



# Installation Guide

Live Delivery Platform Server-Side Module

Linux

OmniUpdate, Inc.  
1320 Flynn Road, Suite 100  
Camarillo, CA 93012  
800.362.2605  
805.484.9428 (fax)  
[www.omniupdate.com](http://www.omniupdate.com)

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### About OmniUpdate, Inc.

OmniUpdate is the leading web content management system (CMS) provider for higher education. OmniUpdate's enterprise web CMS, OU Campus™, empowers institutions to effectively manage and enhance their web presence and take advantage of the latest web and mobile technologies. Founded in 1982, OmniUpdate is located in Camarillo, CA.

### About This Guide

The *Installation Guide: Live Delivery Platform Server-Side-Module — Linux* provides instructions for installing a server-side module (SSM) on a Linux system, as well as the steps for registering OU Campus sites.

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## Introduction

This guide contains confidential, proprietary information intended only for administrators of servers housing software relating to OmniUpdate's OU Campus software and add-on components, specifically the Server-Side Module (SSM), as discussed below. Unauthorized reproduction or distribution is prohibited. All rights reserved.

The purchase of Live Delivery Platform includes a forms module, which requires what is defined by OmniUpdate as a Server-Side Module (SSM). The SSM requires installation and registration on a production server, and it contains the databases necessary to house the form submissions. Installation and configuration of the SSM, as well as the registration of OU Campus sites is described in the following instructions.

**NOTE:** It is possible that new versions of the files or software exist. Use the most recent versions of all files.

Keep in mind that these instructions are to be completed on the destination system where the SSM and MySQL database will be installed.

For issues or questions relating to SSMs, contact: [support@omniupdate.com](mailto:support@omniupdate.com).

## Important Note

This guide is written with certain assumptions. The assumptions include:

1. The administrator of the server is comfortable with Linux and an expert on server configuration on which the module is being installed.
2. The guide is written for CentOS, derived from Red Hat. As such, some commands may need to be adjusted to work with the distribution of the server if different than CentOS.
3. The guide is written assuming the administrator is logged in as root. If not root, *sudo* must be used where appropriate.
4. The commands assume that the exact process detailed was followed. If variations are made, it may be necessary to get back into the appropriate directory or to reactivate the bin.

## Distributions

As mentioned, this guide is written to be used with CentOS. However, additional distributions are supported. Currently, installation of the SSM has been successfully completed on:

- CentOS
- Ubuntu, derived from Debian
- openSUSE

Solaris is not officially supported at this time.

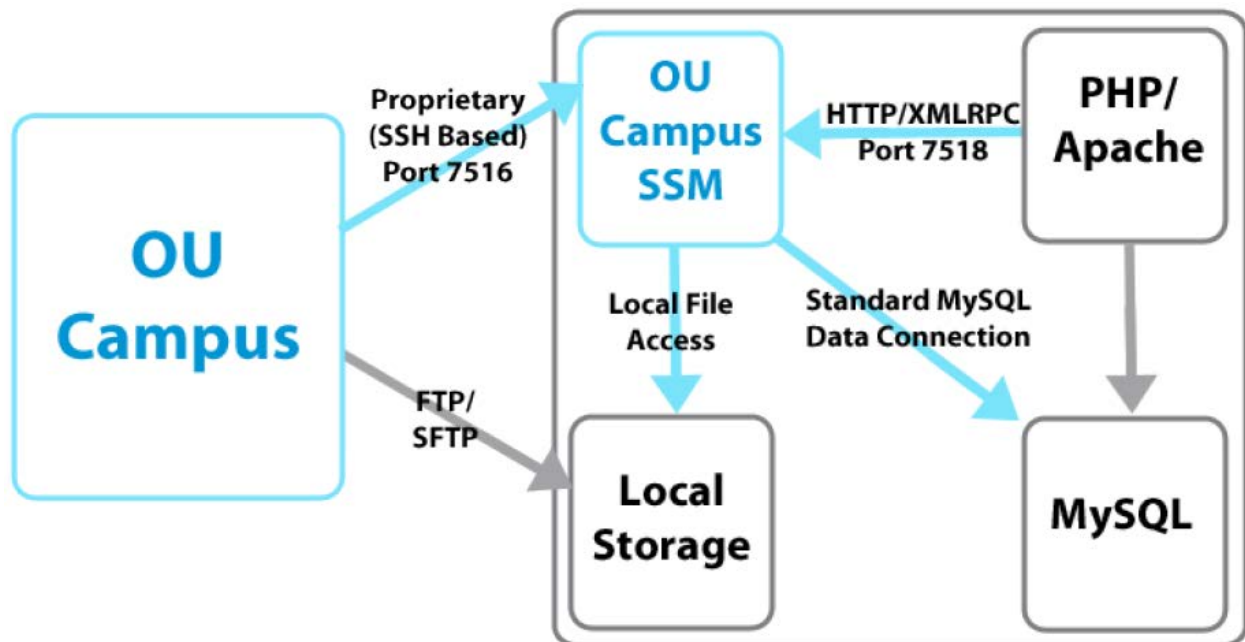
## Network Requirements

### Firewall Rules

The SSM uses two TCP ports to communicate with OU Campus and the production web server.

