Data Storage Master

TerraMaster NAS

Model: F2-221

Fundamentals and Preliminaries

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1. Overview

A TNAS product includes hardware, operating systems (OS), and other auxiliary applications. Therefore, you should carefully read the instructions prior to operation. For any questions, please visit the **"Help"** section at TerraMaster's official website, or contact our technical support team at sales@terra-master.com.

Once you receive your new TerraMaster TNAS product, please install and set up your TNAS according to the **"Quick Installation Guide"** .

Please note that given our commitment to the continuous improvement of our products, their appearances, designs, and specifications may be subject to change without prior notification.

Finally, the images and illustrations in this instruction manual may be slightly different from the actual product, and so please always refer to the actual product.

2. Hardware Installation

2.1 Package List

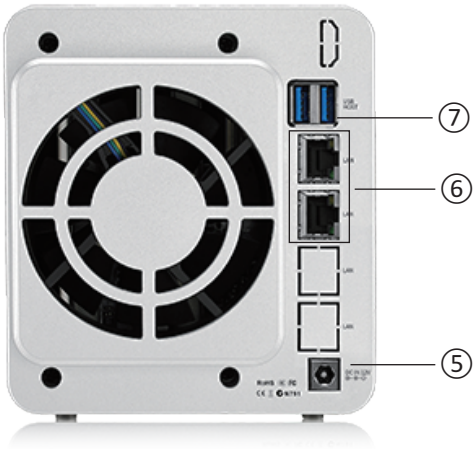
Once you receive your new TNAS, please check to ensure that the package includes the items detailed below. If any items are missing, please contact the reseller immediately.

TNAS unit X 1	Power core X 1	Power adaptor X 1	Several screws
	Installation guide X 1	Product brochure (optional)	Network core X 1

2.2 Appearance

Panel Illustration:

Rear Cover Illustration:



SN	Item	SN	Item
①	Hard drive tray	⑤	Power interface
②	Hard drive indicator	⑥	Network interface
③	Network indicator	⑦	USB 3.0 host interface
④	Power switch/Power indicator		

SN	Item	Description
⑤	Power interface	DC 12V power input NOTE: Do not use a third-party power adaptor.
⑥	Network interface	1000M/100M bps network interface
⑦	USB 3.0 host (×2)	Use to connect USB storage device or USB wireless adaptor

2.3 Indicators and Buzzers

SN	Indicator	Description
②	Hard drive indicator	Red: Hard drive failure Green: Normal operation status Orange or Green (flickering): Reading/writing data Off: No hard drive detected
③	LAN network indicator	Green: Network connection is normal Off: Network disconnected
④	Power indicator	On: Power on Off: Power off

Buzzer Sound	Description
Short beeps	1. Booting complete 2. System shutting down
Long beeps	An exception has occurred on the system. Please log in to TOS to fix the exception and turn off the buzzer manually.

2.4 Hard Drive Installation

A TNAS may be installed with or without a hard drive, since different models are available for purchase. If you purchase a TNAS without a hard drive, you should purchase a hard drive separately. Only after hard drives have been installed and initialised can the TNAS be used.

Please refer to the **"Quick Installation Guide"** to complete hard drive installation.

TNAS should be installed with hard drives of the following type: firstly, 2.5/3.5 inch SATA hard drive; or secondly, 2.5 SATA SSDs. TNAS is a durable storage device, which means that in order to operate for long periods of time, high-quality hard drives are required. Therefore, please visit TerraMaster's official website to read our **"Hard Drive Compatibility"** guide, and then select the correct hard drive for your TNAS.

2.5 Connection

Before it can function properly, your TNAS device needs to be connected to the network and powered on.

Therefore, to complete the connection, please follow the instructions below:

Step 1:
Connect TNAS to the network using a network cable. The possible network devices that TNAS can connect to can be routers, hubs, network switching.

Step 2:
Connect TNAS to a power supply using the supplied power adapter (Warning: Please do not use a third-party power adapter. If you do, the device may sustain severe damage, and in extreme cases, damage to the physical body can occur).

