

ADLINK SEMA 3.0

SEMA Dashboard Installation Guide

Platforms:

Windows 8.1 x64

Ubuntu 12.04.5 x86_64 LTS

CentOS 7 x86_64

(rev. 1.01)

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Revision History

Revision	Date	Changes
1.00	2015/12/01	Initial release
1.01	2015/12/11	Procedure for Linux CentOS added



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1 Prerequisites

- Set up your network.
- Download installation programs:

Windows

- install.bat
- semamgr-3.0-X-x64.exe

Linux Ubuntu

- install.sh
- semamgr-3.0-X_ubuntu_amd64.deb

Linux CentOS

- install_centos.sh
- semamgr-3.0-X.el7.centos.x86_64.rmp

Note: Make sure the package update tool has been stopped in the background before you install the Linux package.



2 Executing Installation Program

2.1 Windows

Step 1

Prepare related installation file (containing *semamgr-3.0-X-x64.exe, install.bat*).



Step 2

Execute *install.bat* to start the installation. Click Yes in User Account Control window allow installation continue.

•	User Account Conti	rol	×
Do you change	u want to allow the followir es to this computer?	ng program to make	
01 \	Program name: Windows Com Verified publisher: Microsoft Win	mand Processor I dows	
Show detai	ls	Yes No	
	<u>Change w</u>	vhen these notifications ap	pear



Click Next to the destination path page.



Do not change the default path and click Next.

13	SEMA 3.0 Installation	-		×
6	Choose Install Location Choose the folder in which to install SEMA.			
Destination fold	Setup will install SEMA in the following folder. To install in click Browse and select another folder. Click Next to cont At least 398.58 Mb of free disk space is required. der	a differe	ent fol	der,
C:\Program F	iles (x86)\ADLINK\SEMA	Brows	e]
Copyright ?2015, A	DLINK		Cano	el

Click Install to start up installation.



SEMA 3.0 Installation	– 🗆 🗙
Ready to Install Setup is now ready to begin installing Si computer.	EMA on your
inue with the installation, or click Back if you want to	review or change any
s (x86)\ADLINK\SEMA	
< Back Inst	all Cancel
Windows Installer	
eparing to install	Cancel
	SEMA 3.0 Installation Ready to Install Setup is now ready to begin installing St computer. inue with the installation, or click Back if you want to r is (x86)\ADLINK\SEMA LINK <back eparing="" inst="" install<="" installer="" th="" to="" windows=""></back>

Install Python. Select Install for all users and click Next.







Do not change default setting and click Next.



Step 6

Do not change default setting and click Next.





Click Finish.



Step 8

Click Next.





Select I accept the agreement and click Next.

6	Setup - OpenSSL (32-bit) -		x
	License Agreement Please read the following important information before continuing.		
	Please read the following License Agreement. You must accept the terms of this agreement before continuing with the installation.		
	DONATIONS NEEDED! If you are a business you should be contributing regular donations. If you are a generous individual, consider regular donations. Most people simply take and run - leaving me to foot the bill. That's not nice. Some businesses even drop their customers onto me to provide direct support to the customer (ahem, PayPal). That's just evil. Even if you can't afford a small, one time donation of \$10, at least drop a line saying how much you appreciate the effort put into this project (and, optionally, what you use OpenSSL for). Lots of complaints and few compliments is discouraging.	^	
	LEGAL NOTICE: This product includes software developed by the OpenSSL	۷	
	I accept the agreement		
	○ I <u>d</u> o not accept the agreement		
	< <u>B</u> ack <u>N</u> ext >	Canc	el

Step 10

Do not change default setting and click Next.

ø	Setup - OpenSSL (32-bit) – 🗆 🗙
	Select Destination Location Where should OpenSSL (32-bit) be installed?
	Setup will install OpenSSL (32-bit) into the following folder.
	To continue, click Next. If you would like to select a different folder, click Browse.
	C:\OpenSSL-Win32 Browse
	At least 126.6 MB of free disk space is required.
	< <u>B</u> ack <u>N</u> ext > Cancel



Do not change default setting and click Next.

ß	Setup - OpenSSL (32-bit) -	×
	Select Start Menu Folder Where should Setup place the program's shortcuts?	
	Setup will create the program's shortcuts in the following Start Menu folder	r.
	To continue, dick Next. If you would like to select a different folder, dick Browse.	
	OpenSSL Browse	
	< <u>B</u> ack <u>N</u> ext > C	ancel

Step 12

Do not change default setting and click Next.

