

Installation Guide

Live Delivery Platform Server-Side Module
Linux

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Introduction

This guide contains confidential, proprietary information intended only for administrators of servers hosting 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 SQL database will be installed.

For issues or questions relating to SSMs, contact: 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 installed on 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, in some cases it may be necessary to perform additional steps such as changing back to the appropriate directory or to use a different filename or path, as examples. In such cases refer to your specific distribution or package documentation.

Distributions

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

- CentOS 6.4+
- RHEL 6.4+
- Ubuntu, derived from Debian 14.04+

Solaris or any other version of Linux not listed above is not officially supported at this time.

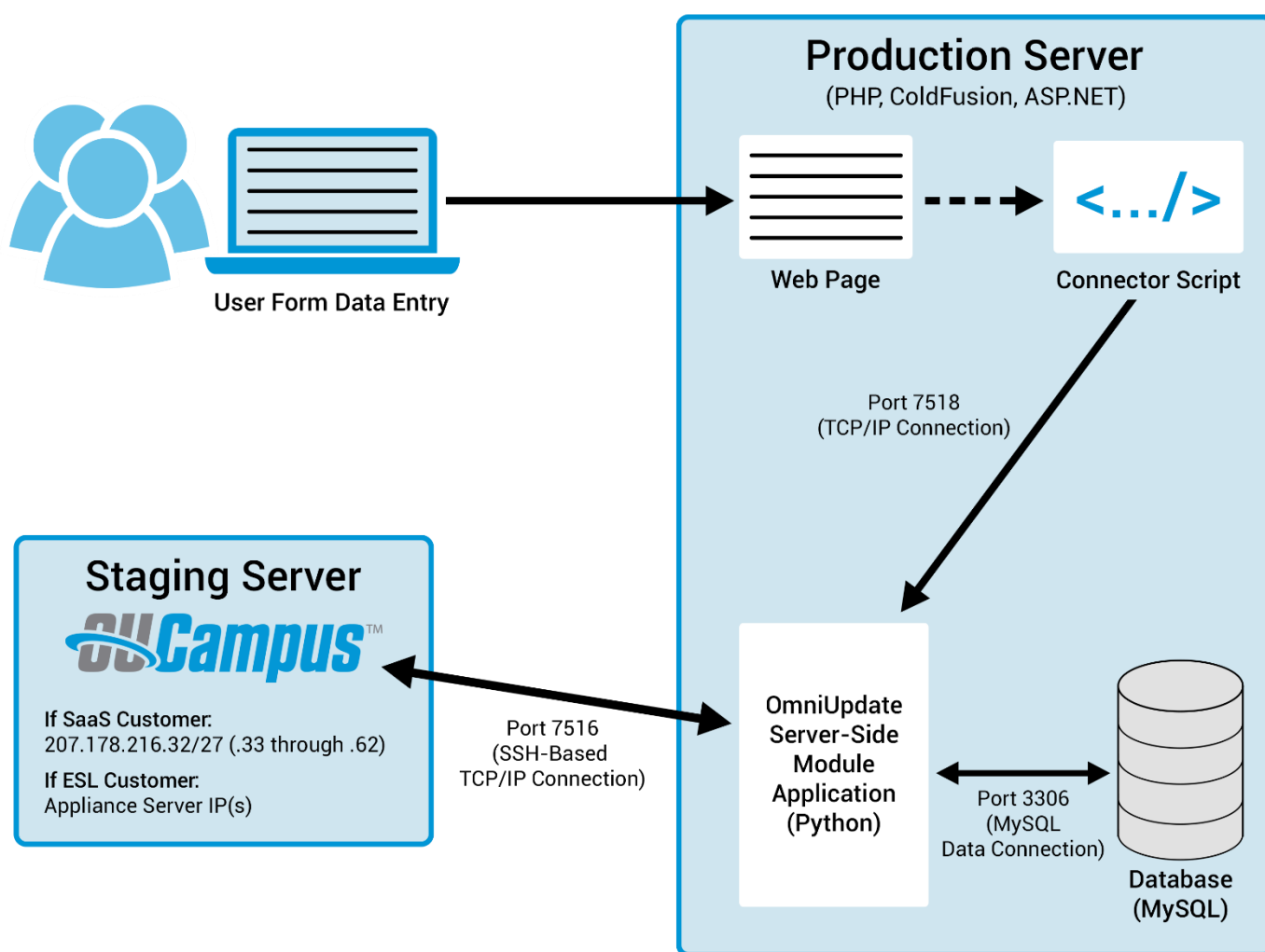
Network Requirements

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



Database Requirements

As of version 1.2.2 of the SSM, the three supported databases are: Microsoft SQL Server (MSSQL), MySQL 5.5+ and PostgreSQL 9.3+.

