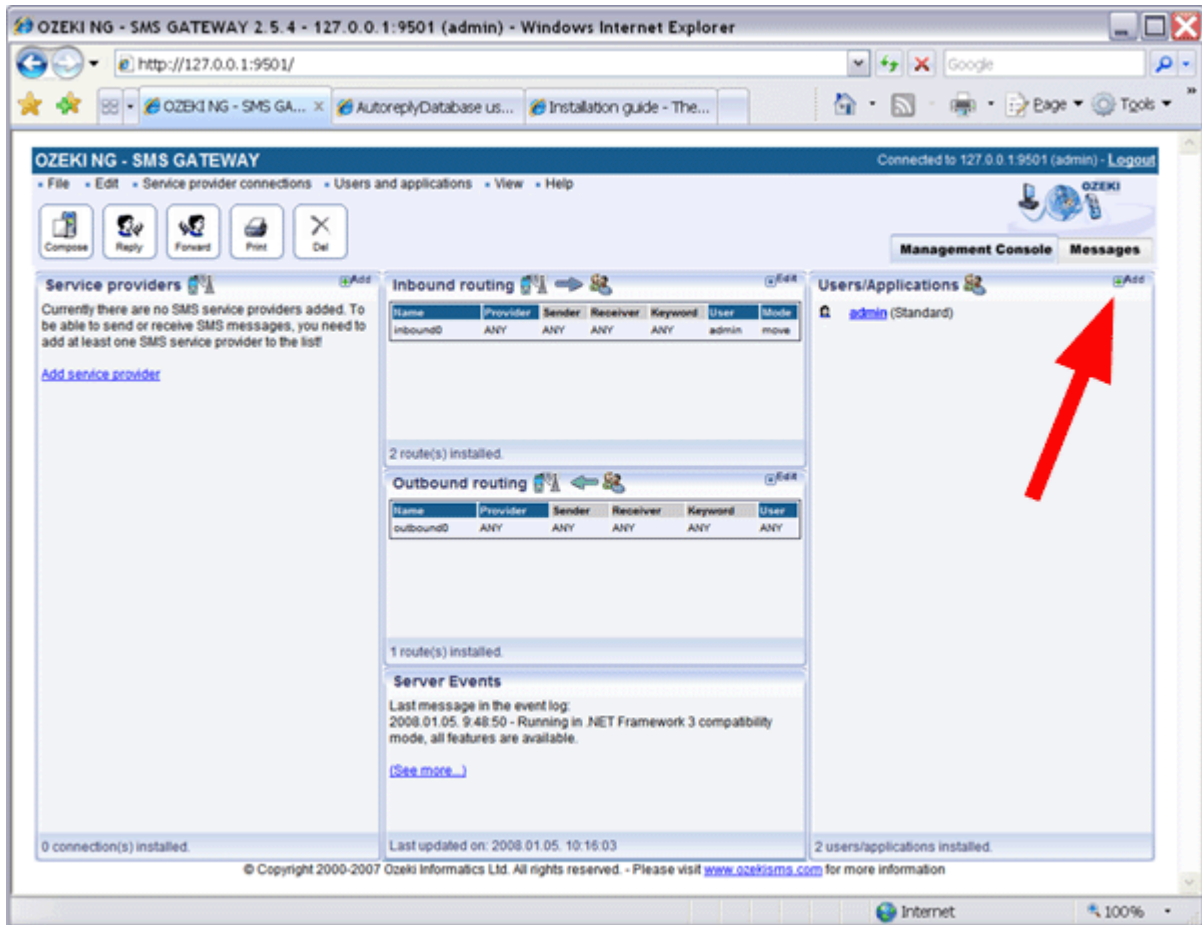
#### Step 5 - Testing the solution

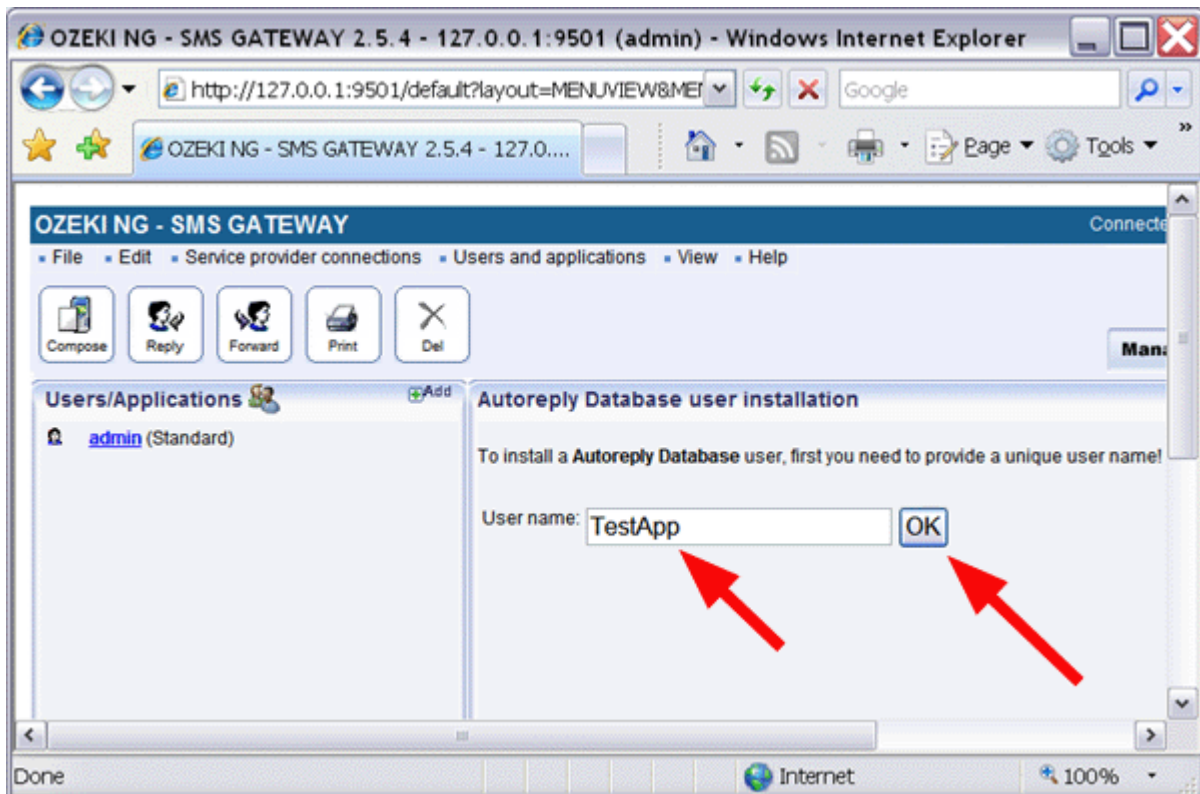
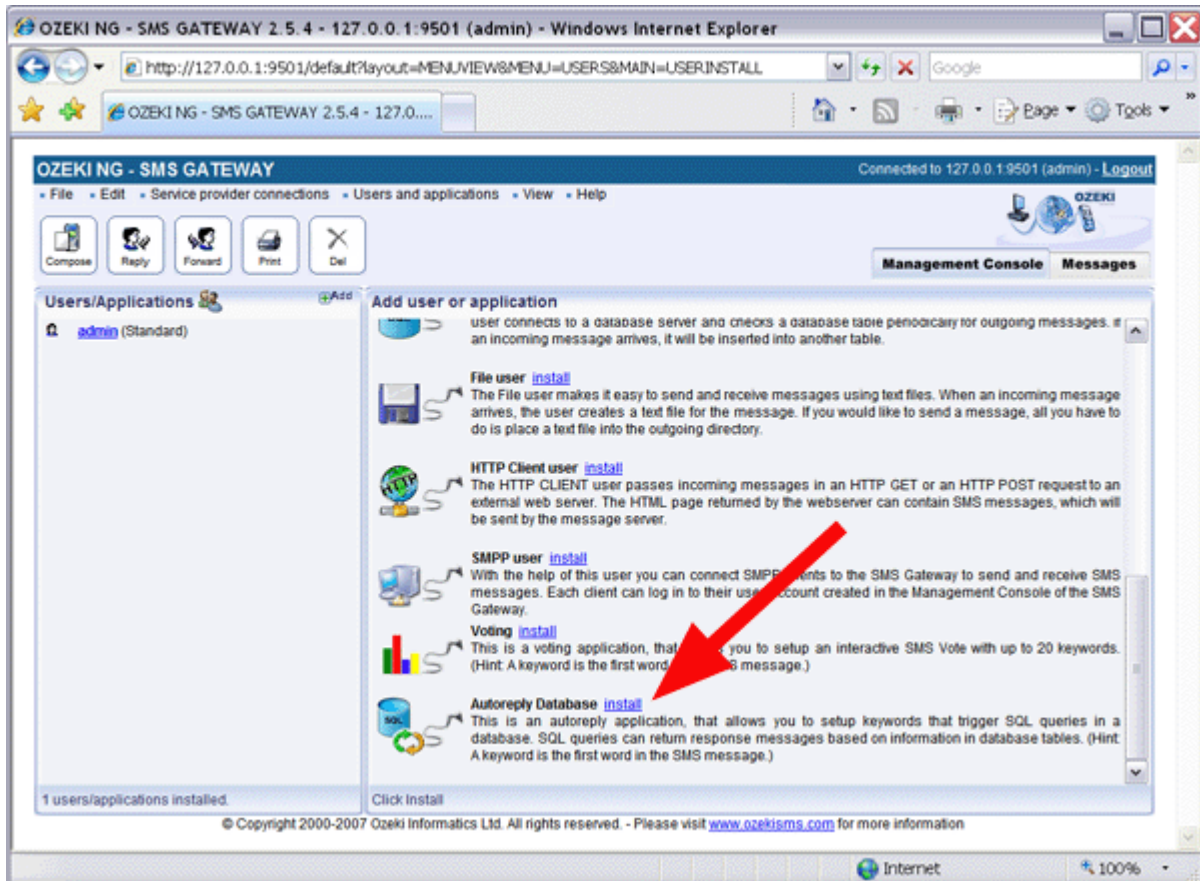
After this is done, you can test the solution by sending an SMS message to your SMS gateway. The SMS gateway will forward the message to the Autoreply Database User, where the command script will be executed for the response. The response will be returned by an SQL