Step 3:

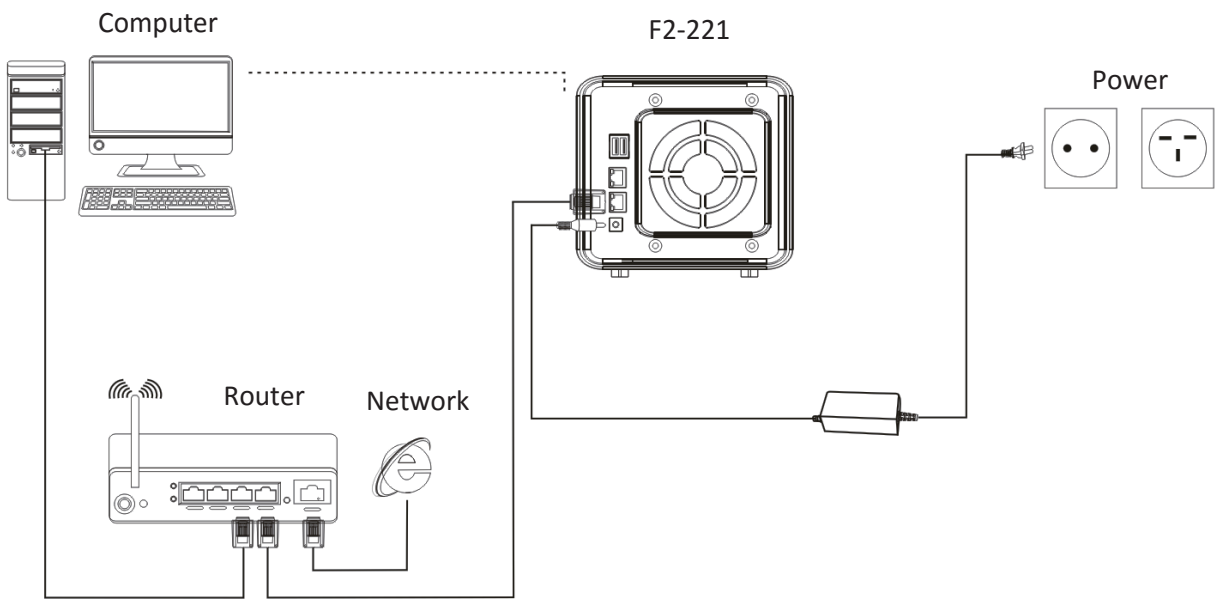
Press the power button to power on TNAS.

Step 4:

If the hardware indicator is always red, this indicates that the hard drive is functioning abnormally. The hard drive may be damaged, or the hard drive may not be compatible with the TNAS device. If this happens, please re-install or replace the hard drive and try again.

Step 5:

If the hard drive indicators and network indicators display a normal connection, your TNAS hardware is ready.



3. Software Installation

To ensure that TNAS functions properly, please install some necessary software.