1. TCP port 7516 is used by OU Campus to communicate with the SSM to retrieve form results for display. Port 7516 needs to be opened in the firewall to allow access. IP subnet ranges for the OmniUpdate SaaS servers are available on request.
2. TCP port 7518 is an internal port that is used by the web server to send form results to the SSM for collection. Port 7518 does not need to be opened up in the firewall.

### SSM Component Communication



## Set Up MySQL

MySQL or MariaDB 5.5 is the recommended series to use for SSM at this time. If either is already installed, it is possible to use the existing installation. If not, either must be installed. For this document, we are assuming you are installing MariaDB to a CentOS system.

1. Logon as, or use sudo to become, root on your server.
2. Use the [MariaDB repo configuration tool](#) to pick a 5.5 repo file to copy to your server.
3. Run **yum install MariaDB-server MariaDB-client** . You may need to accept a GPG signing key during this install; answer “Y” as needed. If you are using RHEL/CentOS 7, use **yum install mariadb-server mariadb** instead.
4. Begin by enabling and starting MySQL. On RHEL/CentOS 6, this will be **chkconfig mysql on && service mysql restart** . On RHEL/CentOS 7, this will be **systemctl enable mariadb && systemctl restart mariadb**
5. Set the *root* password for MySQL:  

```
/usr/bin/mysql_secure_installation
```
6. Enter the current password, or if none is set, click **Enter**.
7. If prompted to set a password, select **y** (yes).
8. Enter the password, and then re-enter the password. Generate a random password of 16 characters at: <http://www.random.org/passwords/> and make a note of it.
9. If prompted to remove anonymous users, select **y** (yes).
10. If prompted to disallow root login remotely, select **y** (yes)
11. If prompted to remove test database and access to it, select **y** (yes).
12. If prompted to reload privilege tables now, select **y** (yes).

The prompt should display a success message and indicate that the installation is secure.

## Create Database

After installing and configuring MySQL, set up the database.

1. While still logged in as *root*, type:  

```
mysql -u root -p
```
2. Enter the MySQL password defined above.  
Create a database called **oussm** by entering:  
**NOTE:** Be sure that the prompt for the command is preceded with **mysql>**.  

```
create database oussm;
```

## Create the Users

After the database has been configured, users needs to be created. Two users should be created; one for accessing the SSM to submit the results and so that the data can be displayed in OU Campus. The other user will be used for polls to get the data in order to display it on the web page.

When creating the users, be sure to generate a random password for each user of at least 16 characters. Use <http://www.random.org/passwords/> to generate the passwords.

Before beginning, verify that the command prompt is preceded with **mysql>**.

### Create the Main SSM User

Start with the main user. This user will be granted all permissions to the database.

1. Enter the following command:
  - In this case, **oussm** is the username for the user. Keep in mind that **localhost** is correct unless the SSM is installed on a different server than MySQL. In that case, update **localhost** to the proper server name or IP address.
  - Replace **yourpassword** with the password randomly generated for the main user.

```
create user oussm@localhost identified by "yourpassword";
```

2. After creating the user, grant permissions to all on the **oussm** database with the following command:

```
grant all on oussm.* to oussm@localhost;
```

Repeat the steps for the polls user (if one is required).

1. Enter the following command:
  - The username for this user will be **oupolls**. Again, **localhost** is correct unless the SSM is installed on a different server than MySQL. In that case, update **localhost** to the proper server name or IP address.
  - Replace **yourpassword** with the password randomly generated for the polls user.

```
create user oupolls@localhost identified by "yourpassword";
```

2. After creating the user, grant permissions to all on the **oussm** database with the following command:

```
grant select on oussm.* to oupolls@localhost;
```

MySQL, the database for the SSM, and the users are now configured.

