

# Installing a Unifi Controller on Linux (Ubuntu server)

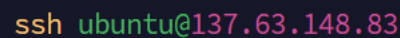
The UniFi Controller is a software application from Ubiquiti that allows you to manage your UniFi network devices from a single interface.

In this guide, we will install the required software and add the official Unifi repository.

## Step 1

Log into the Virtual Machine (VM). The VM has an IP address x.x.x.x. Use the command below to log in.

ssh <username>@x.x.x.x, where x.x.x.x is the IP address of the VM. The IP addresses and usernames for the different VMs will be provided.

A terminal window with a dark background. The text 'ssh ubuntu@137.63.148.83' is displayed in a green monospaced font.

*Figure 1: logging into the VM*

You will then be prompted to enter a password.

A terminal window with a dark background. The text 'ubuntu@137.63.148.83's password:' is displayed in a green monospaced font, followed by a small black rectangle representing a cursor.

*Figure 2: Prompt to enter the password of the VM*

The password will be provided.

**Note: The commands (in green font) should be copied to a text editor such as Notepad and then copied from the text editor to the VM. Copying from a PDF will have the return key (Enter key) on, for commands that span multiple lines.**

## Step 2

Before we get started, we will need to update the Ubuntu system package list. The package list is a cache of all packages we can install and where apt can download them.

This can be done using the following command

`sudo apt update`

## Step 3

In this step, we install some packages we will rely on to add the package repositories we require, as well as run the UniFi network controller.

This can be done using the following command.

`sudo apt install curl haveged gpg openjdk-17-jre-headless`

## Adding the UniFi Repository to Ubuntu

### Step 4

In this step, we download the UniFi GPG key to our system. This key helps tell the package manager that the packages are valid and have been signed by the repository.

Download this key to your system using the following command within the terminal.

```
curl https://dl.ui.com/unifi/unifi-repo.gpg | sudo tee /usr/share/keyrings/ubiquiti-archive-keyring.gpg >/dev/null
```

### Step 5

With the UniFi GPG key saved to our Ubuntu device, we can now add the repository to our sources list.

Adding UniFi to the “apt” sources list is as straightforward as using the following command

```
echo 'deb [signed-by=/usr/share/keyrings/ubiquiti-archive-keyring.gpg]  
https://www.ui.com/downloads/unifi/debian stable ubiquiti' | sudo tee  
/etc/apt/sources.list.d/100-ubnt-unifi.list > /dev/null
```

## Adding the MongoDB Repository

### Step 6

With the UniFi repository added to our Ubuntu system, we can move on to adding the one for MongoDB 7.0.

Before adding the MongoDB repository, our first step is to download its GPG key using the command below.

```
curl https://pgp.mongodb.com/server-7.0.asc | sudo gpg --dearmor | sudo tee  
/usr/share/keyrings/mongodb-org-server-7.0-archive-keyring.gpg >/dev/null
```

## Step 7

Once the GPG key has been added, our next step is to add the MongoDB 7.0 repository to our Ubuntu device. Use the command below in your terminal to add the MongoDB 7.0 repository to the sources list on your system.

```
echo 'deb [arch=amd64,arm64 signed-by=/usr/share/keyrings/mongodb-org-server-7.0-archive-keyring.gpg] https://repo.mongodb.org/apt/ubuntu jammy/mongodb-org/7.0 multiverse' | sudo tee /etc/apt/sources.list.d/mongodb-org-7.0.list > /dev/null
```

## Installing MongoDB 7.0 on Ubuntu

### Step 8

As we changed our sources list, we will need to perform a package list update.

If we don't perform an update, the apt package manager won't be aware of any of our newly added repositories. We can perform an update using the following command.

```
sudo apt update
```

### Step 9

We can now install the final piece of software we require to install and run the UniFi controller on Ubuntu.

This final piece of software is called "MongoDB" and is the database server that UniFi requires.

You can install the MongoDB server on Ubuntu by running the command below in the terminal.

```
sudo apt install -y mongodb-org-server
```

### Step 10

After installing MongoDB, we want to ensure that its service is enabled to start at boot.

Run the command below to ensure that the MongoDB server is set to start at boot.

```
sudo systemctl enable mongod
```

### Step 11

Finally, we can ensure that the MongoDB server is running by using the following command in the terminal.

