

Live Delivery Platform Installation Guide

SSM 2.0.0 | CentOS / RHEL 8

July 2024

Confidential

Version 4

modern[™]
campus

Confidentiality Note: This document contains confidential information, which is proprietary to Modern Campus. In consideration of receipt of this document, the recipient agrees to maintain such information in confidence and not disclose this information to any party outside of the recipient's organization. This information may not be reproduced or displayed to any other party without the written consent of Modern Campus.

Modern Campus shall not be held liable for any technical or editorial errors and omission contained herein, nor any damages directly or indirectly arising from this document.

© 2024 Modern Campus. All rights reserved. Confidential.

Version Control

Version	Description of Revisions	Date	Author
1	Original	Jan 2020	Bill V.
2	<ul style="list-style-type: none">• Moved to Modern Campus template.• Changed OmniUpdate to Modern Campus and Omni, OU Campus to Omni CMS	March 2021	Stacie M.
3	<ul style="list-style-type: none">• Changed Omni CMS to Modern Campus CMS• Removed Ubuntu Server 16.04 LTS and 18.04 LTS from supported distributions.• Removed Microsoft SQL and MySQL as supported servers.	Feb 2024	Stacie M.
4	<ul style="list-style-type: none">• Update URL for SSM download	July 2024	Stacie M.

Introduction

The purchase of Live Delivery Platform (LDP) includes a forms module, which requires what is defined by Modern Campus 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 Modern Campus CMS 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: cmssupport@moderncampus.com

Important Note

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

- The administrator of the server is comfortable with Linux and an expert on server configuration on which the module is being installed.
- The guide is written for CentOS. As such, some commands may need to be adjusted to work with the distribution installed on the server if different than CentOS.
- The guide is written assuming the administrator is logged in as root. If not root, sudo must be used where appropriate.
- 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

Installation of the SSM is approved for install on:

- CentOS/RHEL 7
- CentOS/RHEL 8

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

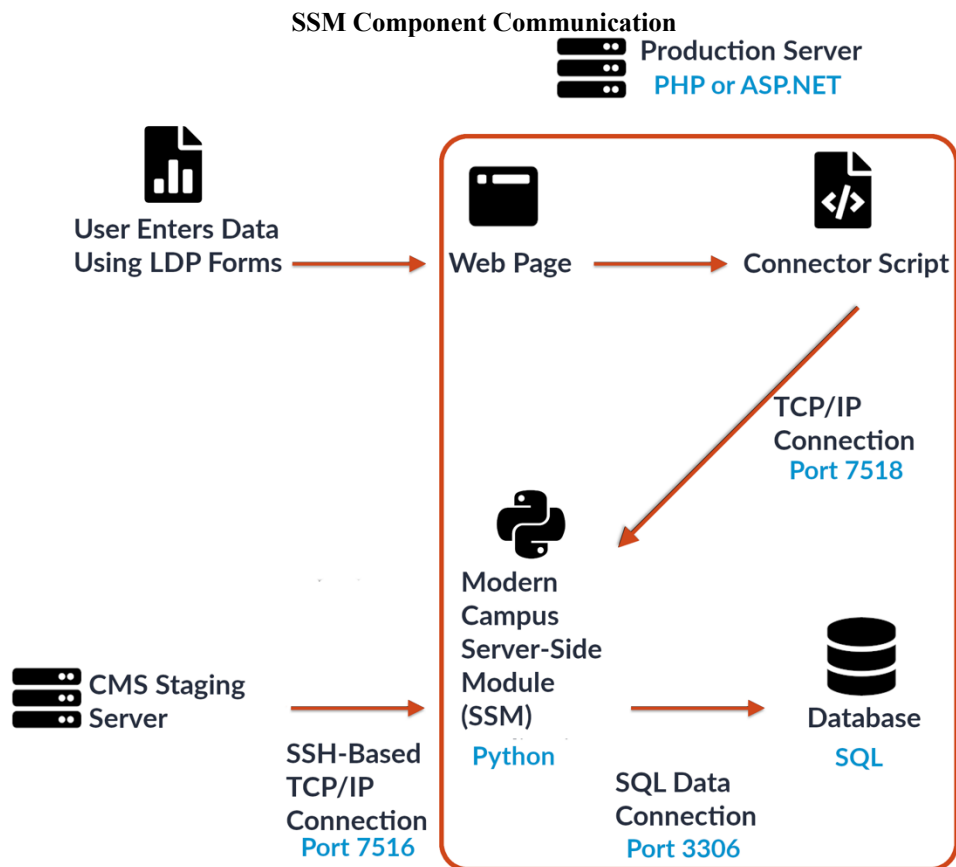
Network Requirements

Firewall Rules

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

1. TCP port 7516 is used by Modern Campus CMS to communicate with the SSM to retrieve form results for display. Port 7516 needs to be opened in the firewall to allow INBOUND requests from 207.178.216.32/27 and 207.210.196.64/27 (if SaaS) or the IP of your Self-Hosted Modern Campus CMS server.

- 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 in the firewall if the SSM is installed on the webserver where forms are developed.



Database Requirements

As of version 2.0.0 of the SSM, the supported database server is PostgreSQL 14.4+. For this document, we are assuming you are installing PostgreSQL 15 to a CentOS/RHEL 8 system. For other instructions see <https://www.postgresql.org/download/linux/redhat/>.

Install and Configure PostgreSQL

1. Load the PostgreSQL Yum repository:
 - a. `~]# sudo dnf install -y https://download.postgresql.org/pub/repos/yum/reporpms/EL-8-x86_64/pgdg-redhat-repo-latest.noarch.rpm`
2. Disable PostgreSQL module, which comes as default with RHEL distribution:
 - a. `~]# dnf -qy module disable postgresql`
3. Install PostgreSQL and supporting files:
 - a. `~]# sudo dnf install -y postgresql15 postgresql15-private-libs postgresql15-server postgresql15-contrib`
4. Initialize PostgreSQL:
 - a. `~]# sudo /usr/pgsql-15/bin/postgresql-15-setup initdb`
5. Update the `pg_hba.conf` file changing all instances of `ident` to `md5`:
 - a. `~]# sed -i 's/ident/md5/g' /var/lib/pgsql/data/pg_hba.conf`
6. Enable and start the PostgreSQL service:
 - a. `~]# systemctl --now enable postgresql-15`
 - b. `~]# sudo systemctl start postgresql-15`
7. Log in as the PostgreSQL service account:
 - a. `~]# sudo su - postgres`
8. Create the SSM database and user:
 - a. `~]$ createdb oussm && createuser oussm`
9. Open the SSM database you just created:
 - a. `~]$ psql -d oussm`
10. Create a password for the oussm database user account:
 - a. `oussm=# ALTER ROLE oussm WITH PASSWORD 'yourpassword';`
11. Assign full privileges on the public schema to the oussm database user account.
 - a. `oussm=# GRANT ALL ON SCHEMA public TO oussm;`
12. Enter `\q` at the prompt to exit the database, then enter `exit` to log off the PostgreSQL service account.

Install the Modern Campus YUM Repository

In order to install the SSM RPM package and simplify future updates we are going to add another software repository to the system.

1. Download the RPM:
 - a. **CentOS/RHEL 8:** `wget https://repo.omniupdate.com/ou/8/x86_64/ou-repo-2.0.1-2.el8.noarch.rpm`
2. Install the repository:
 - a. **CentOS/RHEL 8:** `dnf install ou-repo*el8*.rpm`

Install the SSM Package

Use the following command to download and install the SSM package from the Modern Campus YUM repository:

- **CentOS/RHEL 8:** `dnf install oussm`

You may need to accept the Modern Campus RPM GPG signing key. Press "Y" to accept. You can verify the fingerprint below:

 Userid : "Modern Campus Packager <rpmdev@omniupdate.com>"

 Fingerprint: 9122 5956 471B 8EF3 9D7C 9F09 F2D2 D4BD 160A AF15

Configure SSM Files

Edit the Configuration File

Now that the SSM has been installed, it needs to be configured. Use the text editor of your choice, such as vi, to update the configuration file: `vi /opt/oussm/ssmconfig.ini`

[database]

1. Set the **type** you will use: postgres.
2. Enter the **username** and password of the user you created for the SSM
3. Fill the hostname or IP address of the server where the database is located into the **host** field
4. The **dbname** should contain the name of the database created during the setup process (default is oussm).
5. Type in the **port** number that the database server is configured to listen on (default is 3306).

