

How to Install TP-Link Omada Controller on Synology NAS

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Quick answer

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If you already have a Synology NAS running at home or in your office, it can also run TP-Link's Omada Software Controller. This removes the need for a separate Omada hardware controller or a computer that stays powered on all day. I use a Synology DS420+ as the reference system in this guide. The installation runs inside Synology Container Manager using the community-maintained 'mbentley/omada-controller' Docker image. There is one important compatibility point in 2026. The current Omada 6.x Docker releases use MongoDB 8 and need newer CPU features. The DS420+ does not meet the x86 AVX requirement, so this guide uses Omada 5.15 for the DS420+. Newer compatible NAS hardware can run Omada 6.2.

What Is TP-Link Omada Controller?

TP-Link Omada Controller, also called the Omada Network Application in newer documentation, provides one place to manage compatible Omada access points, switches and gateways. After adopting the devices into the controller, you can manage Wi-Fi networks, VLANs, clients, firmware, network settings, statistics and other controller-supported features from one dashboard. TP-Link provides dedicated Omada hardware controllers, but the software controller can also run on your own computer or server. A NAS works particularly well because it normally stays powered on.

Why Run Omada Controller on a Synology NAS?

Installing the Omada Software Controller on a Windows PC is possible, but the computer needs to remain available if you want continuous access to the controller, monitoring and related functions. Running a desktop or laptop around the clock only for Omada is unnecessary if you already have a NAS doing the same thing. A Synology NAS can keep the controller available 24x7 alongside the other applications already running on the system. Your adopted Omada devices do not suddenly stop passing network traffic if the controller goes offline. However, keeping the controller available gives you continuous statistics, monitoring, configuration access and controller-dependent functions.

What You Need

Before starting, check the following:

- A Synology NAS that supports Container Manager or the older Docker package
- Enough free memory and storage for another container
- Your Synology NAS local IP address
- Access to an administrator account

- The storage volume used by your Docker shared folder
- A compatible Omada Controller version for your NAS processor

For a small home or office installation, having around 2GB of free RAM gives the controller and its database reasonable room to operate alongside other NAS services. Actual resource use depends on the number of devices, connected clients and features being used.

Container Manager Support on Synology NAS

Synology renamed its Docker package to Container Manager starting with DSM 7.2. Container Manager continues to be updated on newer DSM releases, including DSM 7.4 in 2026. Do not judge support only by whether your Synology NAS uses an Intel processor. Synology also supports Container Manager on selected ARM models. The reliable method is to check Package Center or Synology's compatibility information for your exact NAS model. If Container Manager appears in Package Center and can be installed normally, you can proceed with the setup.

Omada 5.15 vs Omada 6.2

Choosing the correct controller version is now one of the most important parts of installing Omada on a NAS. As of August 2026, the maintained 'mbentley/omada-controller' project includes these branches:

- 6.2, the current stable 6.x branch
- 6.1
- 6.0
- 5.15, the maintained 5.x branch
- 6.3 beta/testing builds

Omada 6.2 is newer, but newer does not mean that every NAS capable of running 5.15 can run 6.2.

Why Omada 6.x Needs Newer Hardware

The Omada 6.x container uses MongoDB 8. On x86-64 processors, MongoDB 8 requires AVX support. ARM64 installations also need sufficiently recent ARM architecture features. Older NAS processors may therefore work perfectly with Omada 5.15 but fail to run Omada 6.x.

Which Version Works on Synology DS420+?

The Synology DS420+ uses an Intel Celeron J4025 processor. Intel's specifications for the J4025 list instruction support up to SSE4.2 but do not list AVX. For this reason, the standard Omada 6.x Docker image is not suitable for the DS420+. Use:

```
mbentley/omada-controller:5.15
```

on the DS420+. If your NAS uses a newer processor and you have confirmed that it meets the MongoDB 8 CPU requirements, you can use:

```
mbentley/omada-controller:6.2
```

Do Not Assume the 'latest' Tag Means Omada 6

Docker users often use the 'latest' tag expecting the newest available version. The 'mbentley/omada-controller' project handles this differently. Its 'latest' tag remains on the Omada 5.15 branch rather than automatically moving existing users to Omada 6. This protects existing installations from an unexpected major-version upgrade that would also require database migration. Use an explicit tag instead. For the DS420+:

```
mbentley/omada-controller:5.15
```

For compatible newer hardware:

```
mbentley/omada-controller:6.2
```

Explicit version branches also make future maintenance easier to predict.

Install Omada Controller on Synology NAS

The following installation uses Synology Task Scheduler to create the Docker container. Container Manager also supports Projects and Docker Compose on newer DSM versions. Compose is useful if you already manage several containers that way, but Task Scheduler remains a straightforward option and avoids requiring SSH for this setup.

Step 1: Install Container Manager

Open: Package Center Search for: Container Manager Install it. On an older DSM installation, the package may still be called Docker. Once installation finishes, open Container Manager once to make sure it starts correctly.