This command will start up MongoDB on your Ubuntu device immediately.

```
sudo systemctl start mongod
```

## Installing the Unifi controller

### Step 12

Finally, now that everything is in place, we can install the UniFi controller to Ubuntu by using the following command.

```
sudo apt install unifi
```

### Step 13

At this point, you will finally have the UniFi controller up and running on your Ubuntu device.

Over the next section, we will show you how to access this interface and go through the initial setup steps.

## Accessing the Unifi controller

### Step 14

Before we continue, you will need to know the IP address of your Ubuntu device.

One of the easiest ways to get the IP address assigned to the device is to utilize the hostname command, as shown below.

```
hostname -I
```



### Step 15

With the IP address in hand, you will want to go to the following address in your favorite web browser.

Make sure that you replace “IPADDRESS” with the IP of your device. From this, you can see that the UniFi controller will operate its web interface on port 8443.

<https://IPADDRESS:8443>

You will be redirected to the initial setup page for the controller.



### Name Your UniFi Network Server

Centrally manage all of your servers at [unifi.ui.com](https://unifi.ui.com).

Server Name  
UniFi Network

Country/Region  
United States



☐ I agree to [End User License Agreement](#) and [Terms of Service](#).

[Restore Server from a Backup](#) [Next](#)

*Figure 3: Initial setup page for the controller*

Choose a suitable name for the controller. Choose an appropriate region.

Accept the end-user license agreement and terms of service and proceed to the next stage by clicking the “Next” button.



### Name Your UniFi Network Server

Centrally manage all of your servers at [unifi.ui.com](https://unifi.ui.com).

Server Name  
example secondary school controller

Country/Region  
Uganda

☒ I agree to [End User License Agreement](#) and [Terms of Service](#).

[Restore Server from a Backup](#) [Next](#)

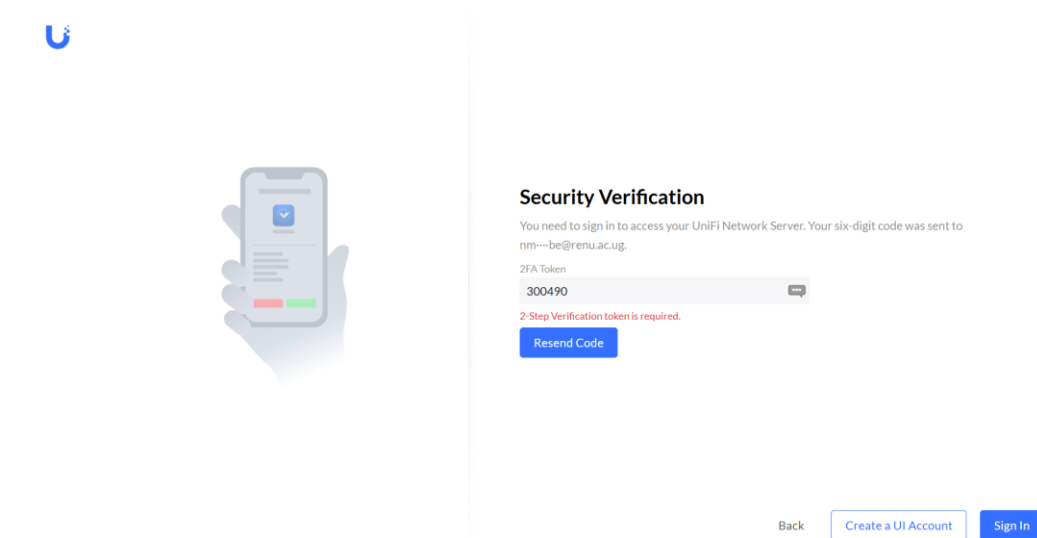
*Figure 4: Set up the controller name and select the Region*

To proceed further, you will need to log in to your Ubiquiti account

If you don't have an account, you must register for one by going to the official Ubiquiti website and registering for a [Ubiquiti Account](#)