B	Setup - OpenSSL (32-bit)	- 🗆 🗙
Select Additional Which additional	Tasks tasks should be performed?	
Select the additio (32-bit), then clic	nal tasks you would like Setup to perform while instal k Next.	ling OpenSSL
Copy OpenSSL D	LLs to:	
The Window	s <u>s</u> ystem directory	
O The OpenSSI	L <u>b</u> inaries (/bin) directory	
	< <u>B</u> ack <u>N</u> ext :	> Cancel



Click Install.

ß	Setup - OpenSSL (32-bit) -		x
	Ready to Install Setup is now ready to begin installing OpenSSL (32-bit) on your computer.	Ő	
	Click Install to continue with the installation, or click Back if you want to review or change any settings.		
	Destination location: C: \OpenSSL-Win32	^	
	Start Menu folder: OpenSSL		
	Additional tasks: Copy OpenSSL DLLs to: The Windows system directory		
	< >	Y	
	< <u>B</u> ack [Install (Canc	el

Step 14

Disable default selection (*One-time* \$10 donation to Win32 OpenSSL) and click *Finish*.

13 ¹	Setup - OpenSSL (32-bit) – 🗆 🗙
	Completing the OpenSSL (32-bit) Setup Wizard Setup has finished installing OpenSSL (32-bit) on your computer. The application may be launched by selecting the installed icons. Click Finish to exit Setup. One-time \$10 donation to Win32 OpenSSL Larger one-time donation to Win32 OpenSSL Recurring \$5 donation to Win32 OpenSSL Recurring \$10 donation to Win32 OpenSSL Recurring \$10 donation to Win32 OpenSSL Recurring \$10 donation to Win32 OpenSSL Recurring \$25 donation to Win32 OpenSSL
	Einish



Click Next.



Step 16

Click Next.

6	mosquitto Setup 🗕 🗆 🗙
De Ti	ependencies his page lists packages that must be installed if not already present
p	OpenSSL - install 'Win32 OpenSSL vXXXXX Light' then copy dlls to the mosquitto directory http://slproweb.com/products/Win32OpenSSL.html threads - copy 'pthreadVC2.dll' to the mosquitto directory ftp://sources.redhat.com/pub/pthreads-win32/dll-latest/dll/x86/
Nulls	oft Install System v2,46



Do not change default setting and click Next.

6	mosquitto Setup	- 🗆 🗙	
Choose Components Choose which features of mosqu	uitto you want to install.		
Check the components you want to install and uncheck the components you don't want to install. Click Next to continue.			
Select components to install:	Files Service	Description Position your mouse over a component to see its description.	
Space required: 458.0KB			
Nullsoft Install System v2.46	< <u>B</u> ack	Next > Cancel	

Step 18

Do not change default setting and click Install.

😚 mosquitto Setup – 🗆 🗙
Choose Install Location Choose the folder in which to install mosquitto.
Setup will install mosquitto in the following folder. To install in a different folder, dick Browse and select another folder. Click Install to start the installation.
Destination Folder C:\Program Files (x86)\mosquitto Browse
Space required: 458.0KB Space available: 52.2GB
Nullsoft Install System v2.46



Click Finish.



Step 20

Depending on server firewall settings, you may see *Windows Security Alert* windows. If alert windows are shown, do not change the default setting and click *Allow access*.

@		Windows Security Alert	×
💮 Windo	ws Firewal	has blocked some features of this app	
Windows Firewall h	as blocked some	features of mosquitto on all public and private networks.	
	<u>N</u> ame: <u>P</u> ublisher: Pat <u>h</u> :	mosquitto Unknown C:\program files (x86)\mosquitto\mosquitto.exe	
Allow mosquitto to communicate on these networks: Private networks, such as my home or work network			
Public networks, such as those in airports and coffee shops (not recommended because these networks often have little or no security)			
What are the risks of allowing an app through a firewall?			
		<u>A</u> llow access Cancel	



@		Windows Security Alert	×	
💮 Windo	ws Firewal	l has blocked some features of this app		
Windows Firewall h	Windows Firewall has blocked some features of python on all public and private networks.			
P	<u>N</u> ame: <u>P</u> ublisher: Pat <u>h</u> :	<mark>python</mark> Unknown C: \sema \var \sema \sems_env \scripts \python.exe		
Allow python to communicate on these networks: Private networks, such as my home or work network				
Public networks, such as those in airports and coffee shops (not recommended because these networks often have little or no security)				
What are the risks of allowing an app through a firewall?				
		Allow access Cancel		