If any of these databases are already installed, it is possible to use the existing installation. If not, one of the databases mentioned above must be installed. For this document, we are assuming you are installing MySQL to a CentOS/RHEL system.

1. Logon as, or use sudo to become, root on your server.
2. Get the latest MySQL repo: `wget http://dev.mysql.com/get/mysql57-community-release-el7-8.noarch.rpm`
3. Install the repo: `yum localinstall mysql57-community-release-el7-8.noarch.rpm`
4. Install MySQL: `yum install mysql-server`
5. You may need to accept a GPG signing key during this install; answer “Y” as needed.
6. Enable and start MySQL:
On RHEL/CentOS 6 run: `chkconfig mysqld on && service mysqld restart`
On RHEL/CentOS 7 run: `systemctl enable mysqld && systemctl restart mysqld`
7. Grab the temporary root password generated from the install using: `sudo grep 'temporary password' /var/log/mysqld.log`
8. Now run `/usr/bin/mysql_secure_installation`
9. Enter the current temporary password and press **Enter**.
10. When prompted to set a new password (old root expired), enter your new root password.
11. When asked to change the password for root (after changing it already) press **n** (no).
12. If prompted to remove anonymous users, select **y** (yes).
13. If prompted to disallow root login remotely, select **y** (yes)
14. If prompted to remove test database and access to it, select **y** (yes).
15. 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 the 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:
`create database oussm;`

NOTE: Be sure that the prompt for the command is preceded with **mysql>**.

Create the Users

After the database has been configured, users need 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;
```

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

Exit MySQL.

```
exit
```

MSSQL Configuration

If you wish to use MSSQL as your database choice, please perform the following steps on your MSSQL server.

1. Ensure that TCP/IP connections are allowed on port 1433 (or your MSSQL port chosen) via the SQL Configuration Manager.
2. Create a login named "oussm" with a secure password and ensure you *uncheck* the box **"Enforce Password Policy"**
3. Create a new database named "oussm" and set the owner of this database to the oussm user you created in step 2. You can set the owner in the properties view of the database under the "Files" page.

Build Python 2.7 and the 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 oussm && mkdir /opt/oussm

yum install -y xz-libs readline-devel sqlite-devel zlib-devel openssl-
devel bzip2-devel screen wget unzip nano python-dev python2.7 python-
virtualenv screen libffi-devel python-devel openssl-devel gcc
postgresql-devel unixODBC unixODBC-devel libtool-ltdl libtool-ltdl-
devel gcc-c++

# --- As any user ---

cd ~
wget https://repo.omniupdate.com/ssm/OUSSM-1.2.2.tar.gz
wget https://repo.omniupdate.com/ssm/init.d.zip
wget http://python.org/ftp/python/2.7.10/Python-2.7.10.tgz
tar xvf OUSSM-1.2.2.tar.gz
tar xvf Python-2.7.10.tgz
unzip init.d.zip -d /opt/oussm
cd ~/Python-2.7.10
./configure --prefix=/opt/oussm
make && make altinstall
cd ~/OUSSM-1.2.2
/opt/oussm/bin/python2.7 setup.py install
cp ssmconfig.ini /opt/oussm
cd ~
```

Configure SSM Files

Edit the ODBC Configuration File

If you are using MySQL or PostgreSQL, you can skip this section.

If you plan on using MSSQL, you will need to perform this step of the installation process.