Step 2: Create the Omada Storage Folders

Open File Station. Go to your 'docker' shared folder and create:

```
omada
```

Inside it, create:

```
data
```

```
logs
```

The final structure should look like this:

```
docker/
```

```
+-- omada/
```

```
+-- data/
```

```
+-- logs/
```

The 'data' directory stores the controller database and configuration. The 'logs' directory stores Omada Controller logs. Some older Omada Docker instructions also create a 'work' directory. Current Omada 5.x and 6.x installations do not need a separate persistent 'work' directory, so it can be left out of a new installation.

Step 3: Find Your Synology Volume Path

Most Synology installations store the Docker shared folder on:

```
/volume1
```

This is not guaranteed. A NAS with multiple storage pools may instead use:

/volume2

or another volume. Check where the 'docker' shared folder is stored before continuing because the volume path is used in the Docker command.

Step 4: Find Your NAS IP Address

You will need the local IP address of the Synology NAS to access Omada Controller later. Open: Control Panel > Network Find the address used by the NAS on your local network. An example would be:

192.168.0.210

I also recommend giving the NAS a stable local IP, either through a DHCP reservation on the router or an appropriate static network configuration. Changing the NAS IP later can make controller access and device adoption more confusing.

Step 5: Open Task Scheduler

Go to: Control Panel > Task Scheduler Click: Create > Scheduled Task > User-defined script A new task window will open.

Step 6: Configure the Installation Task

Under the General tab, enter a task name such as:

Install Omada Controller

Set the user to:

root

Uncheck the Enabled option. The task only needs to run once, so there is no reason to leave it scheduled. Open the Schedule tab. Select: Run on the following date Set the repeat option to: Do not repeat Now open the Task Settings tab.

Step 7: Add the Docker Command

For the Synology DS420+, paste the following command into the Run command field:

```
docker run -d \  
--name=omada-controller \  
--restart=unless-stopped \  
--stop-timeout 60 \  
--ulimit nofile=4096:8192 \  
-p 8088:8088 \  
-p 8043:8043 \  
-p 8843:8843 \  
-p 19810:19810/udp \  
-p 27001:27001/udp \  
-p 29810:29810/udp \  
-p 29811-29817:29811-29817 \  
-e TZ=Asia/Kolkata \  
-v /volume1/docker/omada/data:/opt/tplink/EAPController/data \  
-v /volume1/docker/omada/logs:/opt/tplink/EAPController/logs
```

```
mbentley/omada-controller:5.15
```

The '--ulimit nfile=4096:8192' option follows the current configuration used by the maintained Omada Docker project. Before saving the task, check three parts of the command.

Change the Time Zone if Needed

The example uses:

```
TZ=Asia/Kolkata
```

Replace it with your own time zone if you are located elsewhere.

Check '/volume1'

If your 'docker' folder is stored on '/volume2', change:

```
-v /volume1/docker/omada/data:/opt/tplink/EAPController/data
```

```
-v /volume1/docker/omada/logs:/opt/tplink/EAPController/logs
```

to:

```
-v /volume2/docker/omada/data:/opt/tplink/EAPController/data
```

```
-v /volume2/docker/omada/logs:/opt/tplink/EAPController/logs
```

Use the actual Synology volume where your Docker shared folder exists.

Change the Image Only on Compatible Hardware

For the DS420+, leave this unchanged:

```
mbentley/omada-controller:5.15
```

If your NAS processor meets the Omada 6.x MongoDB 8 requirements, replace the final line with:

```
mbentley/omada-controller:6.2
```

Do not make this change on a DS420+.

Step 8: Save and Run the Task

Click OK. Synology may display a warning about running the user-defined command. Confirm it. The task will now appear in Task Scheduler. Select:

```
Install Omada Controller
```

and click: Run Confirm the prompt. Synology will now download the Docker image and create the Omada Controller container.

Step 9: Check the Container

Open: Container Manager > Container Look for:

```
omada-controller
```

Its status should show that the container is running. The first start can take a little longer because the controller database and initial application files have to be prepared. The Docker command also includes:

```
--restart=unless-stopped
```

This means the controller starts again after the NAS reboots unless you manually stop the container.

Omada Controller Ports Used by Docker

The command exposes the following ports:

```
8088
8043
8843
19810/UDP
27001/UDP
29810/UDP
29811-29817/TCP
```

Older Omada tutorials may show fewer ports because they were written for older controller versions. Keeping the current range available avoids problems with newer device-management functions. Port 8043 is particularly important because it provides the default HTTPS controller interface. Avoid changing the port mappings unless you know why the change is required. Omada expects specific services to be available on the configured ports, and incorrect mappings can cause controller or device-management problems.

Open Omada Controller

Once the container is running, open a browser and enter:

```
https://NAS-IP:8043
```

For example:

```
https://192.168.0.210:8043
```

Replace the example address with the actual IP address of your NAS. The Omada Controller setup page should load.

Why Does the Browser Show a Privacy Warning?

A new Omada Controller installation uses a self-signed HTTPS certificate. Your browser does not automatically trust that certificate, so it may display a warning such as:

```
Your connection is not private
```

If you are accessing your own Omada Controller through the correct local NAS address, open the browser's Advanced option and continue to the address. The initial Omada setup page will then appear.