@		Windows Security Alert ×
💮 Windo	ws Firewal	l has blocked some features of this app
Windows Firewall h	as blocked some	e features of mongod on all public and private networks.
	<u>N</u> ame: <u>P</u> ublisher: Pat <u>h</u> :	<mark>mongod</mark> Unknown C: \sema \usr \bin \sema \mongod.exe
Allow mongod to communicate on these networks: P <u>r</u> ivate networks, such as my home or work network		
Public networks, such as those in airports and coffee shops (not recommended because these networks often have little or no security)		
What are the risks of allowing an app through a firewall?		
		<u>A</u> llow access Cancel



2.2 Linux Ubuntu

First, make the install script install.sh executable: *chmod* +*x install.sh*

Then run the install script as root:

sudo ./install.sh semamgr-3.0-X-ubuntu_amd64.deb



The installation program will also create a Mongo DB on port 29017. The whole process takes about 30 minutes, please wait patiently.

2.3 Linux CentOS

First, make the install script centos.sh executable: *chmod* +*x install_centos.sh*

Then run the install script as root:

sudo ./install_centos.sh semamgr-3.0-X.el7.centos.x86_64.rpm



root@localhost:/home/sema3		
<pre>sh: install-mosquitto.sh: No such file or directory Loaded plugins: fastestmirror Examining semamgr-3.0-2.el7.centos.x86_64.rpm: semamgr-3.0.0-2.el7.centos.x86_64 Marking semamgr-3.0-2.el7.centos.x86_64.rpm to be installed Resolving Dependencies> Running transaction check</pre>		
> Package semamgr.x86_64 0:3.0.0-2.e	17.centos will be installed	
> Finished Dependency Resolution		
Dependencies Resolved		
Package Arch Version	Repository	Size
Installing: semamgr x86_64 3.0.0-2.el7.centos	/semamgr-3.0-2.el7.centos.x86_64	3.8 G
Transaction Summary		
Install 1 Package		
Total size: 3.8 G		=
Installed size: 3.8 G		
Is this ok [y/d/N]: y		-

When installation program prompts, please input "y" to continue the installation process.

Proot@localhost:/home/sema3	
Installed:	*
libmosquitto-devel.x86_64 0:1.4.5-1.1	libmosquitto1.x86_64 0:1.4.5-1.1
libmosquittopp-devel.x86_64 0:1.4.5-1.1	libmosquittopp1.x86_64 0:1.4.5-1.1
mosquitto.x86_64 0:1.4.5-1.1	mosquitto-clients.x86_64 0:1.4.5-1.1
Dependency, Tratellad.	
ton wrappers x86 64 0.7 6-77 el7	11111 x86 64 0.1 6 2-26 e17
ccp_wiappeis.x00_04 0.7.0=77.e17	uuiu.x00_04 0.1.0.2-20.21/
Complete!	
mosquitto.service - LSB: Mosquitto MQTT br	oker
Loaded: loaded (/etc/rc.d/init.d/mosqui	tto)
Active: active (running) since Tue 2015	-11-24 15:32:43 CST; 4ms ago
Process: 2591 ExecStart=/etc/rc.d/init.d	/mosquitto start (code=exited, status=
0/SUCCESS)	
CGroup: /system.slice/mosquitto.service	
? ? 2593 /usr/sbin/mosquitto	-d -c /etc/mosquitto/mosquitto.conf
Nov 24 15:32:43 localhost localdomain moso	witto[2501], Starting Mogguitto MOT
Nov 24 15:32:43 localhost localdomain moso	mitto[2591]: 1448350363: Config loa
Nov 24 15:32:43 localhost.localdomain moso	muitto[2591]: [61B blob data]
Nov 24 15:32:43 localhost.localdomain moso	nuitto[2591]: 1448350363: Opening ip
Nov 24 15:32:43 localhost.localdomain syst	emd[1]: Started LSB: Mosquitto MQTT
Hint: Some lines were ellipsized, use -1 t	o show in full.
	· · · · · · · · · · · · · · · · · · ·

When installation has been completed, the system will reboot automatically. If you use a terminal to run the install script, connection will be lost after rebooting, so you need to re-connect to server again.



