
# Supervisor & Viewer

## Version 3.05

**m** Mobile Shell, Supervisor & Viewer, Version 3.05
Written by Lukas Knecht

www.m-shell.net

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# Contents

# 1. Introduction

The **m** Supervisor & Viewer is an additional component for the **m** application which must be installed separately. Its function is twofold:

- The ''supervisor'' is a separate background process which allows to start **m** scripts and executables at device startup, and to control **m** via SMS.
- The ''viewer'' adds automatic recognition of **m** script and executable files. This makes it particularly easy to add **m** scripts or programs to the **m** application by simply receiving them e.g. via Bluetooth®.

Note that on Symbian 3rd/5th Edition devices, the **m** Supervisor & Viewer requires you signing the installation package (online or offline via DevCert). But it works fine with a self signed **m** application.

## 1.1 Installation

The installation file for your device is part of the normal **m** shell distribution. You can always download the most recent files from www.m-shell.net, i.e. the Windows® `.exe` or the `.zip` file.

We recommend installing the **m** Supervisor & Viewer on the same storage device as the **m** application.

Currently, there are four supported device types. For the two 2nd edition device types, there are just two installation files:

| | |
|---|---|
| S60 2nd edition | mViewer-S60-2nd.sis |
| UIQ2 | mViewer-UIQ2.sis |

For Symbian 3rd/5th Edition devices (Symbian 9 and higher), there are two variants due to platform security:

| | Online signable | DevCert signable |
|---|---|---|
| S60 3rd Edition | mViewer-S60-3rd-OS.sis | mViewer-S60-3rd-DC.sis |
| S60 5th Edition | mViewer-S60-5th-OS.sis | mViewer-S60-5th-DC.sis |
| UIQ3 | mViewer-UIQ3-OS.sis | mViewer-UIQ3-DC.sis |

The two variants are (see also 5.2 (Reference, p. 68) for details):

- The ''Online signable'' packages must be signed online on www.symbiansigned.com before installation.
- The ''DevCert signable'' packages must be signed with your own Symbian Developer Certificate before installation.

The capabilities required when signing are: `NetworkServices`, `PowerMgmt`, `ProtServ`, `ReadDeviceData`, `ReadUserData`, `SwEvent`, `WriteDeviceData`, `WriteUserData`.

Due to the functionality it provides, the **m** Supervisor & Viewer cannot be offered as a self signed package.

# 2. The m Supervisor

The supervisor can start **m** (and the ''auto go'' scripts) automatically whenever the device is turned on, can even make sure that **m** is always running, and allows to control **m** remotely via SMS.

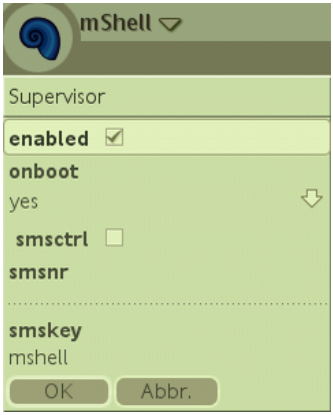
It is the **m** philosophy to make developing and running powerful applications on your phone as easy and straightforward as possible. However, this extra control has its price: for instance, the combination of automatic startup and ill behaving **m** script can make a device very difficult to use or completely unusable. Please take this into account when enabling the supervisor.

We also recommend installing **m** or at least the **m** Supervisor & Viewer on the removable memory card, so it can be disabled ''mechanically'' by removing the memory card from the device.

## 2.1 The Supervisor Dialog

The supervisor dialog is accessed via **View→Supervisor** from the **m** application. The supervisor properties determine the startup behaviour of **m** and the SMS control parameters (see also section 2.2 (p. 7)).


*Series 60 sample screen*




*UIQ sample screen*

The individual properties are:

`enabled` Select whether the supervisor should be enabled at all. Disable it if you don't like the idea of a supervisor process running in the background. Note that reenabling the supervisor may require rebooting the device to actually restart the process.

`onboot` Select whether the **m** application starts automatically when the phone is turned on. For testing, set to `once` to only autostart once. To automatically restart **m** whenever it exits or crashes, select `restart`.

`smsctrl` Select whether the **m** application can be controlled via SMS commands.

`smskey` The keyword prefix for all SMS commands. SMS not starting with this keyword are ignored and end up in the normal inbox.

`smsnr` The last digits of the sender phone number which can control the **m** application via SMS. For instance, with `smsnr=1234`, the SMS from all phones with a number ending in `1234` can control **m**. If empty, anybody knowing `smskey` can control **m** and eventually the device.

See also 2.3 (p. 9).