[admin]

1. If you are not a SaaS customer, under **host**, enter the hostname or IP address of where Modern Campus CMS is installed in your environment

[smtp]

1. Replace **host** with the hostname or IP address of your SMTP server

[upload]

1. In **region** enter the AWS region name where your S3 bucket is located
2. The name of the bucket you are using should be entered in the **bucket** field
3. Add your API access key and secret key in the appropriate **access_key** and **secret_key** fields

Run the SSM Server Manually

After configuring the SSM file, start the module:

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

You should see output similar to the following:


```
2020-01-16 15:40:46,053 - INFO - Using configuration file: /opt/oussm/ssmconfig.ini
2020-01-16 15:40:46,089 - INFO - Successfully connected to the database server.
2020-01-16 15:40:46,155 - INFO - DB not controlled; assumed to be empty.
2020-01-16 15:40:46,253 - INFO - Database is version 0, application is version 7
2020-01-16 15:40:46,253 - INFO - Database schema requires update. Attempting upgrade
now.
2020-01-16 15:40:46,271 - INFO - 0 -> 1...
2020-01-16 15:40:46,288 - INFO - done
2020-01-16 15:40:46,288 - INFO - 1 -> 2...
2020-01-16 15:40:46,325 - INFO - done
2020-01-16 15:40:46,325 - INFO - 2 -> 3...
2020-01-16 15:40:46,448 - INFO - done
2020-01-16 15:40:46,448 - INFO - 3 -> 4...
2020-01-16 15:40:46,548 - INFO - done
2020-01-16 15:40:46,548 - INFO - 4 -> 5...
2020-01-16 15:40:46,605 - INFO - done
2020-01-16 15:40:46,605 - INFO - 5 -> 6...
2020-01-16 15:40:46,887 - INFO - done
2020-01-16 15:40:46,887 - INFO - 6 -> 7...
2020-01-16 15:40:46,899 - INFO - done
2020-01-16 15:40:46,902 - INFO - Successfully connected to the SMTP mail server.
2020-01-16 15:40:46,905 - INFO - Successfully connected to the file upload storage
server.
2020-01-16 15:40:46,907 - INFO - Server started, OUSSM 2.0.0 and features,
{'has_elem_required': 'all', 'has_helper_text': '1.0', 'has_url_redirect': '1.0',
'has_submit_text': '1.0', 'has_date_time': '1.0', 'has_captcha': '1.0',
'url_redirect': '1.0', 'url_redirect_path': '1.0', 'element_info': '1.0', 'required':
'1.0', 'has_file_upload': '1.0'}
2020-01-16 15:40:46,913 - INFO - Starting public server: 0.0.0.0:7518
2020-01-16 15:40:46,990 - INFO - Private key not found. Making a new one.
2020-01-16 15:40:47,095 - INFO - Starting admin server: 0.0.0.0:7516
```

Use **ctrl+c** to kill the daemon. Reset ownership on the files in `/opt/oussm` with the following command: `chown -R oussm:oussm /opt/oussm`

Run SSM as a Startup Daemon

When you installed the SSM RPM package a systemd unit file for the SSM was added to the server. We now need to enable and launch the service:

```
systemctl enable oussm
systemctl start oussm
```

You can check the status of the SSM by issuing the following command: `service oussm status`

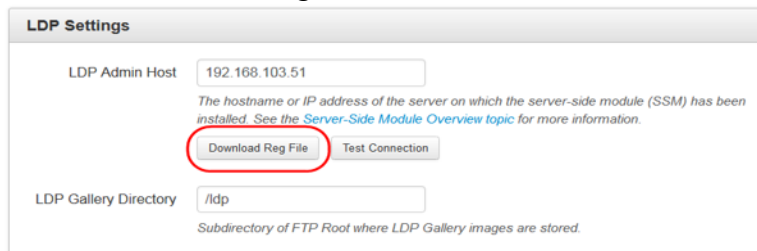
Register a Site

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 Modern Campus CMS 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. Run the following command for each registration file. Replace the ldp file path as needed: `/opt/oussm/oussm -c /opt/oussm/ssmconfig.ini register ~/registration-site.ldp`

The site will now be registered. An example of a successful registration should look like:

```
2020-01-16 15:45:17,095 - INFO - New site added with UUID: 9a0afb0c-6ef4-4287-9eba-ff957dcb8633
2020-01-16 15:45:17,435 - INFO - Notifying OmniCMS about the existence of site: galena
```

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