SELECT query defined in the script file. After the appropriate SQL SELECT is executed the response messages will be sent back to you in SMS. To track what is going on, read the logs in the following directory:

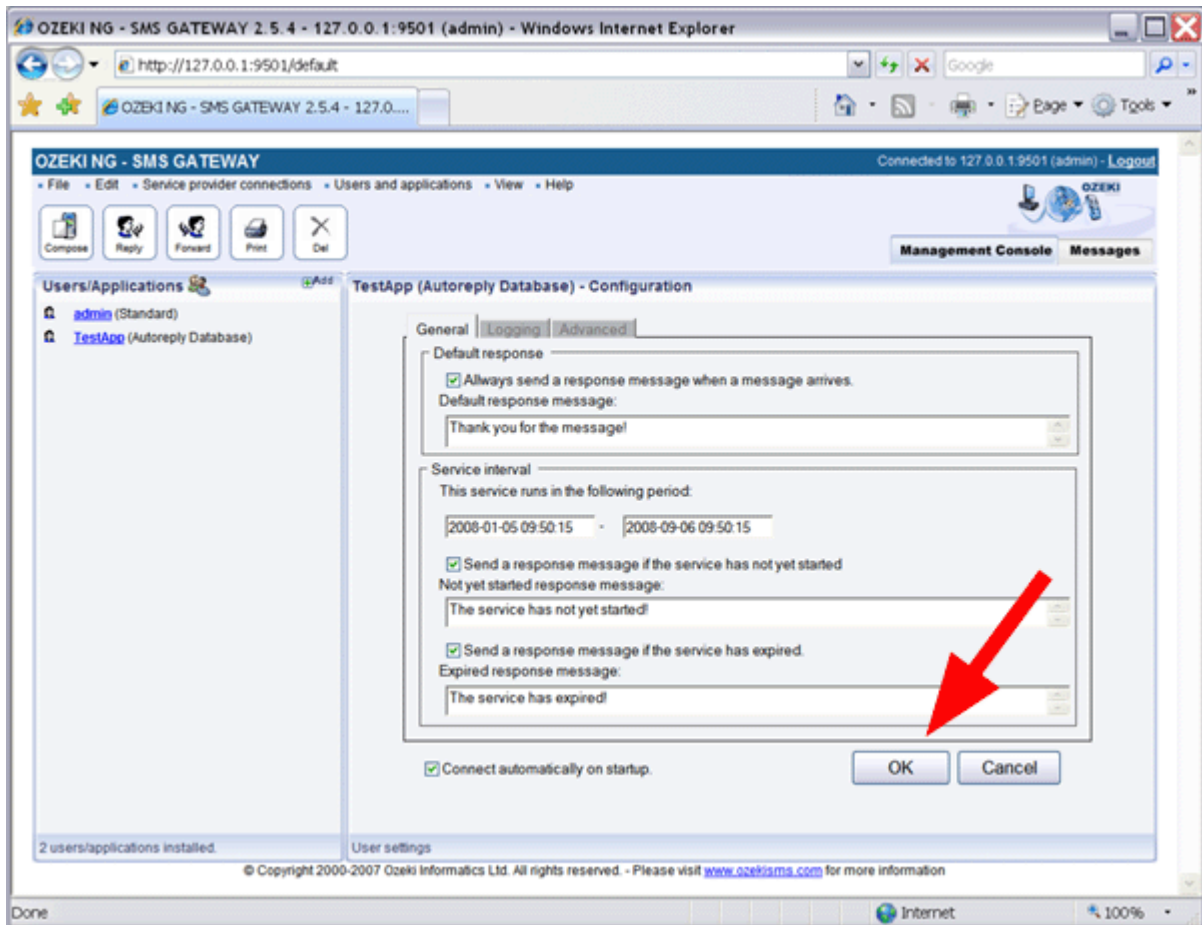
C:\Program Files\Ozeki\OzekiNG - SMS Gateway\Logs

#### Autoreply Database User installation guide

This guid gives you the steps to install the autoreply database user.