With your login details entered, click the "Next" button

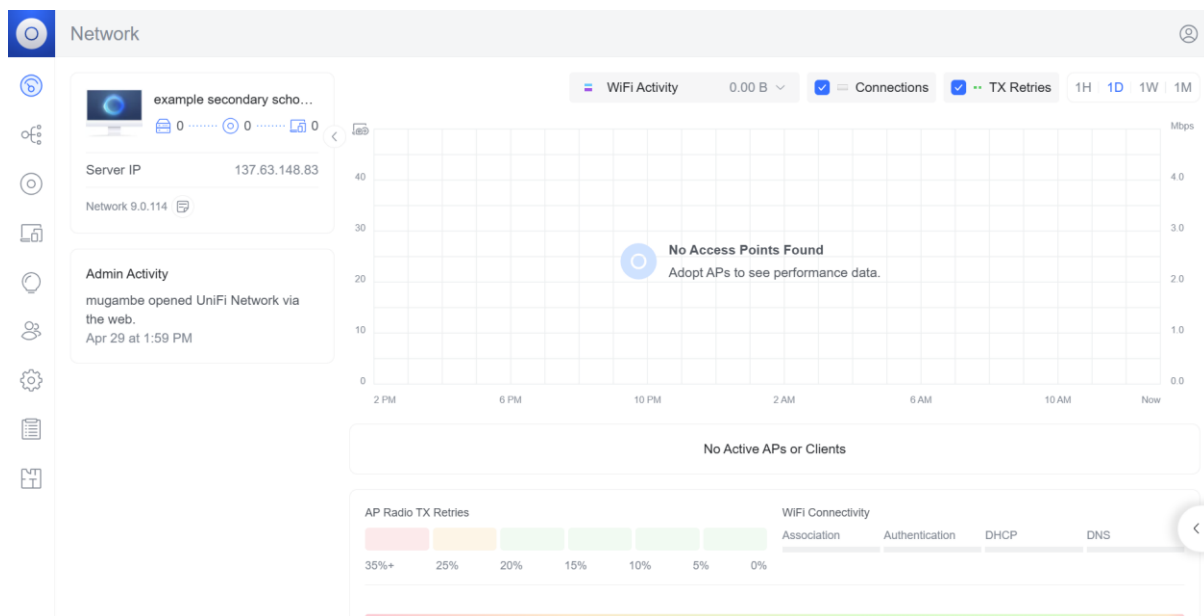
Enter the security verification code that was sent to your email.



The image shows the 'Security Verification' screen of the UniFi Network Controller. On the left, there is a large illustration of a hand holding a smartphone displaying a verification code. The main content area on the right has the title 'Security Verification' and a message: 'You need to sign in to access your UniFi Network Server. Your six-digit code was sent to nm---be@renu.acug.' Below this, there is a '2FA Token' input field containing the code '300490'. A red error message states '2-Step Verification token is required.' and a blue 'Resend Code' button is positioned below it. At the bottom right, there are three buttons: 'Back', 'Create a UI Account', and 'Sign In'.

*Figure 5: Entering the security code sent to the email*

After signing in, the controller is ready for use.



*Figure 6: Controller is ready for AP adoption*

## Step 16

This step involves adopting the access point into the controller. Connect the AP to the local Area Network. Obtain the IP address assigned to the AP using the Mikrotik switch provided in the Lab. You can use the command **ip arp print** in the terminal. Locate the AP by looking for its MAC address in the ARP table.

