

# Installation Process

## System Requirements

### Mandatory conditions for work with SafeUTM:

1. UEFI support.
2. Turn off Legacy boot mode, it may be called CSM (Compatibility Support Module).
3. Turn off the Secure Boot option in UEFI.

Hardware	Minimum system requirements	Note
Processor	Intel Pentium G/i3/i5/Xeon E3/Xeon E5 with SSE 4.2 instructions support	Requirements may differ depending on network load and services used, as well as content filtering, antiviruses, and intrusion prevention system. The system requires at least 2 cores; a 4-core processor is better.
RAM	8 Gb (16Gb if the number of users is over 75)	Requirements may differ depending on network load and services used, as well as content filtering, antiviruses, and intrusion prevention system.
Disk subsystem	HDD or SSD, capacity 64 Gb or more, with SATA, SAS. Additional HDD or SSD when using a mail server is required.	Software RAID controllers are not supported (those integrated into the chipset or motherboard). Using hardware RAID controllers is not recommended.
Network adapters	One network adapter	Gigabit (or 10G) Intel network cards are recommended.
Additional	Display and keyboard	No preinstalled OS or additional software is required to install and run SafeUTM. SafeUTM is installed to a dedicated server from an installation USB-flash, a file system is automatically created and all necessary components are installed.

In order to choose the best hardware platform for you please follow the [guidelines](#) on equipment choice for SafeUTM. The approximate hard drive capacity to store the information of about 1000 users for 1 year is 10-15 Gb.

## Browser support for server administration web interface

All up-to-date versions of Firefox, Chrome, and browsers based on Chromium are supported. Internet Explorer is not supported.

## Hypervisor support

Microsoft Hyper-V (2<sup>nd</sup> generation, Windows 2012R2 or higher), VMware, VirtualBox, KVM, Citrix XenServer. More information can be found [here](#).

## Configuration examples

Examples of several types of configurations depending on the number of users can be seen in the table below.

Hardware	25	50-200	200-500	1000	2000
Processor	Intel Pentium Gold G5400 or compatible	Intel i3 8100 or compatible	Intel i5, i7, Xeon E3, 3 GHz and up, or compatible	Intel Xeon E3, E5 or compatible	Intel Xeon or compatible 8-core one
RAM	8 Gb	8 Gb	16 Gb	16 Gb	32 Gb
Storage space	64 Gb	64 Gb	250 Gb	500 Gb	500 Gb
Network adapters	2 pcs.	2 pcs.	2 pcs.	2 pcs.	2 pcs.

### Performance data:

Configuration example: Intel Xeon E-2234, 16 GB DDR4, 1 GB LAN.

- Mode L3: TCP up to 1 Gbps, UDP up to 1 Gbps, HTTP up to Gbps.
- \*Mode L7: TCP up to 550 Mbps, UDP up to 900 Mbps, HTTP up to 500 Mbps.

\* - Mode L7: IPS modules, content filtering, application control, and antivirus scan are on.

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## Installation Options

You can install SafeUTM on a dedicated server or a virtual machine. It depends on the expected load and equipment capacity.

### SafeUTM installation from a USB flash drive

SafeUTM can be installed from a flash drive by using an installation ISO file. This process is described in the [Creation of boot USB flash drive](#) article.

### Installation on a dedicated server

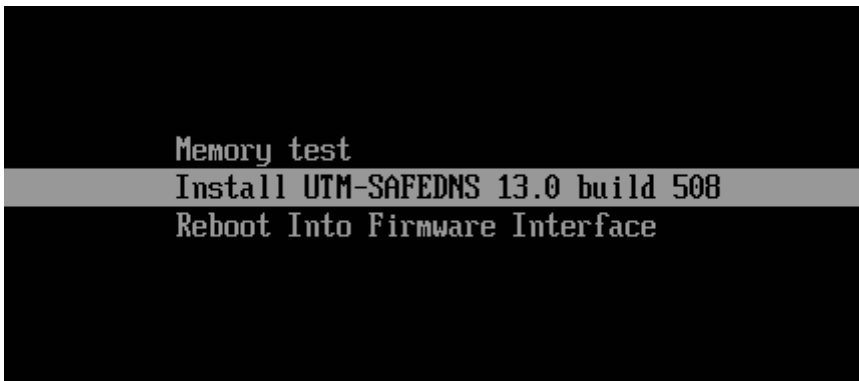
In order to install the SafeUTM security gateway you need to follow these steps:

1. Prepare hardware in accordance with technical requirements.
2. Prepare a USB-flash drive with a capacity of over 2 Gb.
3. Receive the ISO file from your manager.
4. For safety reasons check the downloaded file checksum, which you can find on the SafeUTM downloads page in your personal account.
5. Create the bootable USB-flash drive using the ISO file.
6. In the computer's BIOS settings choose "boot from USB-flash drive" and start the system installation from this USB drive. SafeUTM installer should appear on the screen as seen below.