## Create database layout for SMS autoresponses

In this guide we create an example database layout for an autoresponding SMS application that uses data stored in an SQL database. We use the Microsoft SQL Express database server that can be downloaded from the Microsoft website.

### Step 1. - Download and install Microsoft SQL Express.

You can download the Microsoft SQL Express Database Server from the following location:

[Download details: Microsoft SQL Server 2005 Express Edition](#)

### Step 2 - Create your database tables in Microsoft SQL Express

You can create a database and the appropriate database tables by opening a windows command prompt (Start->Run->cmd.exe), and starting the SQL Command interpreter by typing:

```
C:\sqlcmd -S .\SQLEXPRESS
```

Once the SQL command interpreter is running, you should enter the following commands



```
create database ozeki
GO

use ozeki
GO

CREATE TABLE
autoreplymessage (
  id int IDENTITY
(1,1),
  keyword varchar(30),
  msg varchar(160),
);
GO

sp_addLogin
'ozekiuser',
'ozekipass'
GO

sp_addsrvrolemember
'ozekiuser',
'sysadmin'
GO
```

Figure 1 - SQL Create table script

### Step 3 - Put some data into your keyboard database

To be able to create a response automatically for certain keywords we must fill the autoreplymessage database table:

```
insert into
autoreplymessage
(keyword,msg) values
("default","There is
no data for this
keyword.");
insert into
autoreplymessage
(keyword,msg) values
("red","Red is a good
color.");
insert into
autoreplymessage
(keyword,msg) values
("blue","Blue is not
the best option.");
GO
```

### Step 4 - Make Microsoft SQL Express ready to accept your username and password

Unless you have mixed mode authentication configured in SQL express, you will not be able to connect to your database from Ozeki NG because Ozeki NG runs as a system service in the background. To enable mixed - mode authentication, you should open the registry editor (Start->run->regedit.exe) and in the Registry you should change the LoginMode value from 1 to "2", here:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Microsoft
SQL Server\MSSQL.1\MSSQLServer

LoginMode =2
```

After this change you might have to restart the SQL Express to make sure the changes take effect.

### File structure for controlling SQL information query from database

This document explain the file structure of the script file that is used to control which SQL query is executed when an incoming SMS message arrives to the system.

#### Introduction

The script file contains **sections**. Sections are separated by an empty line. There is now limit for the number of sections. When the script is consulted sections are read sequentially. The first section that matches an incoming SMS is used to create the response SMS message.

A section contains a **condition** and a set of SQL commands called **action** (Figure 1). The condition is the first line in the section. Any number of SQL commands can follow this line. If the condition matches all the SQL commands following the condition will be executed until an empty line is found. The SQL commands can return one or more response messages.

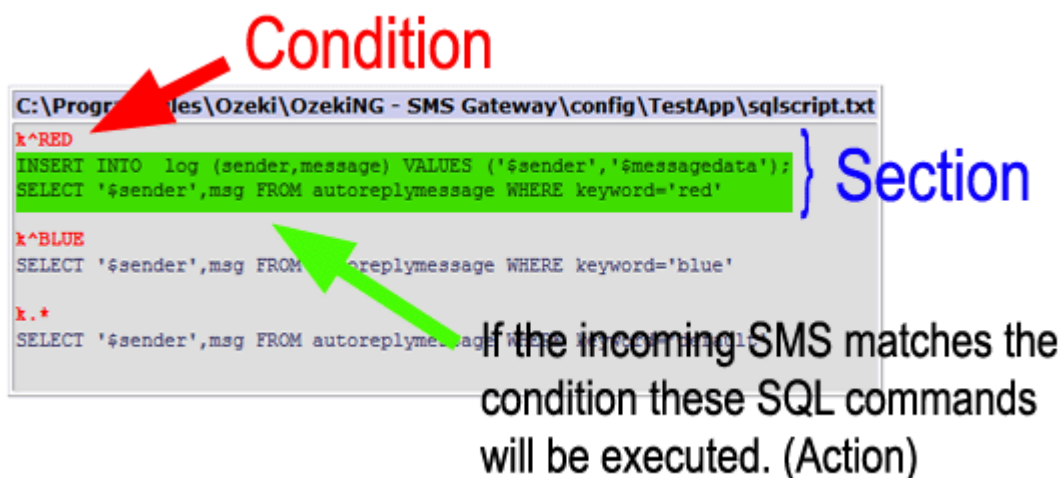


Figure 1 - Sections in the script file

#### Condition

The condition is a single line statement. It has two parts **the match target selector**, and the **match pattern** (Figure 2). The match selector is a single letter, that determines which part of the incoming SMS message is checked with the matching pattern.

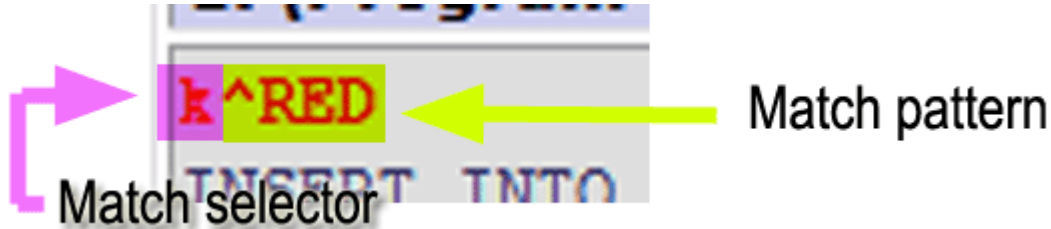


Figure 2 - Information query condition

The match selector letter can be one of the following:

```
k - keyword //The first word of the SMS message converted to uppercase  
n - sender telephone number  
m - the message text
```

The match pattern is a standard regular expression. Regular expressions are explain in the [Regular expressions tutorial](#).

Some examples:

```
.* - matches any letter  
^abc.* - matches a text starting with abc  
.*abc.* - matches a text that contains abc
```

## Action

If the condition matches the incoming SMS message, the SQL commands in the section will be executed. You can use one ore more SQL SELECT statements to query the information for the response messages and you can use SQL INSERT, SQL UPDATE or any other SQL statement to modify the database. Before the SQL commands are executed on the database, the following words are replaced in them:

```
$originator - is replaced to the sender telephone number of the messages  
$recipient - is replaced to the telephone number that received the message  
$messagedata - is replaced to the message text  
$keyword - is replaced to the keyword in the message  
$senttime - is replaced to the timestamp, that represents when the message was sent
```

```
$receivedtime - is replaced to the timestamp, that represents when the message was received  
$messagetype - is replaced to the message type (in most cases this will be SMS:TEXT)  
$id - is replaced to the unique string identifier of the message  
$operator - is replaced to the name of the service provider connection that received the message
```

The SQL statements will be executed in the order they follow each other. Every SQL statement must be written on a single line.

(Hint: In most cases you will only use one SQL SELECT to get the content for the response SMS message.)

## Response

When SELECT SQL statements are executed, they can return one or more response messages. A response message is a row in the result set of the SQL select. A row in the result set should contain the following columns:

```
recipient - The 1st column in the result set (Mandatory)  
messageData - The 2nd column in the result set (Mandatory)  
messageType - The 3rd column in the result set (Optional)  
sender - The 4th column in the result set (Optional)  
operatorNames - The 5th column in the result set (Optional)
```

The SMS gateway will process the returned results and will send them as SMS messages.

## Example

The following is an example script that matches two keywords: RED and BLUE and handles unmatched incoming messages with a default response.

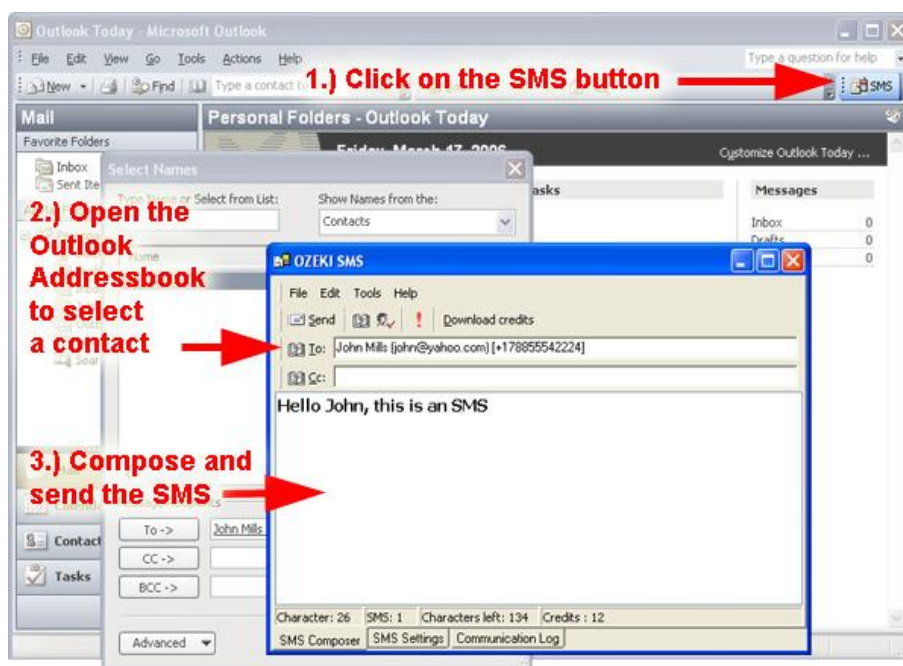
```
C:\Program Files\Ozeki\OzekiNG - SMS Gateway\config\TestApp\sqlscript.txt  
k^RED  
INSERT INTO log (sender,message) VALUES ('$sender','$messagedata');  
SELECT '$sender',msg FROM autoreplymessage WHERE keyword='red'  
k^BLUE  
SELECT '$sender',msg FROM autoreplymessage WHERE keyword='blue'  
k.*  
SELECT '$sender',msg FROM autoreplymessage WHERE keyword='default'
```

## Client software

If you wish to provide SMS functionality for office users, you can install desktop client software that communicates with Ozeki NG SMS gateway. To serve desktop clients, you need to configure standard user accounts in the SMS gateway.

### Outlook SMS Client

The Outlook SMS Client plugin creates a button in Microsoft Outlook. If the button is pressed a message composer window is opened. In this window the SMS message can be created and by clicking on the send button it is sent over the network to the Ozeki NG SMS Gateway for delivery.



The sent messages are saved in the sent items folder of Outlook.

If an incoming message arrives it is saved in the inbox folder of Outlook.

The user of this Outlook SMS Client can use the addressbook of outlook to look up and select the appropriate phone numbers for delivery.

### Sending SMS messages from Excel

On this page you can learn how to send SMS messages from Excel using the Ozeki NG - SMS Gateway software. You can read a short introduction about the Excel files you need to use, and you are provided with details about the Messages.xls spreadsheet, explaining what each column is for. You can also learn how to configure the Excel macro connection and how to set the appropriate security level in the Excel client file to allow sending messages.



## Introduction

The Excel SMS client of Ozeki NG - SMS Gateway enables you to send SMS messages from Microsoft Excel. For this, you just need to open two Excel spreadsheets: [Messages.xls](#) and [Ozeki.xls](#). In the Messages.xls spreadsheet, you need to put the telephone numbers in the first and the messages in the second column. To learn what the other columns are for, read the Messages spreadsheet section below.