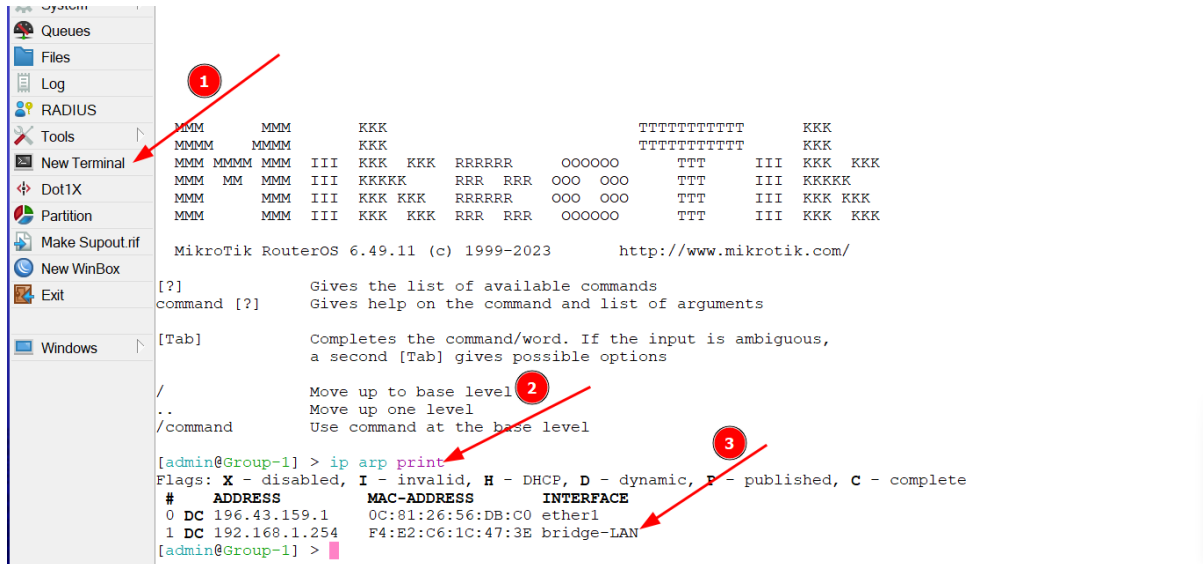


Figure 7: Finding the IP address of the AP in the ARP table

Open the terminal on your PC and log into the switch using the following command.

**ssh ubnt@y.y.y.y**, where **y.y.y.y** is the IP address assigned to the AP. The password is **ubnt**

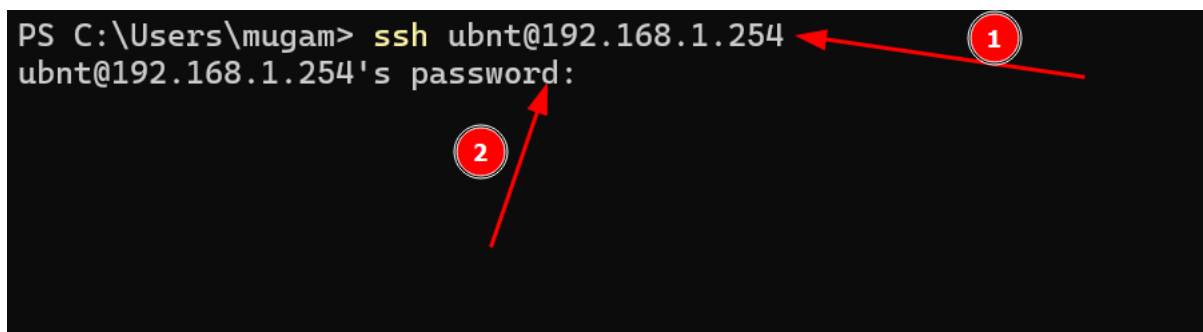


Figure 8: logging into the AP using the assigned IP address

[illegible]

Figure 9: AP terminal after logging in

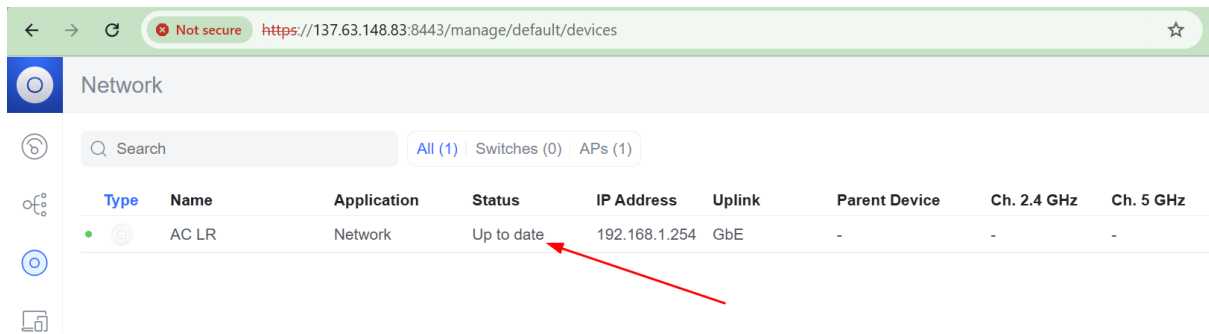
In the AP terminal, type the command **info** to check the adoption status.