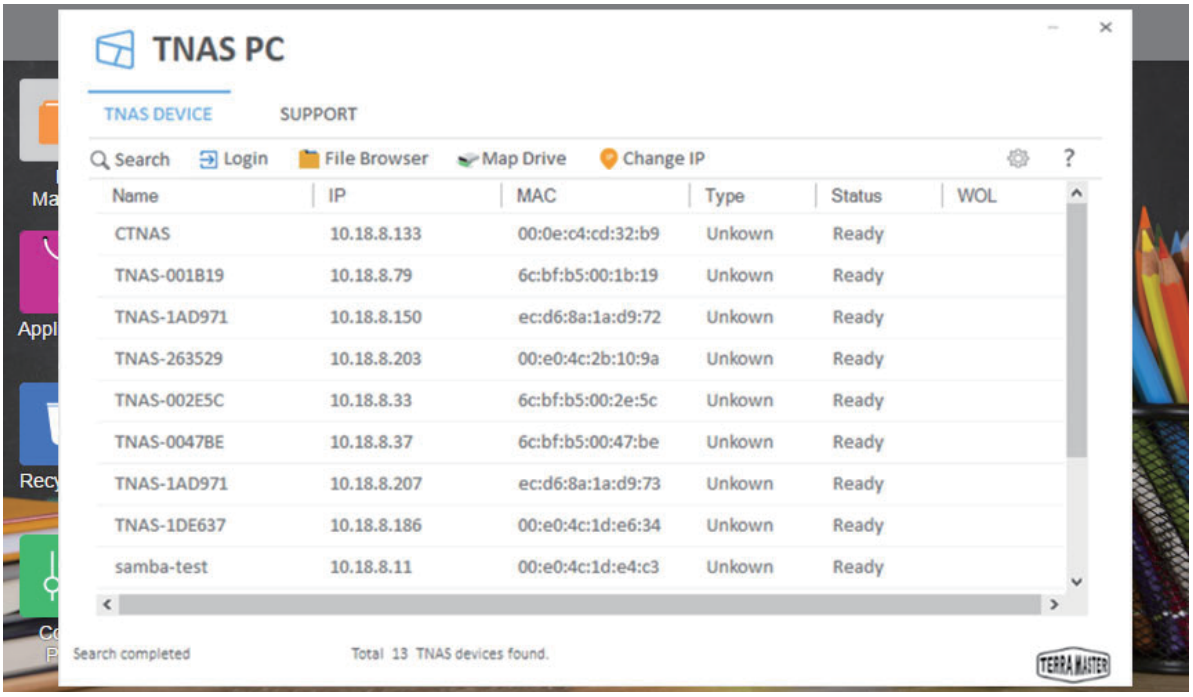
3.1 TNAS PC

TNAS PC is a desktop application designed for TNAS devices. It helps you to quickly search, log in, or set up your TNAS. The application is available in both Mac OS and Windows OS versions.

Please follow the instructions below to download the TNAS PC application:

1. Visit www.terra-master.com and click **"Download"**
2. Select your TNAS model
3. Locate TNAS PC using the download checklist
4. Choose a version that works for you and click **"Download"**
5. Install the TNAS PC application you just downloaded onto your computer

The following are the core features of TNAS PC



Search:

You can access your TNAS device only after it has been found on the network. To search for your TNAS device, click the **"Search"** button (Note: You can only search when TNAS and your computer are on the same sub-network).

Login:

To log in to TNAS's advanced settings menu (TOS), select your TNAS and click **"Login"** (Note: Only users with administrator privileges can use TOS' s advanced features).

File Browser:

If you need to browse files in TNAS or write data to the device, select your TNAS in the menu and click **"File Browser"** (Note: At this point, you need to have a username and password).

Map Drive:

By mapping your drive, you can simplify file management by creating a shortcut to frequently used folders. To create a mapped drive, select your TNAS and click **"Map Drive"** (Note: The Mac OS version of TNAS PC does not have this feature).

Change IP:

You can use the **"Change IP"** option to manually change your TNAS IP address. You may need to do this if your TNAS IP address conflicts with the network IP address segment. Otherwise, TNAS will be inaccessible.

3.2 TOS

TerraMaster's Operating System (TOS) was specially developed for TNAS.

Newly purchased TNAS devices must be initialised prior to use. In the process of initialisation, TOS will be installed onto your TNAS. Please see the section on **"Initialisation"** for an operation guide to TOS installation. You can also update your TOS software at any time after completing initialisation.

3.3 TNAS Mobile App

To access files via mobile devices (e.g., iOS or Android devices), please download the TNAS mobile app to your mobile device.