3 Login to SEMA Dashboard

Open the following URL on the server with an Internet browser, such as Mozilla Firefox or Google Chrome:

http://127.0.0.1:8080

Or find out the IP address of the server:

- 1.1 The command on Windows server *ipconfig*
- 1.2 The command on Linux server *ifconfig*

Then open the following URL from a PC:

http://x.x.x.x:8080

where *x.x.x.x* is the IP address of the server.

4 Configure SEMA Dashboard

There are 6 user configurable items in the system configuration file:

(1) Push interval

The default value of push interval for a newly added thing, i.e. the time interval between two consecutive uploads. The default value of this item is 60 seconds.

(2) Time zone:

The default timezone of the server. The default value of this item is UTC.

(3) Language:

The default UI language of the server. The default value of this item is English

(4) Default thing definition:

The default thing definition for a newly added thing. The default settings for this item are: Small graphs, Top tab display, History, 24 hours, properties include CPU Temperature, System Temperature, CPU Fan Speed and System Fan 1 Speed.

(5) E-mail relay:

Settings for the Email server, including IP address, TCP port number, TLS, acount and password.

(6) SMS provider:

Settings for the SMS broker, including URL, account, password and other parameters.



To change configuration settings, open the file C:\SEMA\var\sema\sems\settings.py and find the DEFAULT_SETTING section (near the end of the file), an example is given as:

```
DEFAULT_SETTING={
```

```
"Timezone":"UTC",
"Language":"eng",
"record_unit" : "Seconds",
"record_rate" : 60
}
```

To configure push interval, modify the *record_unit* and *record_rate* fields. The *record_rate* field specifies the numeric value of the push interval. The *record_unit* field specifies the unit of the push interval. Valid units are Seconds, Minutes, Hours and Days. Push interval shall not be set to less than 20 seconds.

To configure time zone, modify the *Timezone* field. Valid values for the time zone field can be found here: http://en.wikipedia.org/wiki/List_of_tz_zones_by_name

To configure language, modify the *Language* field. Currently, *eng* (for English) is the only valid value for this item.

To configure default thing definition, find the *DEFAULT_THING_DEFINITIONS* section (near the end of the file, after the *DEFAULT_SETTING* section). An example is given as:

DEFAULT_THING_DEFINITIONS={
 "dd_id" :"Default7c65b92bcac1498fb7dd32917" ,
 "data":{
 "dd_create_date" : "1420070400",
 "dd_creator" : "admin",
 "dd_graph_option" : "Small graphs",
 "dd_id" : "Default7c65b92bcac1498fb7dd32917",
 "dd_name" : "Default",
 "dd_period" : "24",
 "dd_period_unit" : "hours",
 "



```
"dd_properties" : [
         "CPU Temperature",
         "System Temperature",
         "CPU Fan Speed",
         "System Fan 1 Speed"
    ],
    "dd_series" : "history",
    "dd_update_date" : "1420070400",
    "dd_updater" : "admin",
    "dd_view_option" : "Top tab display"
    }
}
To configure Email relay, find the EMAIL_RELAY section, an example is given
as:
EMAIL_RELAY = \{
    "ip_address": "smtp.shinewave.com.tw",
    "login_account": "",
    "login_password": "",
    "enable_tls": False,
    "port": "25"
```

}

For ordinary Email server using SMTP protocol, replace *ip_address* by the IP address of the Email server, leave *enable_tls* false and *port* 25. For Gmail, replace *ip_address* by *smtp.gmail.com*, set *enable_tls* true and *port* 587.

To configure SMS provider, find the SMS_PROVIDER section, an example is given as:

```
SMS_PROVIDER = [{
```

"id": 0, "name": "Bulksms", "url": "http://bulksms.vsms.net:5567/eapi/sub/sms/", "username_field": "username", "username": "shinewave", "password_field": "password", "password": "123456",



"message_field": "message", "receiver_field": "msisdn", "receiver_separator": ",", "extra_params": ""

}, {

}]

"id": 1, "name": "SMS Get Paid", "url": "http://business.smsgetpaid.com/api_send.php", "username_field": "username", "username": "shinewave", "password_field": "password", "password": "123456", "receiver_field": "phone", "receiver_separator": ',', "extra_params": "method=1"

SELECTED_SMS_PROVIDER=1

The system supports only SMS provider who has a REST API such as http://business.smsgetpaid.com/api_send.php?username=shinewave&password=123456&phone=0987654321,0988776543&method=1



Getting Service

Contact us should you require any service or assistance.

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