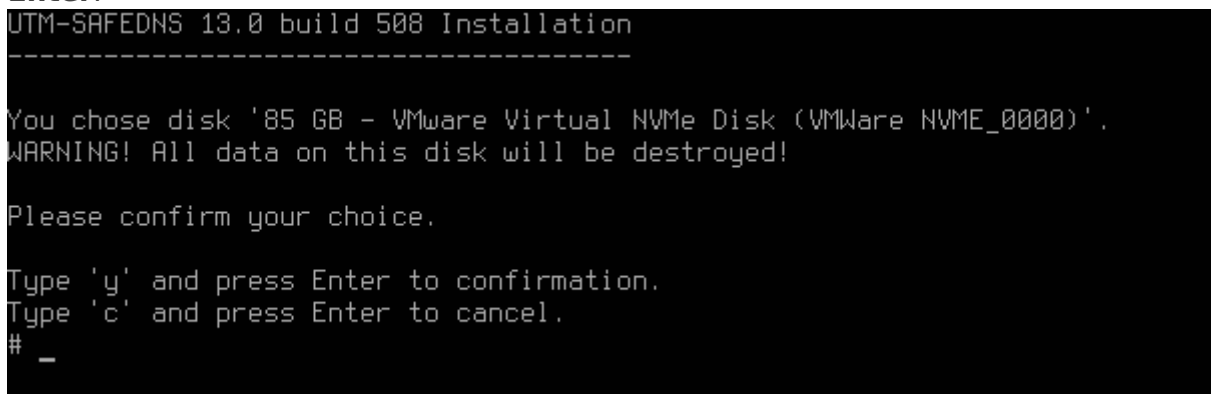
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## Installation Process

### Stage 1. Start of installation



Choose a disk for installation. To do this, enter the number of the disk you wish to use and press **Enter**.



The system will warn about the loss of all data stored on the disk. We recommend that you make sure the disk does not contain any important information, as it will not be possible to recover it. The data loss alert can be seen in the screenshot below. To continue, type **y** and press **Enter**.

Now you need to select the time zone. Select the time zone you are in. To do this, type **y** and press **Enter**.

```
UTM-SAFEDNS 13.0 build 508 Installation
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You chose disk '85 GB - VMware Virtual NVMe Disk (VMware NVME_0000)'.
WARNING! All data on this disk will be destroyed!

Please confirm your choice.

Type 'y' and press Enter to confirmation.
Type 'c' and press Enter to cancel.
# y

Choose timezone.

1. Africa/Abidjan                2. Africa/Accra
3. Africa/Addis Ababa            4. Africa/Algiers
5. Africa/Asmara                 6. Africa/Asmera
7. Africa/Bamako                 8. Africa/Bangui
9. Africa/Banjul                 10. Africa/Bissau
11. Africa/Blantyre              12. Africa/Brazzaville
13. Africa/Bujumbura             14. Africa/Cairo
15. Africa/Casablanca            16. Africa/Ceuta
17. Africa/Conakry               18. Africa/Dakar
19. Africa/Dar es Salaam         20. Africa/Djibouti
21. Africa/Douala                22. Africa/El Aaiun
23. Africa/Freetown              24. Africa/Gaborone
25. Africa/Harare                26. Africa/Johannesburg
27. Africa/Juba                  28. Africa/Kampala
29. Africa/Khartoum              30. Africa/Kigali
31. Africa/Kinshasa              32. Africa/Lagos
33. Africa/Libreville            34. Africa/Lome
35. Africa/Luanda                36. Africa/Lubumbashi
37. Africa/Lusaka                38. Africa/Malabo
39. Africa/Maputo                40. Africa/Maseru

Type your choice and press Enter.
Type 'c' and press Enter to cancel.
Press Enter to see the other choices.
# _
```

In the next dialog box, you need to set up a date and time. If the settings are correct, type **y** and press **Enter**.

If the current settings are incorrect, type **n** and put in the correct data, then press **Enter**.

```
Type your choice and press Enter.
Type 'c' and press Enter to cancel.
Press Enter to see the other choices.
# 169

Current date and time: 30 August 2022, 12:35.

Please confirm, is the data correct?

Type 'y' and press Enter to confirmation.
Type 'n' and press Enter to refusing.
Type 'c' and press Enter to cancel.
#
```

Then the system will perform disk subsystem tests necessary for installation:

- A partition table will be created and formatted.
- System files will be copied onto the disk.
- Basic system settings will be configured according to your computer configuration.