## 2.2 SMS Control

The supervisor allows to control the **m** application can be controlled via SMS commands. SMS control must be enabled, and commands must be prefixed by the *`smskey`* configured in the supervisor properties.

The available SMS commands are:

- *`smskey`* `reboot`: immediately reboot the device. This can be used to reset the device if it stops working properly. Note that the compatibility restrictions mentioned in 2.7 (Library, p. 62) apply.
- *`smskey`* `run` *`script args`*: starts the **m** application if it is not already running, then starts the script *`script`* with the arguments *`args`*. Use function `proc.args` to get the arguments from within the script. If the script is already running, this command is ignored.

- *smskey* `shutdown`: stops all scripts and exits the **m** application. If **m** is not running, this command is ignored.
- *smskey* `start`: starts the **m** application. If **m** is already running, this command is ignored.
- *smskey* `status`: **m** status inquiry, replies with an SMS describing the status of the **m** application and some GSM information. If **m** is running, the reply will look like:

```
m status: running, mem=mem,
  net=mcc,mnc, loc=lac,cid, sig=signal
```

  If **m** is not running, the reply will look like:

```
m status: NOT running (category reason),
  net=mcc,mnc, loc=lac,cid, sig=signal
```

  The meaning of the fields is the following:

| | |
|---|---|
| `mem` | bytes of memory used by **m** (only on Symbian 2nd Edition) |
| `category` | **m** exit category (if panicked) |
| `reason` | **m** exit reason (if panicked) |
| `mcc` | GSM mobile country code |
| `mnc` | GSM mobile network code |
| `lac` | GSM location area code |
| `cid` | GSM cell id |
| `signal` | GSM signal strength |

- *smskey* `status` *phone*: like `status` above, but the response is sent to phone number *phone*. *phone* must not contain white space.
- *smskey* `stop` *script*: stops execution of script *script*. If *script* is not running, this command is ignored.

The following examples require the `smsctrl` property to be enabled, and `smskey` to be set to `mshell`:

1. SMS to start the **m** application:

```
mshell start
```

2. SMS to start the `MySupervisor` script, passing it `0769988776` as an argument:

```
mshell run MySupervisor 0769988776
```

3. SMS to check the status of the **m** application:

```
mshell status
→ m status: NOT running (E32USER-CBase 71),
   net=228,115, loc=1616,17689, sig=3
```

**m** is not running because it crashed with a E32USER-CBase 71 panic. The phone is somewhere near cell 17689 in area 1616 of the Swisscom GSM network.

## 2.3 Supervisor Properties File

The behaviour of the **m** Supervisor is configured in the supervisor properties. Selecting **View→Supervisor** opens a dialog to edit them.

The properties are stored in an 8-bit text file with the same format as the **m** property file described in the previous section. The file resides in `"c:\iwlib\mSupervisor.prp"` or `"c:\shared\iwlib\mSupervisor.prp"` (on UIQ3 devices).

The following keys are recognized by the supervisor:

- `enabled=true|yes|y|1 | false|no|n|0`
  If set to `true`, `yes`, `y` or `1`, the supervisor background process will be created and persistent as long as the device is on.

- `onboot=true|yes|y|1 | false|no|n|0 | once | restart`
  If set to `true`, `yes`, `y` or `1`, the **m** application will be started automatically when the phone is booted up, i.e. switched on.
  If set to `once`, **m** is only started at the next bootup, as the entry is automatically set to `n` afterwards. This is the recommended setting for disaster prevention during script testing.
  If set to `restart`, **m** is started automatically when the phone is booted up, and restarted each time about 20 seconds after it exits (orderly or because of a crash).

- `smsctrl=true|yes|y|1 | false|no|n|0`
  If set to `true`, `yes`, `y` or `1`, the **m** application can be controlled via SMS commands, even if it is not running. See chapter 2.2 (p. 7).

- `smskey=keyword`
  Any SMS containing *`keyword`* as the first characters (ignoring case) is considered a command and sent to the **m** application.

- `smsnr=suffix`
  The last digits of the sender phone number which can control the **m** application via SMS. If empty, anybody knowing `smskey` can control **m**.

A sample supervisor properties file might look as follows:

```
enabled=yes
onboot=once
smsctrl=yes
smsnr=4561234
smskey=mshell
```

# 3. The m Viewer

The **m** viewer automatically recognizes **m** scripts (`.m` files), **m** modules (`.mm` files), and **m** executables (`.mex` files). For instance, an **m** script received via Bluetooth® can be added directly to the **m** application.


*Series 60 sample screen*


*UIQ sample screen*

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