Scan the QR code to download the TNAS mobile app

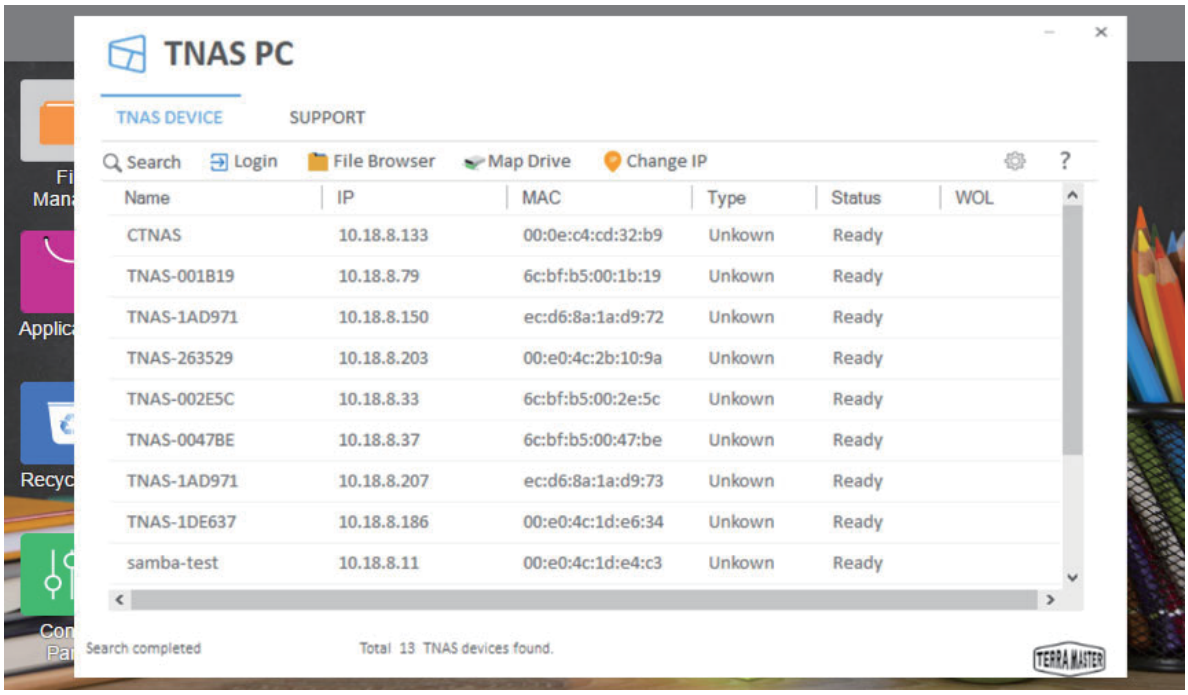
To download the iOS and Android versions of TNAS mobile, you can search for "TNAS mobile" in the App Store and Google Play, respectively. Alternatively, visit the **"Download"** on TerraMaster's official website to download the app of android version for free (Note: Your username and password are required to use our app, so please remember to obtain these details from your TNAS administrator).

4.Initialisation

Your newly purchased TNAS must be initialised prior to use. However, before you initialise your device, please ensure the following: (1) That your TNAS hardware is installed properly; and (2) That you have installed the TNAS PC desktop application on your computer.

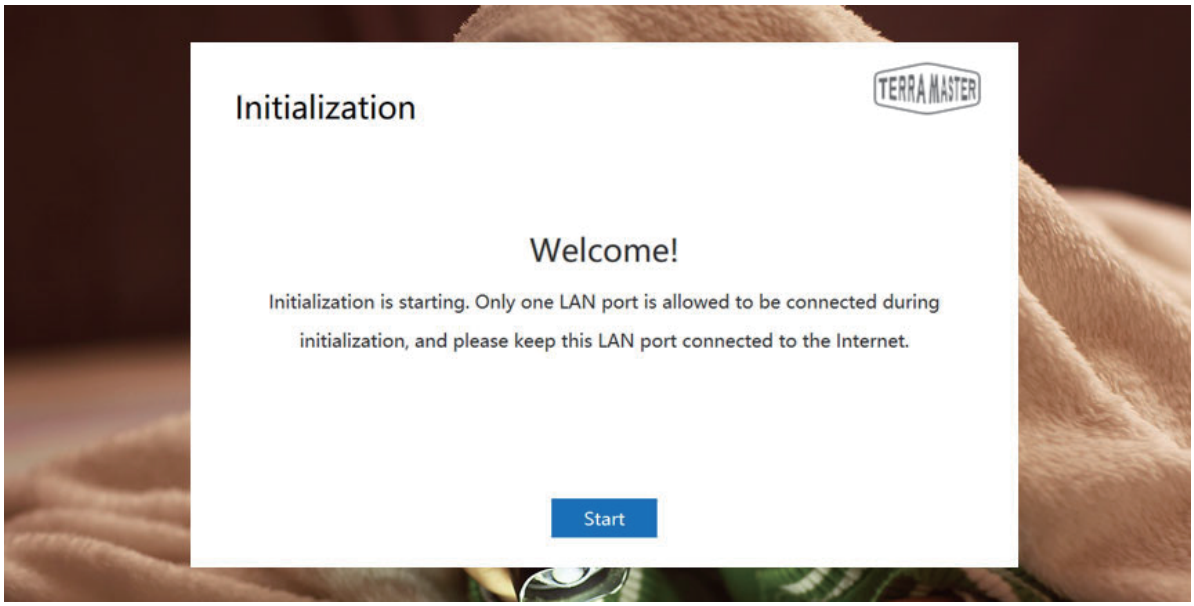
Step 1: Search for TNAS Devices

Before initialising your device, you need to find your TNAS device on the network. To find your TNAS, open the TNAS PC desktop application on your computer and click **"Search"**.