Exit MySQL.

```
exit
```

## Build Python 2.7 and SSM

The following sequence will build versions of Python and dependencies known to work at the time of publication, and then create a working version of the SSM application.

```
# --- As a ROOT user ---

useradd ousm && mkdir /opt/ousm

yum groupinstall "Development Tools" && yum install readline-devel sqlite-
devel zlib-devel openssl-devel bzip2-devel screen wget unzip nano

# --- As any user ---

cd ~
wget http://oudownloads.s3.amazonaws.com/ousm/OUSSM-1.1.1.tar.gz
wget http://oudownloads.s3.amazonaws.com/ousm/init.d.zip
wget http://python.org/ftp/python/2.7.9/Python-2.7.9.tgz
wget --no-check-certificate
https://pypi.python.org/packages/source/s/setuptools/setuptools-7.0.tar.gz
tar xvf OUSSM-1.1.1.tar.gz
tar xvf Python-2.7.9.tgz
tar xvf setuptools-7.0.tar.gz
#tar xvf SQLAlchemy-0.9.8.tar.gz
unzip init.d.zip -d /opt/ousm
cd ~/Python-2.7.9
./configure --prefix=/opt/ousm
make
make altinstall
cd ~/setuptools-7.0
/opt/ousm/bin/python2.7 setup.py install
cd ~/OUSSM-1.1.1
/opt/ousm/bin/python2.7 setup.py install
cp ssmconfig.ini /opt/ousm
cd ~

# --- If SQL-Alchemy is an issue, uncomment and use the next set of lines ---
#cd ~
#wget --no-check-certificate
https://pypi.python.org/packages/source/S/SQLAlchemy/SQLAlchemy-0.9.8.tar.gz
#cd ~/SQLAlchemy-0.9.8
#/opt/ousm/bin/python2.7 setup.py install
#cd ~/OUSSM-1.1.1
#/opt/ousm/bin/python2.7 setup.py install
# ---
```

## Configure SSM Files

### Edit the Configuration File

Now that the SSM has been installed, it needs to be configured.

1. Use the **nano** editor to update the configuration file.

```
nano /opt/oussm/ssmconfig.ini
```

2. Update the **URI**, replacing the first oussm, which is the user, password, localhost and the second oussm, which is the database with the appropriate values:

- Replace **oussm** with the username created in MySQL.

**NOTE:** If the instructions were followed above, this can be left as is because the username should be oussm.

- Replace **password** with the password created for the said user in MySQL.
- Use either **localhost**, or the host defined if not localhost.
- Replace **oussm** with the database name defined in MySQL.

**NOTE:** If the instructions were followed above, this can be left as is because the username should be oussm.

Example: uri:

```
mysql+mysqlconnector://oussm:mypassword@localhost/oussm
```

3. Replace **localhost** under **smtp host:** with the host information for the SMTP server.

```
[database]
uri: mysql+mysqlconnector://oussm:password@localhost/oussm
querylog: false

[admin]
interface: 0.0.0.0
port: 7516

[web]
interface: 127.0.0.1
port: 7518

[smtp]
host: localhost
port: 25
```

4. **CTRL+O** to writeout the changes.
5. **CTRL+X** to exit.

## Run the SSM Server

After configuring the SSM file, start the module.

```
cd /opt/oussm  
bin/oussm -c ssmconfig.ini runserver
```

Something similar to the following will be seen.

```
2011-11-02 12:06:24-0700 [-] Log opened.  
2011-11-02 12:06:24-0700 [-] Registering admin method: ldap.test.ping  
2011-11-02 12:06:24-0700 [-] DB not controlled; assumed to be empty.  
2011-11-02 12:06:24-0700 [-] Database is version 0, application is  
version 2  
2011-11-02 12:06:24-0700 [-] Database schema requires update.  
Attempting upgrade now.  
2011-11-02 12:06:24-0700 [-] Private key not found. Making a new one.  
2011-11-02 12:06:24-0700 [-] Registering admin method:  
ldap.form.publish  
2011-11-02 12:06:24-0700 [-] Registering admin method:  
ldap.form.results  
2011-11-02 12:06:24-0700 [-] Registering admin method: ldap.form.remove  
2011-11-02 12:06:24-0700 [-] Registering admin method:  
ldap.form.removeResponse  
2011-11-02 12:06:24-0700 [-] Registering public method:  
ldap.form.submit  
2011-11-02 12:06:24-0700 [-] Registering public method:  
ldap.form.enabled  
2011-11-02 12:06:24-0700 [-] Starting public server: 0.0.0.0:7518  
2011-11-02 12:06:27-0700 [-] Registering admin method:  
ldap.form.publish  
2011-11-02 12:06:27-0700 [-] Registering admin method:  
ldap.form.results  
2011-11-02 12:06:27-0700 [-] Registering admin method: ldap.form.remove  
2011-11-02 12:06:27-0700 [-] Registering admin method:  
ldap.form.removeResponse  
2011-11-02 12:06:27-0700 [-] Registering public method:  
ldap.form.submit  
2011-11-02 12:06:27-0700 [-] Registering public method:  
ldap.form.enabled  
2011-11-02 12:06:27-0700 [-] ouldap.adminserver.LDPAAdminFactory  
starting on 7516  
2011-11-02 12:06:27-0700 [-] Starting factory  
<ouldap.adminserver.LDPAAdminFactory instance at 0x2678878>
```

Use **Ctrl+C** to quit.