In the Ozeki.xls Excel spreadsheet you will find a macro you can start by clicking the **Send all** button. This macro will connect to Ozeki NG - SMS Gateway over the office LAN or the Internet and will send the SMS messages you have edited in the Messages.xls spreadsheet. The parameters for this network connection can be edited on the Ozeki.xls spreadsheet.

Using the Excel Client allows you to keep a record of the SMS messages you have sent in an Excel spreadsheet. You can identify which of the messages you have sent belongs to a given telephone number. They are in the same row in the spreadsheet.

For sending messages, the Ozeki NG - SMS Gateway program and Excel do not need to be on the same computer. You can send messages from different computers in an office network. You just need to enter the IP of the server PC running Ozeki NG - SMS Gateway (Figure 1).

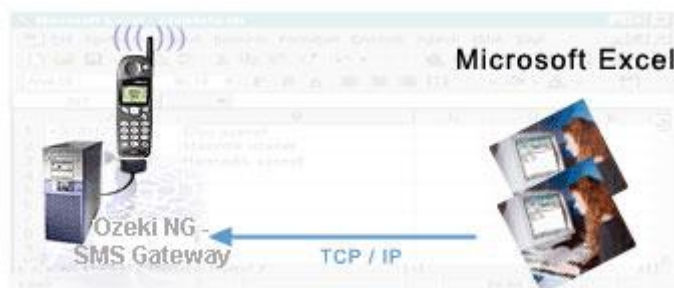


Figure 1 - Sending SMS from different computers

Both Excel files you have to use can be found in the **C:\Program Files\Ozeki\OzekiNG - SMS Gateway** directory after the program has been installed. (From here, they can be moved to any other folder.) You can also open the Excel files by clicking their icons below the Manage OzekiNG file icon (Figure 2).

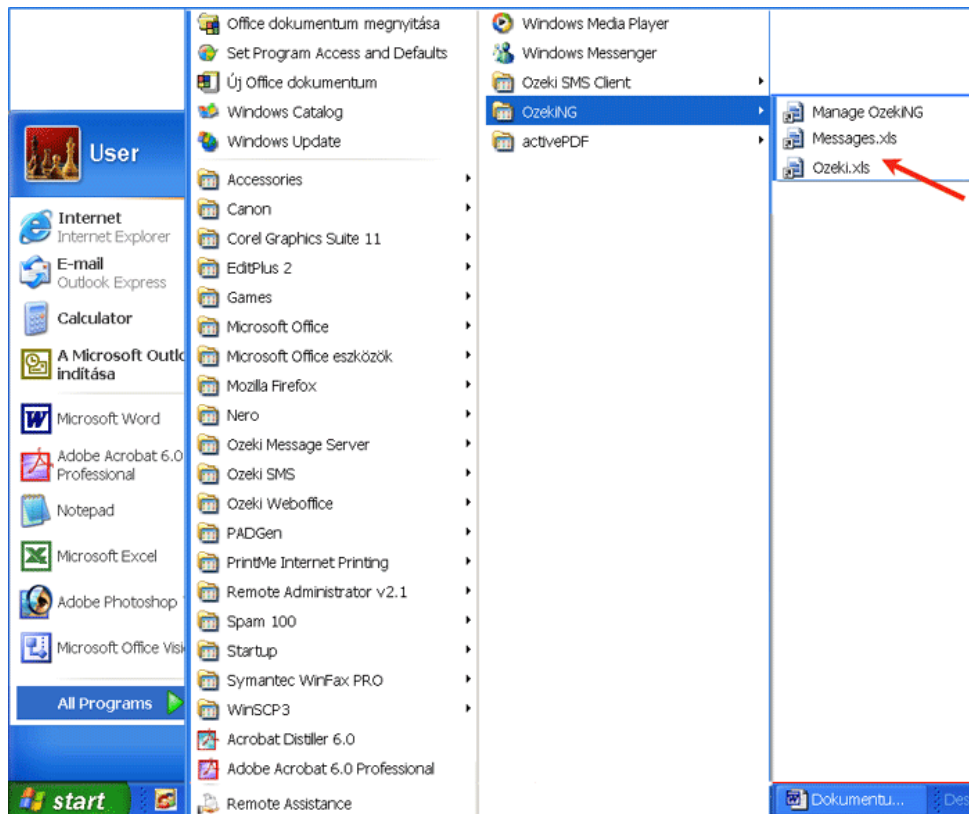


Figure 2 - Manage OzekiNG and Excel file icons

The main steps of sending SMS messages from Excel are:

1. Creating a list of messages
2. Opening the Excel file sending SMS
3. Starting the macro sending SMS
4. Sending out messages

First, make sure the Ozeki NG - SMS Gateway program has started. If not, start it. (For details, check out the **What to do if the service is not running** section on the [Login problems](#) page.)

Open the Messages Excel spreadsheet for editing the telephone numbers and the texts of the SMS messages. Open the spreadsheet by clicking its icon to do the editing (Figure 2).

Once you have opened this Excel file, you can start entering, in the appropriate cells, all the information required for SMS messages to be sent (Figure 3). In Excel, entering information in or applying a function to a range of cells can be done by typing, copying and pasting or dragging cells.

	A	B	C	D	E	F
1	+36203105366	This is the first message	1	25	GSMSMS	Virtual1
2	+36209937723	This is the second message. It is longer than 160 characters. A long message will be split into single pieces. Then, each piece can contain a maximum of 153 characters.	2	168	GSMSMS	Virtual2
3	+36703393456	This is the third message	1	26	SMS:TEXT:GSM7BIT:CLASS0	Virtual2
4	+363067897696	This is the fourth message. It is a bit longer than the fourth.	1	64	SMS:TEXT:GSM7BIT:CLASS0	Virtual2
5			1			
6			1			
7			1			
8			1			
9			1			
10			1			
11			1			
12			1			
13			1			
14			1			
15			1			
16			1			
17			1			
18			1			
19			1			
20			1			
21			1			
22			1			
23			1			
24			1			
25			1			
26			1			
27			1			
28			1			
29			1			
30			1			

Figure 3 - Edited Excel spreadsheet for SMS messages

