

Router Management with SMS

By Soutrik Gupta Bhaya

What is Router Management ?

Current Status of Router.

Monitoring all aspects.

Ensuring smooth function through regular maintenance.

Troubleshooting.

Basically Ensuring That Your Network Functions With Minimum Problems and Disruptions



Need For Router Management?

Preventing Resource Overload :

CPU Over Load.
Low Router Memory.

Monitor Interfaces:

Interface Down.
No Bandwidth.

Monitor Wireless Signal Quality:

Bad Signal results poor performance.
Wireless interface load management.

Network Devices Monitoring:

Disconnection of other routers in network
Rebooting Network Devices

Network Admins Must Be Well Informed!

During a network fault or any router error, admins must be aware of the problem.

WHAT IF THERE IS NO INTERNET??

Notification Via E-mail is Not Always Possible.

It requires active internet connection at both server and admin end

THERE IS A SOLUTION!!!

“SMS”

We have GSM connectivity at almost every corner.

ALL WE NEED IS A SIM CARD CAPABLE OF
SENDING AND RECEIVING TEXT MESSAGES!

Things we can do with SMS tool ?

- ➔ Run Scripts.
- ➔ Check Router Status.
- ➔ Check CPU Load.
- ➔ Check Traffic Load.
- ➔ Enable Disable Interfaces.
- ➔ Get Notifications on event of Network failure.
- ➔ Inform Customers about usage information.
- ➔ Inform Customers about Down time.
- ➔ And almost every thing we can do using SMS Gateway.



Things needed for Implementation:

- ❖ RouterBoard with USB port.
- ❖ 2g/3g/4g Dongle (Usb)
- ❖ Sim Card capable of sending and receiving sms.
- ❖ A little bit of Scripting knowledge.



Setting Up SMS in Router OS.

Connect USB Dongle via USB port.

Go to: System -> Ports

Terminal:
:port print

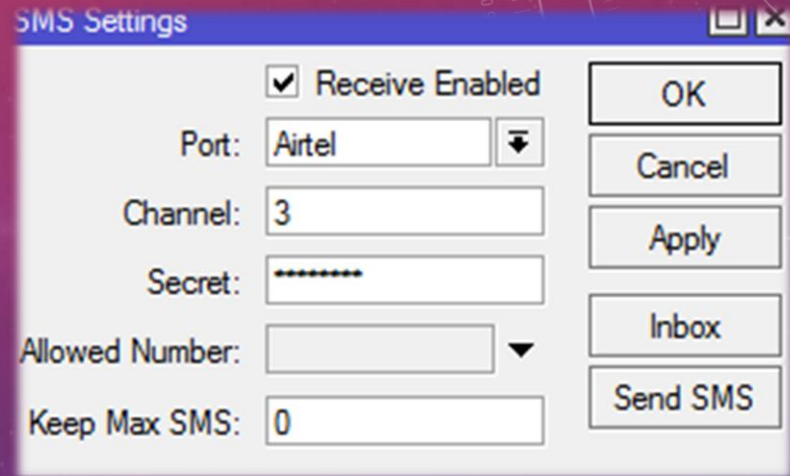
USB Modems have single port but multiple channels to communicate simultaneously

Name	Used By	Channels	Baud Rate	Flow Control
Airtel	sms tool	4	9600	none

1 item

Setting Up SMS in Router OS.

Then go to: Tools -> SMS
Set Port-> "Port for USB Modem"
Set Channel -> "0-3"
Set Receive-Enabled -> yes
Secret -> "A password"



SMS Settings

Receive Enabled

Port: Airtel

Channel: 3

Secret: *****

Allowed Number:

Keep Max SMS: 0

OK

Cancel

Apply

Inbox

Send SMS

Using Terminal:

```
tool sms set port=Airtel channel=3 secret=***** receive-enabled=yes
```

NOTE: Receive Enabled Must be ticked to get Incoming text.

Sending SMS in Router OS.

To Send SMS,
Go to: Tools -> SMS -> Send SMS

From Terminal:

```
tool sms send port=Airtel channel=3 phone-  
number=+91983xxxxxxx message  
="This is a Test Message"
```

The image shows two overlapping GUI windows from Router OS. The top window is titled "SMS Settings" and contains the following fields and controls:

- Receive Enabled
- Port: Airtel (dropdown menu)
- Channel: 3 (text input)
- Secret: ***** (password field)
- Allowed Number: (empty dropdown menu)
- Keep Max SMS: 0 (text input)
- Buttons: OK, Cancel, Apply, Inbox, Send SMS

The bottom window is titled "Send SMS" and contains the following fields and controls:

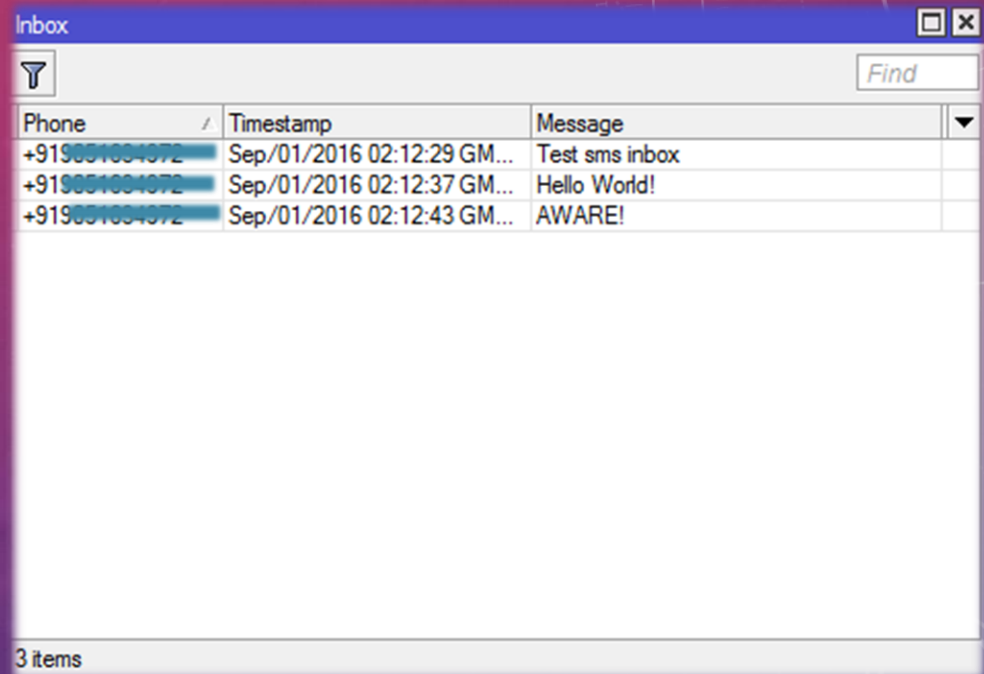
- Port: Airtel (dropdown menu)
- Channel: 3 (text input)
- Phone Number: 983XXXXXXXX (text input)
- SMSC: (empty dropdown menu)
- Message: This is a Test SMS (text input)
- Buttons: Send SMS, Cancel

```
[admin@TEST ROUTER] > tool sms send port=Airtel channel=3 phone-number=9051xxxxxx message="this  
is a test Message"
```

Receiving SMS in Router OS.

To Check Inbox,
Go to: Tools -> SMS -> Inbox

Terminal:
tool sms inbox print



The screenshot shows a window titled 'Inbox' with a search bar and a table of messages. The table has three columns: 'Phone', 'Timestamp', and 'Message'. There are three rows of data, each with a blue highlight on the phone number. The status bar at the bottom indicates '3 items'.

Phone	Timestamp	Message
+919851684972	Sep/01/2016 02:12:29 GM...	Test sms inbox
+919851684972	Sep/01/2016 02:12:37 GM...	Hello World!
+919851684972	Sep/01/2016 02:12:43 GM...	AWARE!

```
[admin@TEST ROUTER] > tool sms inbox print
# PHONE          TIMESTAMP          MESSAGE
0 +91[REDACTED]   Sep/01/2016 02:12:29 GMT +5   Test sms inbox
1 +91[REDACTED]   Sep/01/2016 02:12:37 GMT +5   Hello World!
2 +91[REDACTED]   Sep/01/2016 02:12:43 GMT +5   AWARE!
[admin@TEST ROUTER] >
```


Triggering Scripts by SMS in Router OS.

MikroTik Allows us to execute a script by sending an SMS to the router.

HOW ?

SMS Command:

```
:cmd "secret" script "script-name"
```

Practical uses of running Scripts via SMS !

GET ROUTER INFORMATION:
(CPU Usage, Memory, UP Time,
Disk Space)



:cmd password script sysinfo
13 mins ✓

S

Router Name: TEST ROUTER |
Up Time: 00:55:07 | Cpu Load:
1 % | Version: 6.36.2 (stable) |
Free Memory: 109441024 | CPU
Frequency: 600
13 mins

REBOOT ROUTER REMOTELY:



:cmd password script reboot
1 min ✓

S

ROUTER IS REBOOTING : TEST
ROUTER 17:53:34 Asia/Kolkata
1 min

ROUTER REBOOT SUCCESSFUL
ID= TEST ROUTER 17:54:25
Asia/Kolkata
Now

Practical uses of running Scripts via SMS !

ENABLE A_n INTERFACE: 

:cmd password script
3ginterfaceon

2 mins ✓

S



PPP-OUT1 INTERFACE IS NOW
ENABLED

2 mins

DISABLE A_n INTERFACE: 

:cmd password script
3ginterfaceoff

1 min ✓

S



PPP-OUT1 INTERFACE IS NOW
DISABLED

1 min

Demonstration

We will fetch router information
Via SMS

We will enable and disable our 3g
interface with SMS.

We Switch Our Gateway with an
SMS.

We reboot the Router Via SMS

Questions



Thank You.