[illegible]

Figure 10: AP adoption status showing that the AP is not yet adopted





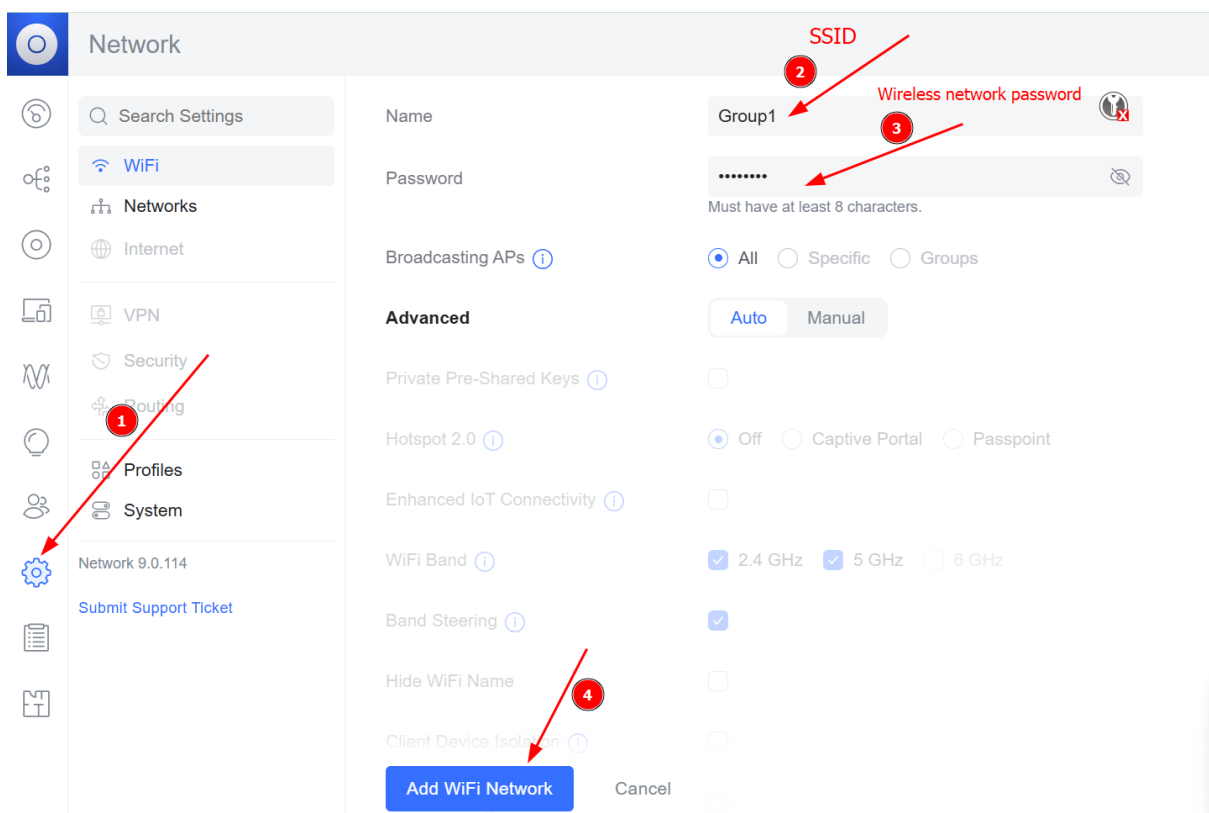


The screenshot shows a web interface for network management. The URL is <https://137.63.148.83:8443/manage/default/devices>. The page title is "Network". There is a search bar and filters for "All (1)", "Switches (0)", and "APs (1)". A table lists the network devices.

Type	Name	Application	Status	IP Address	Uplink	Parent Device	Ch. 2.4 GHz	Ch. 5 GHz
•	AC LR	Network	Up to date	192.168.1.254	GbE	-	-	-

Figure 13: AP status after completing the adoption process

After the AP has been adopted, proceed to create a wireless network. Assign an **SSID** of your choice, e.g, **Group1**. Assign a password of your choice to the wireless network.



The screenshot shows the "Network" configuration page. The left sidebar has a "Settings" icon (1) and a "Network 9.0.114" link. The main content area is titled "Network" and has a "WiFi" tab selected. The "Name" field is set to "Group1" (2). The "Password" field is set to "\*\*\*\*\*" (3) with a note "Must have at least 8 characters." and a label "Wireless network password". The "Broadcasting APs" section has "All" selected. The "Advanced" section has "Auto" selected. The "WiFi Band" section has "2.4 GHz" and "5 GHz" selected. The "Band Steering" section has "Band Steering" checked. The "Add WiFi Network" button is at the bottom (4).

Figure 14: Creating a wireless network