Step 2: Start Initialisation

Select your TNAS from the search list and click **"Login"**. If your TNAS is not initialised, you will be redirected to the initialisation page. Please Click **"Start"** to initiate the initialisation process.

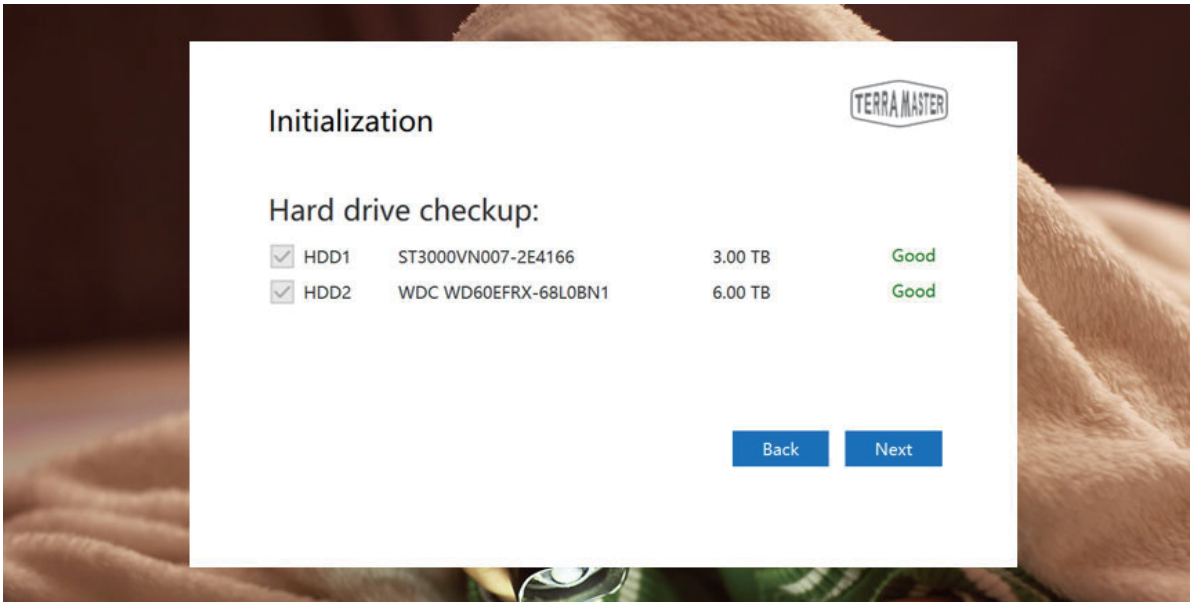


Step 3: Hard Drive Detection

If the installed hard drive is detected by TNAS, bootstrap initialisation will automatically proceed to the next step. If the hard drive is not installed, please install the hard drive and click **"Recheck"**. Since TNAS supports hard drive hot swap, the hard drive can be directly installed without having to turn the power off.