To have MSSQL work you must insert the following text into `odbcinst.ini`

1. `vi /etc/odbcinst.ini`
2. Insert this text at the bottom of the file.

```
[FreeTDS]
Description = TDS driver (Sybase/MS SQL)
Driver = /usr/lib64/libtdsodbc.so.0
Setup = /usr/lib64/libtdsodbc.so.0
CPOutput =
CPReuse =
TDS Version = 7.2
client charset = utf-8
```

3. Write out the changes and exit.

Edit the Configuration File

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

1. Use the a text editor of your choice to update the configuration file.
`vi /opt/oussm/ssmconfig.ini`
2. Type in the **type** you will use, MySQL, MSSQL or Postgres.
3. Enter the **username** you created for the SSM (default is oussm) and enter the **password** for the user in step 2.
4. For [database] **host**, this is where the database is located. The dbname is the name of the database created during the set up process (default is oussm).
5. Type in the **port** number that the database listens to TCP/IP on.
6. If you are *not* a SaaS customer, under **[admin] host**, enter the address of where OUCampus is installed in your environment.
7. Replace **localhost** under **[smtp] host**: with the host information for the SMTP server.
8. All other values not mentioned can remain the same and require no configuration.

```
[database]
#available types: mysql, mssql, postgres
type: DB_TYPE
username: DB_USERNAME
password: DB_PASSWORD
host: DB_HOST
dbname: DB_NAME
port: DB_PORT

[admin]
host: a.cms.omniupdate.com
interface: 0.0.0.0
port: 7516

[web]
interface: 0.0.0.0
port: 7518

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

9. **CTRL+O** to writeout the changes.
10. **CTRL+X** to exit.

Run the SSM Server Manually

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.

```
2016-08-01 16:02:01-0400 [-] Log opened.
2016-08-01 16:02:01-0400 [-] DB not controlled; assumed to be empty.
2016-08-01 16:02:01-0400 [-] Database is version 0, application is
version 5
2016-08-01 16:02:01-0400 [-] Database schema requires update.
Attempting upgrade now.
2016-08-01 16:02:02-0400 [-] Private key not found. Making a new one.
2016-08-01 16:02:02-0400 [-] Starting public server: 0.0.0.0:7518
2016-08-01 16:02:03-0400 [-] LDAPAdminFactory starting on 7516
2016-08-01 16:02:03-0400 [-] Starting factory
<ouldp.adminserver.LDPAdminFactory instance at 0x7fd461c4a7a0>
```

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.

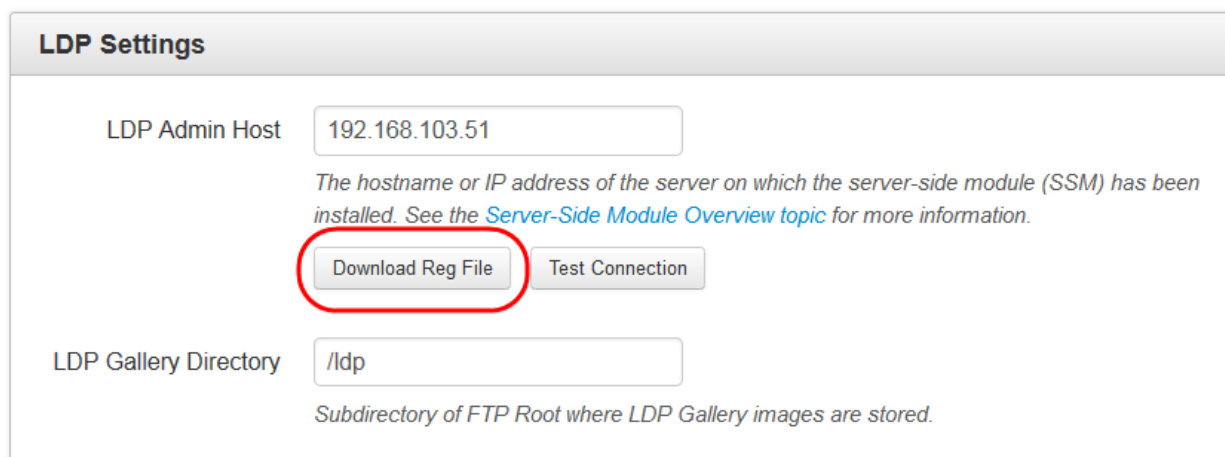
Register the Site

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**.



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 should look like:

```
2016-08-02 12:00:25-0700 [-] Log opened.
2016-08-02 12:00:25-0700 [-] Registering admin method: ldp.test.ping
2016-08-02 12:00:25-0700 [-] Database is version 5, application is
version 5
```

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