### The Messages spreadsheet

The information related to a message to be sent is in different cells of the same row in the Excel spreadsheet. Some of the information has to be entered/edited manually, and some will be entered/edited automatically. Each cell involved in the editing requires a specific kind of information.

- The cell in Column A is for the telephone number you are going to send the message to. Enter the telephone number in international format (starting with + and the country code, without using any spaces).
- The cell in Column B is for the SMS message. Note that if a message is longer than 160 characters, it will be sent in two or more parts. A long message will be split into single pieces. Then, each piece can contain a maximum of 153 characters. This is because the information for concatenation needs to be stored in the SMS. Each piece will be sent as a single SMS message. When they reach the destination, the recipient mobile phone will combine them back to one long message.
- The number in the Column D cell shows how many characters you have used composing your message. Be careful not to delete the function in the D1 cell. If you happen to delete it, you can copy it from this page and enter it in D1: =LEN(B1)
- The Column E cell is for the message type.
- The Column F cell is for the name of the service provider connection you use for sending out the message. For information about service provider connections, check out the [Service Provider Connections](#) page.

### The Excel client file

When you have finished editing all the messages to be sent out, open the Excel client. It is automatically installed along with Ozeki NG - SMS Gateway. Do not close the Messages spreadsheet before you open this file. After the messages are edited, the Messages spreadsheet has to stay open along with the Ozeki.xls file.

The Excel client file is - just like the Messages file - in the **C:\Program Files\Ozeki\OzekiNG - SMS Gateway** directory. To start the Excel client, double-click Ozeki.xls. (You can click it after opening the **C:\Program Files\Ozeki\OzekiNG - SMS Gateway** directory or clicking the file icon (see Figure 2 above). This file contains an Excel macro that can be started by pressing the **Send all** button. This macro will connect to Ozeki NG - SMS Gateway over the office LAN or the Internet and will send the SMS messages you have edited in the Messages spreadsheet. The parameters for this network connection can be edited in the Ozeki.xls spreadsheet (Figure 4).

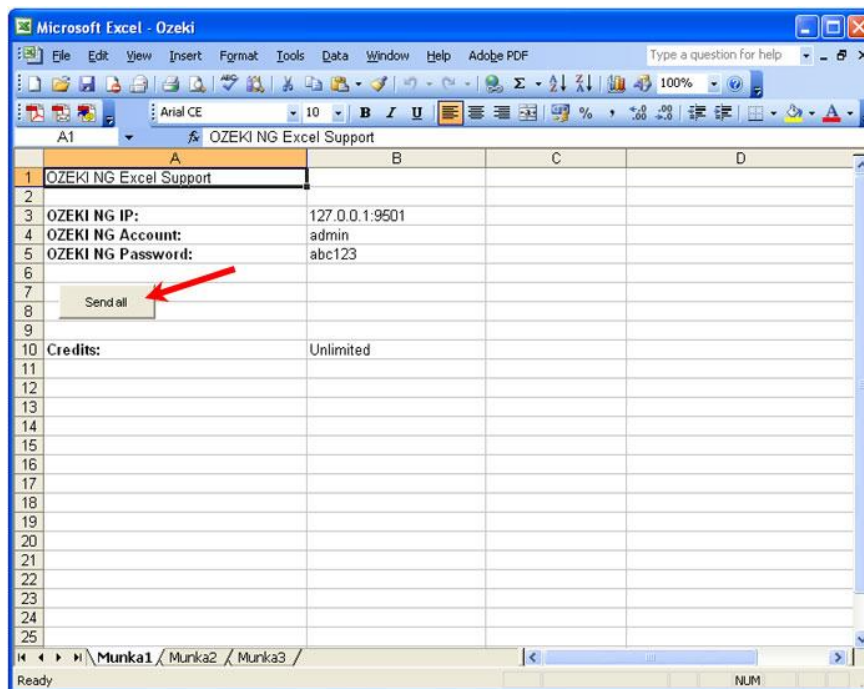


Figure 4 - Starting the Excel SMS Macro

When you have opened the file, click on the **Send all** button. Then, the Message Server will send out the messages if the Excel macro connection is already configured and the security level is appropriate. If Excel's security level is not appropriate, i.e. **Very high** or **High**, for sending messages, you can see one of the following messages (Figure 5, Figure 6):