## Run SSM as a startup daemon

As part of the installation process, a set of init-scripts were downloaded and saved to the **/opt/oussm/init.d** folder. It contains a **README.txt** file, with the latest instructions for the scripts included. This set of scripts is maintained separately from SSM, to account for new OS installs as they are determined.

## Run SSM as a background task

If you are unable to run the SSM as a daemonized process, you can follow these alternate steps to have it run at your command. This would need to be done after each time the server/VM is (re)started.

1. In order to keep it running in the background, even if the terminal is closed, use the screen command.

```
screen
```

2. Then run the server.

```
oussm -c /opt/oussm/ssmconfig.ini runserver
```

3. To detach the screen, press **CTRL+A**.
4. Then, press **D**.
5. The screen will display *[detached]*.

The server is now running in the background until the server is restarted.

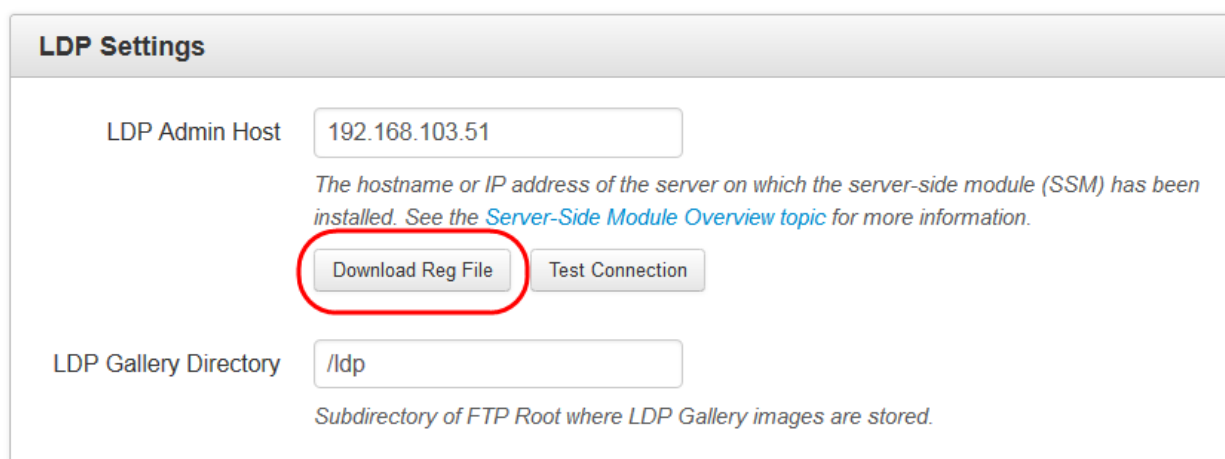
## Register the Site

Each site needs to be registered with the SSM in order to function properly. This adds the following to the SSM database:

- Name
- Site's UUID
- Public Key

To register the site, complete the following:

1. Log into OU Campus as a Level 10 administrator and navigate to **Setup > Sites > Edit**.
2. Click on **Download Reg File**.



**LDP Settings**

LDP Admin Host

*The hostname or IP address of the server on which the server-side module (SSM) has been installed. See the [Server-Side Module Overview topic](#) for more information.*

LDP Gallery Directory

*Subdirectory of FTP Root where LDP Gallery images are stored.*

3. **Save** the file and **upload** it to the server.
4. On the server, run **cd /opt/oussm** to load the program directory.
5. Run the following command for each registration file. Replace the ldp file path as needed.

```
bin/oussm -c ssmconfig.ini register ~/registration-site.ldp
```

The site will now be registered. An example of a successful registration is:

```
2013-04-01 12:00:25-0700 [-] Log opened.
2013-04-01 12:00:25-0700 [-] Registering admin method: ldp.test.ping
2013-04-01 12:00:25-0700 [-] Database is version 2, application is
version 2
```

After the site is registered, the registration file can be deleted.