Don't forget to eject the USB drive when restarting UTM so that the system doesn't start booting from the installation drive.

After the server restarts, you will see a window with system info. An example of such a window can be seen below. To continue press any key.

```
Welcome to UTM-SAFEDNS 13.0 build 508 dashboard!

Server name:                                UTM-SAFEDNS-b1564d56-99e4-dd16-c769-d275d370d836
Local network interfaces state:             Unconfigured
Remote Assistant state:                    Disabled
`Allow Internet Access to All` state:      Disabled
Web interface state:                       Starting...

If you have some troubles with your server, don't be shy to contact
the Technical Support department via the email: support@safedns.com.

Press any key to log in to the local menu.
```

If you want to configure the server as the second node of the cluster, press **y** and then **Enter**. For more information about configuring clustering, see the [High Availability](#) article.

If the clustering setup is not required, press **n** and then **Enter**.

## Stage 2. Creating admin's account

Create an admin account. After typing in login press **Enter** and type in a new account password, then press **Enter**.

Admin password requirements:

- Minimum 10 symbols.
- Upper- and lower-case Latin letters.
- At least one digit
- Special characters (! # \$ % & ' \* + etc.)

```
UTM-SAFEDNS 13.0 build 508
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Would you like to configure this server as the second node of the cluster?

Type 'y' and press Enter to confirmation.
Type 'n' and press Enter to refusing.
# n

WARNING! No administrator's account found.
You must create a new one before you can
enter to the local menu.
Create the administrator's account.

Type new login and press Enter.

# admin

Type new password and press Enter.

Type 'b' and press Enter to go back.
# _
```

**If the password does not pass the security policy requirements, a notification about password unreliability will appear.** You need to type in another password taking into consideration password requirements and press **Enter**.

```
Input error: Password is not strong enough or contains prohibited characters.
Password must be at least 10 characters long, contain upper and
lower case characters, numbers and special characters.

#
```

When the account has been created, press any key to switch to the local menu and type in data from the newly created admin's account.

```
Administrator's account created successfully.

Press any key to log in to the local menu.
Log in to the local menu.

Type login and press Enter.

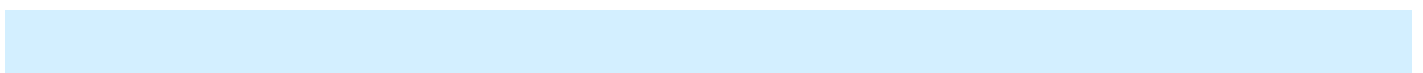
# admin

Type password and press Enter.

Type 'b' and press Enter to go back.
#
```

## Stage 3. Network adapter setup

Now the system will suggest that you set up a local network interface. It is the interface to which all your enterprise network will be connected. Type in the network adapter number from the list and press **Enter**.



During local interface definition, you may encounter difficulties with NIC identification. Sometimes several adapters may have the same manufacturer. In such a case in order to avoid a mistake, you need to identify the device by its MAC address. Do not worry about making a mistake, you can change these settings later.

```
WARNING! No configured local network interfaces found.  
You must create a new one before you can enter to the  
system's web interface.  
  
Choose a network adapter.  
  
1. 00:0c:29:70:d8:36 VMware VMXNET3 Ethernet Controller (Link N/A)  
  
Type your choice and press Enter.  
Type 'c' and press Enter to cancel.  
# 1
```

Type in the local IP address subnet mask as `ip/mask` and press **Enter**.

Next, if necessary, create a VLAN tag or leave the field empty and press **Enter**.

```
Choose a network adapter.  
  
1. 00:0c:29:70:d8:36 VMware VMXNET3 Ethernet Controller (Link N/A)  
  
Type your choice and press Enter.  
Type 'c' and press Enter to cancel.  
# 1  
  
Type IP/prefix and press Enter.  
  
Type 'c' and press Enter to cancel.  
# 192.168.105.2/24  
  
Type VLAN tag (or leave it empty) and press Enter.  
  
Type 'b' and press Enter to go back.  
Type 'c' and press Enter to cancel.  
#
```

After creating a local interface, the server administration menu will open.

```
Server management

1. Shell
2. Configuring a local network interface
3. Enable access to the web interface from WAN
4. Enable access to the server via SSH from WAN
5. Enable access to the server via SSH from LAN
6. Enable `Allow Internet Access to All`
7. Flush IP bans
8. Disable user's firewall
9. Create new backup
10. Restore backup
11. Enable Remote Assistant
12. Technical support contacts
13. Edit server name
14. Create cluster
15. Rollback to the previous version
16. Reboot
17. Shutdown
18. Exit

Type your choice and press Enter.
# _
```

The next step is SafeUTM configuration. This process is described in the [Initial configuration](#) article.

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Revision #8

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