Complete the Omada Setup Wizard

Click: Let's Get Started Follow the setup wizard to configure the controller. The exact screens can vary between controller versions, but you will normally set the controller information, administrator account, region and initial network options. Once setup is complete, the Omada dashboard will open. You can then start adopting compatible Omada access points, switches and gateways.

What to Do if Omada Devices Are Not Detected

This guide uses Docker bridge networking with individual port mappings. That works well on Synology and makes the network configuration easy to inspect, but automatic Omada discovery can sometimes behave differently compared with running the container in host network mode. If an Omada device does not appear automatically, you may need to point it manually to the controller running at the NAS IP address. Do not immediately delete or reinstall the container if the controller interface itself is working. Device discovery and controller availability are separate issues.

Host Networking Can Help With Discovery

The Omada Docker project also supports Docker host networking. Instead of mapping each port, the container can use the host network with:

```
--net host
```

Host networking can make device discovery simpler because the controller communicates directly through the NAS network interface. It also means the Omada ports must be free on the Synology NAS. For that reason, I prefer explicit port mappings for a general Synology installation guide. Host networking is worth considering if you understand Docker networking and are having persistent discovery or adoption problems.

Enable Omada Controller Backups

After completing the controller setup, configure automatic backups. Open the maintenance or backup section inside Omada Controller and enable Auto Backup if your installed controller version provides the option. The Docker setup already stores the controller data outside the container:

```
/volume1/docker/omada/data
```

That protects your configuration when the Docker container itself is deleted and recreated. It does not replace an Omada Controller backup. Create a fresh controller backup before:

- updating the controller
- changing major Omada versions
- moving the controller to another NAS
- performing a controller migration
- making major network configuration changes

Store at least one backup somewhere outside the Omada container's data directory.

How to Update Omada Controller on Synology

Updates within the same controller branch are relatively simple because the database and configuration are stored outside the container. For example, an installation using:

```
mbentley/omada-controller:5.15
```

can normally be updated by pulling a newer 5.15 image and recreating the container. Before doing that:

1. Create and download a fresh controller backup.
2. Stop the Omada container.
3. Give it enough time to shut down cleanly.
4. Remove the old container without deleting the persistent 'data' and 'logs' folders.
5. Pull the updated Docker image.
6. Recreate the container using the same command.

The configuration remains inside:

```
/volume1/docker/omada/data
```

unless you deliberately delete that folder. The '--stop-timeout 60' option in the installation command gives the controller and database time to close cleanly. Avoid force-stopping the container during normal maintenance because an abrupt database shutdown can cause problems.

Upgrading From Omada 5 to Omada 6

Treat an Omada 5 to Omada 6 upgrade differently from a routine 5.15 update. Omada 6.x uses MongoDB 8, while existing Omada 5 installations use an older database version. Changing:

```
mbentley/omada-controller:5.15
```

directly to:

```
mbentley/omada-controller:6.2
```

is therefore not the normal upgrade procedure for an existing controller database. The Docker project documents migration options for moving the database to the version required by Omada 6. Another option is to create a new Omada 6 controller on compatible hardware and use controller backup or migration tools to move the existing configuration. Before attempting a major upgrade:

- make a full controller backup
- confirm the NAS CPU supports MongoDB 8
- check the documented migration path for the versions involved
- keep a copy of the old controller data until the migration has been confirmed

For a DS420+, the hardware requirement settles the decision. Keep the controller on the maintained Omada 5.15 branch instead of attempting an Omada 6 Docker upgrade on that NAS.

Migrating From a Much Older Omada Controller

An existing controller that has been running for several years may need intermediate upgrades. Do not assume an old 4.x or early 5.x database can jump directly to the newest available release. Check TP-Link's supported upgrade path and the Docker project's migration notes before moving an old controller database. This does not affect a fresh installation created using the steps in this guide.

Can You Install Omada Using Docker Compose?

Yes. Recent Synology Container Manager versions support Projects, which can deploy containers through Docker Compose configuration. Compose is useful if your NAS already runs multiple Docker services because the Omada configuration can be stored in a reusable YAML file. The Task Scheduler installation in this guide remains a good option for a single Omada container. It requires fewer moving parts and is easy to reproduce through the DSM interface. The underlying requirements remain the same whichever method you choose:

- persistent controller data
- persistent logs
- correct Omada ports
- suitable networking
- a controller version compatible with the NAS CPU
- regular backups

Should You Run Omada Controller on a NAS?

If your Synology NAS already stays online around the clock, running Omada Controller there makes practical sense. You get a continuously available controller without keeping a PC switched on or adding another dedicated controller to the network. The main limitation to check in 2026 is CPU compatibility. For the Synology DS420+ used in this guide, I would stay with the maintained Omada 5.15 branch. Its Intel Celeron J4025 does not provide the AVX support needed by the MongoDB 8 database used in the standard Omada 6.x Docker releases. A newer NAS with the required processor features can use Omada 6.2. Once the container is running, keep the data directory backed up, avoid unplanned major-version jumps, and use an explicit Docker image branch instead of assuming 'latest' will select the controller version you want.