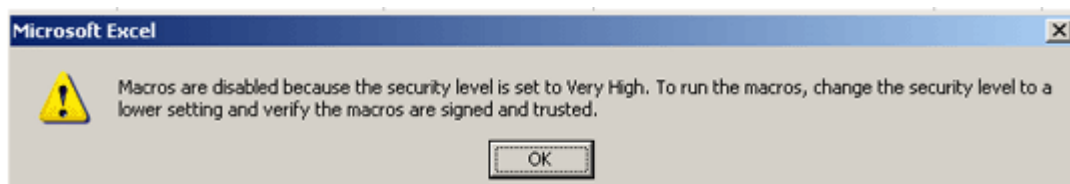


Figure 5 - Very High security level

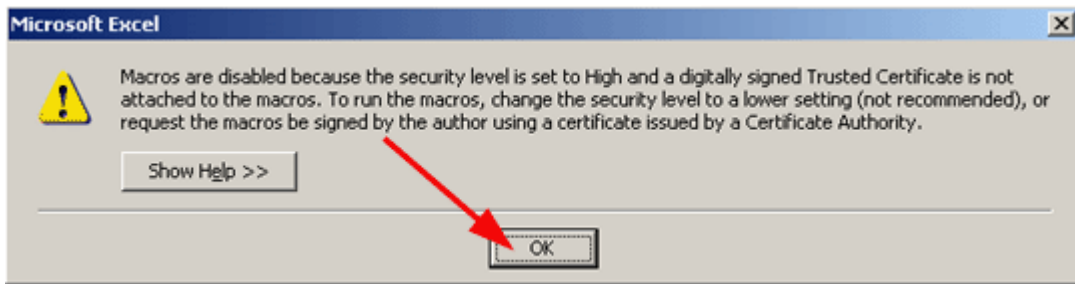


Figure 6 - High security level

Then you should change the security level to **Medium** or **Low**. Select the **Tools/Macro/Security** menu item. In the **Security Level** tab, select **Medium** or **Low** (Figure 7).

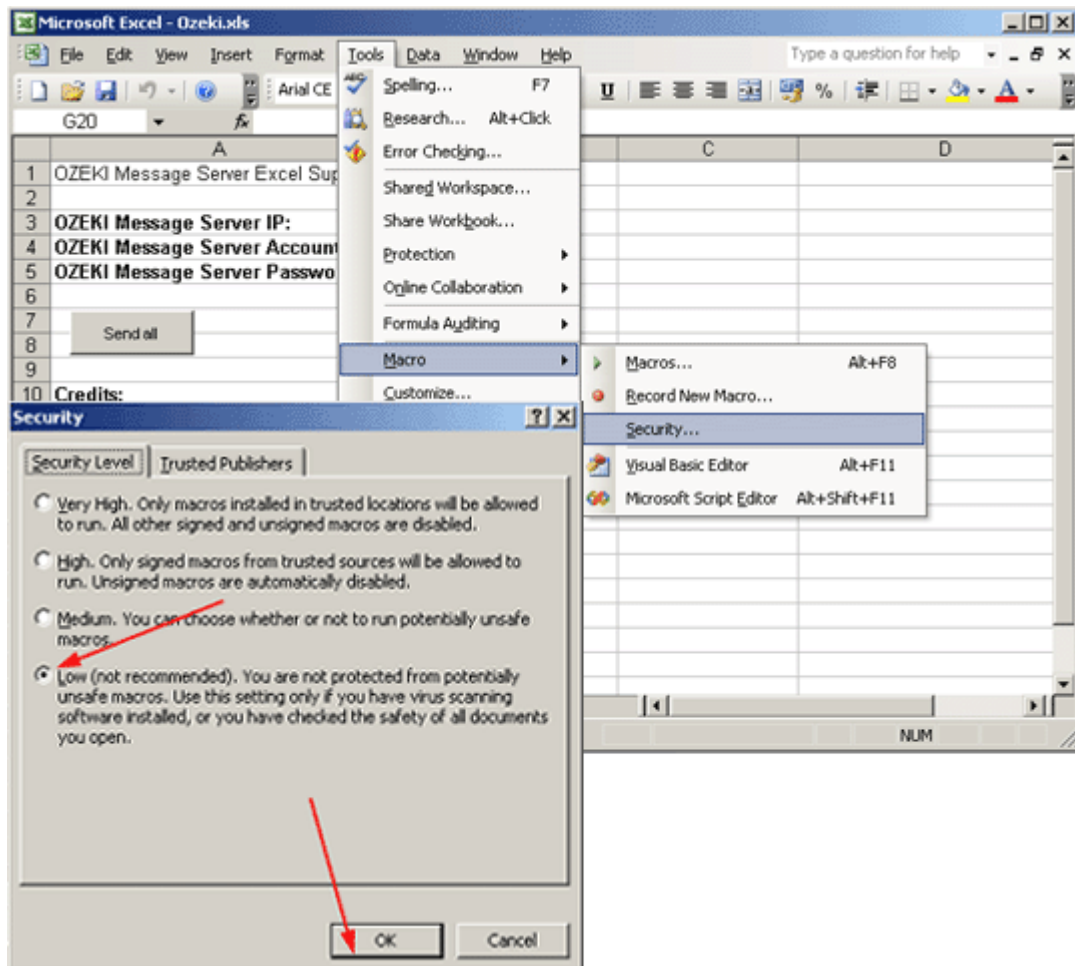


Figure 7 - Changing the security level

If the security level is **Medium**, you receive the following message (Figure 8):



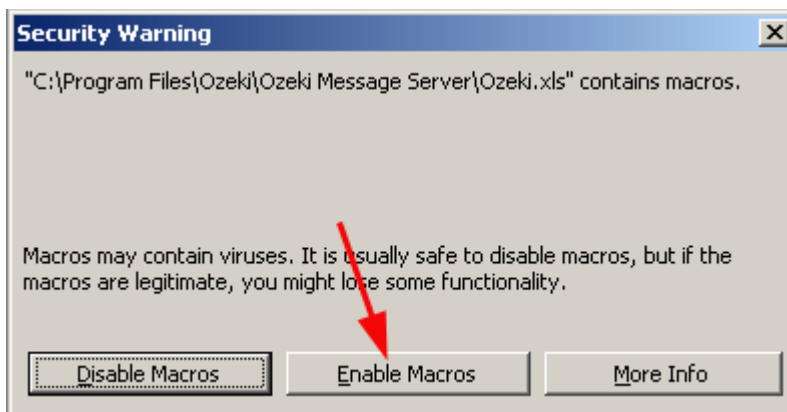


Figure 8 - Enabling macros

Click the **Enable Macros** button. To configure the Excel macro connection (Figure 9), specify the IP address and the server port of the computer, divided by a colon. Also, specify the server account and the password.

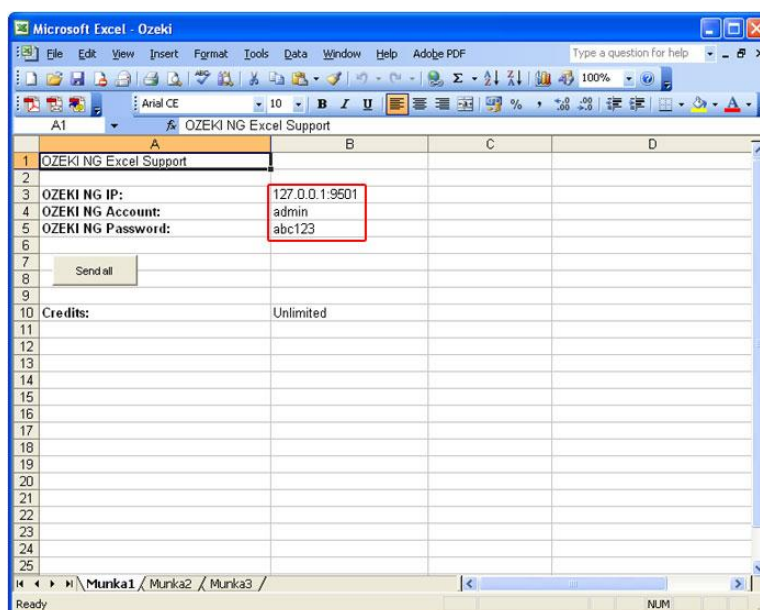


Figure 9 - Configuring the Excel macro connection

You only have to do this once, and the next time you want to send messages, you just need to click the **Send all** button. If you have created a different user in the **Message Server**, specify the username and the password. After Credits, in the column B cell you can specify the maximum number of SMS messages a user can send out. When you have finished the configuration, click the **Send all** button. Then the **SMS sender** window will show up. It contains a drop-down menu of open Excel files to be processed. Select the one(s) containing the messages to be sent out, and click **OK** (Figure 10).

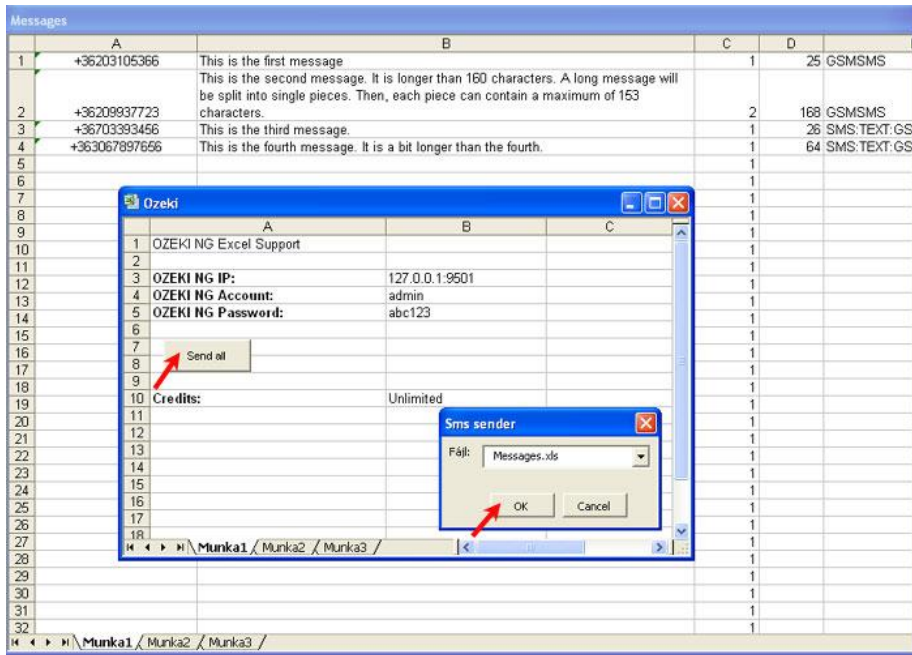


Figure 10 - Sending out messages

After clicking **OK** (and sending out the messages), a new browser window will open, containing a list of the messages that have been sent, displaying if they have been accepted by OzeKI NG - SMS Gateway for delivery (Figure 11).

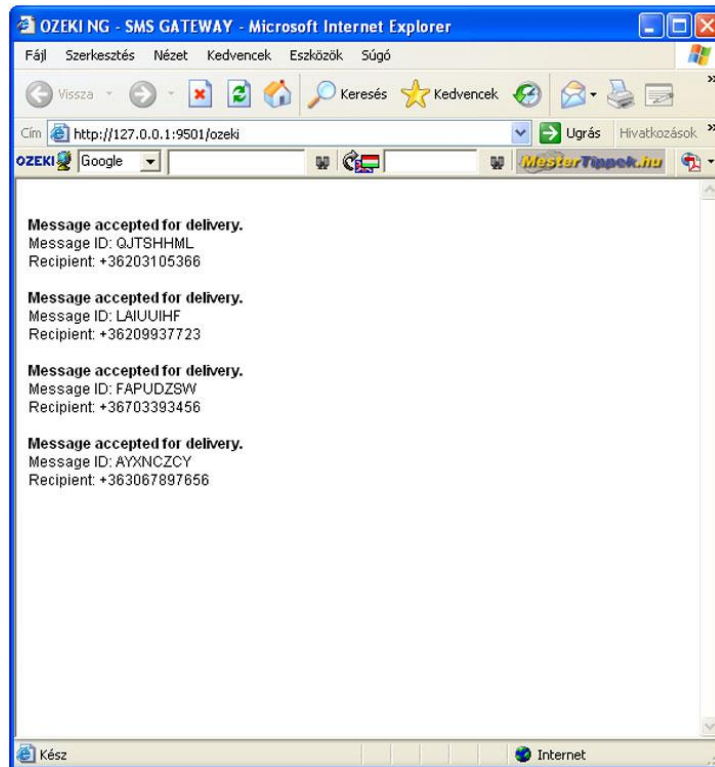


Figure 11 - Messages accepted for delivery

After the messages have been sent, you can check their status by opening the sender's user account. To find out how to open a user account, check out the [Users and Applications](#) page.

The screenshots on this page illustrate sending SMS messages from the admin user's account (Figure 12).

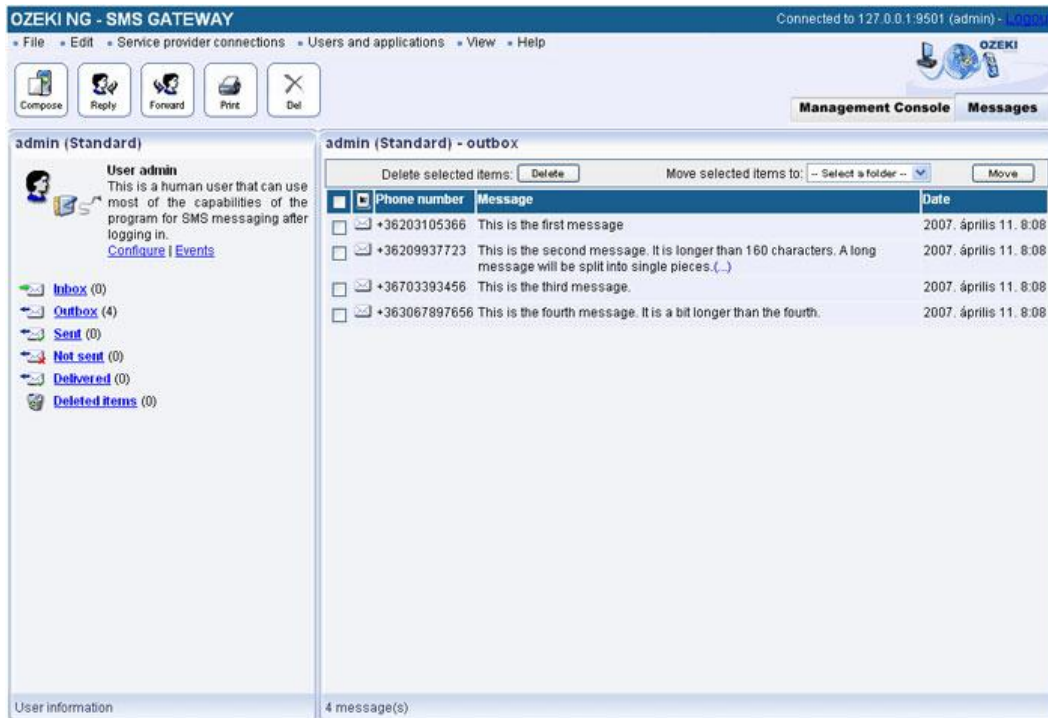
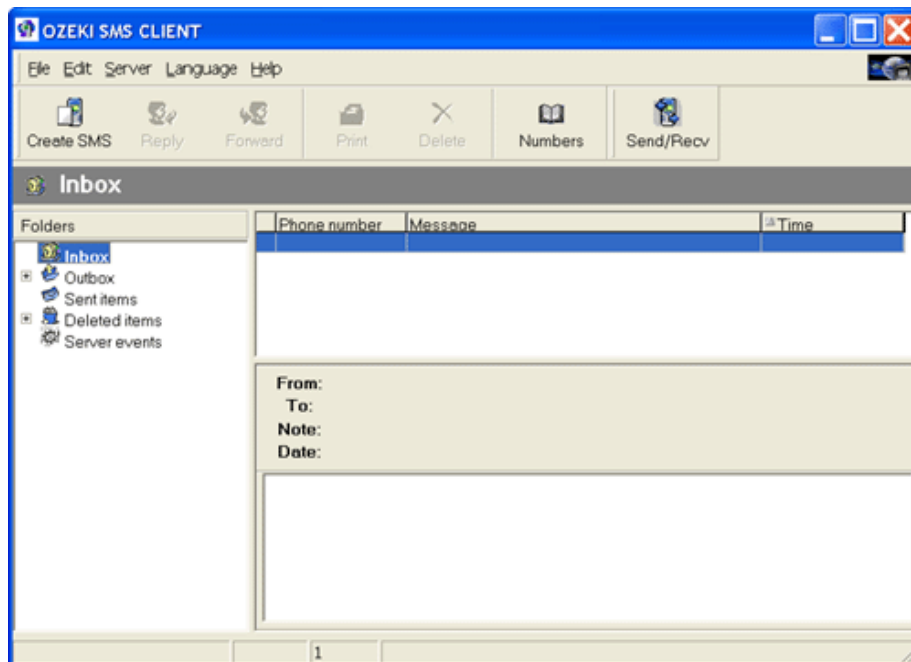


Figure 12 - Messages in the Sent folder in the user account

## Ozeki SMS Client

The Ozeki SMS Client works like a simple e-mail client. It makes it possible to send and receive SMS messages from an office desktop computer. The messages are sent through Ozeki NG SMS Gateway. The messages are stored in folders and the state of the messages are continuously updated.



The user of this client receives delivery reports about the following events: "message is accepted for delivery", "message delivered to the network", "message delivered to the handset".