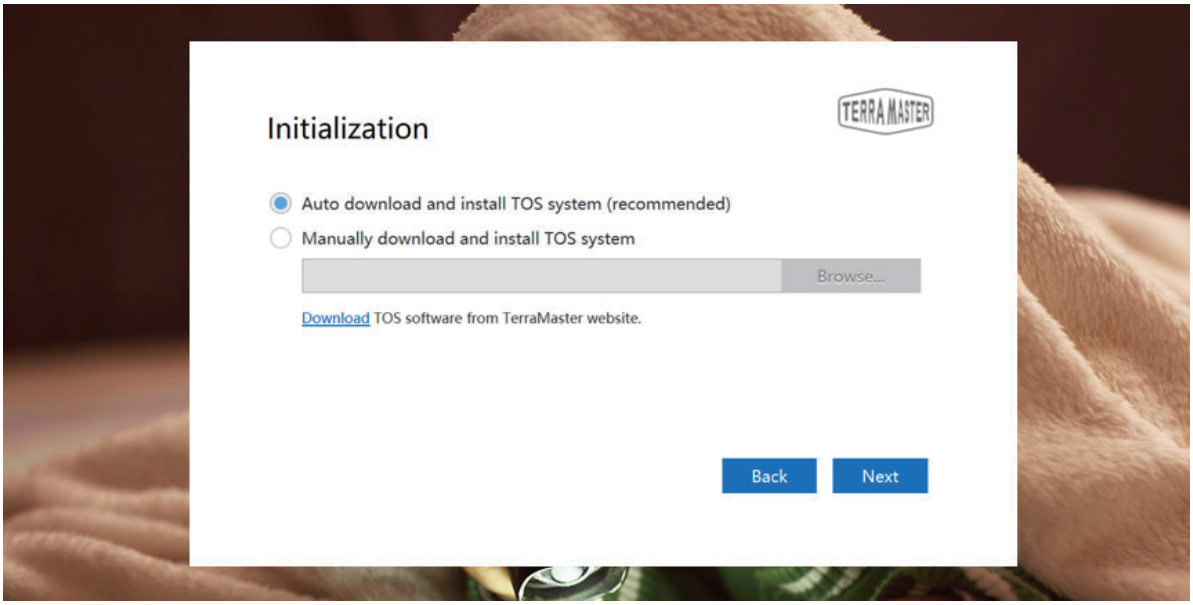
Step 4: Hard Drive Check-Up

Your TNAS will assess the health status of the hard drive. If the health status is good, please click **"Next"**. If the test results indicate a risk, we recommend that you replace the abnormal hard drive.



Step 5: Install TOS

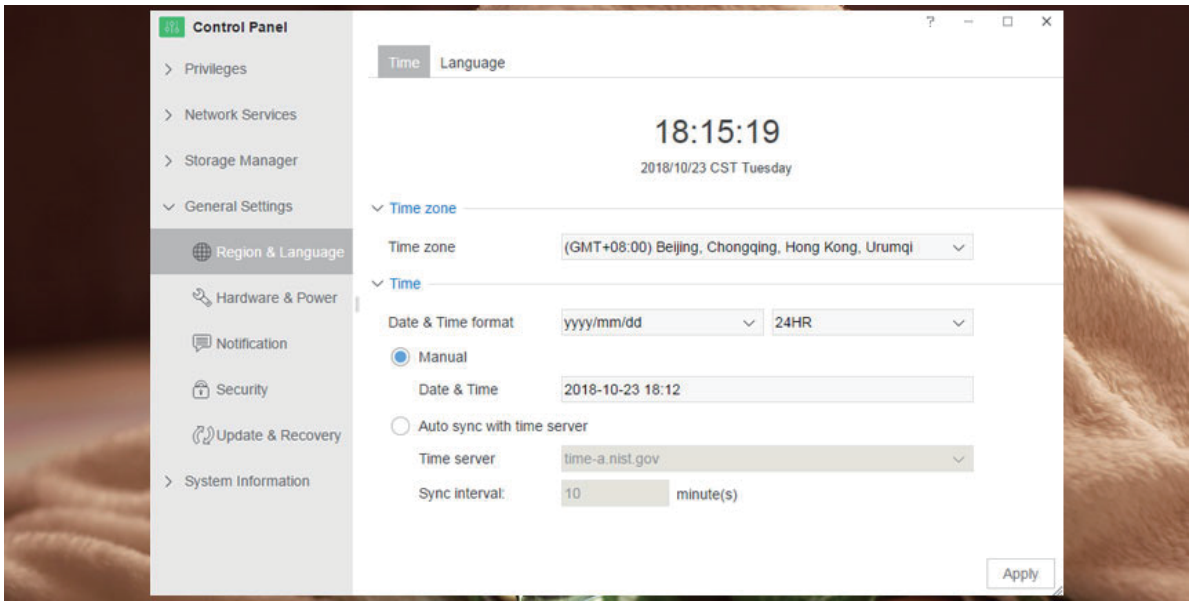
Follow the page prompts to install TOS. If your TNAS is connected to the Internet, we recommend that you choose the **"Online Install"** option. Otherwise, choose the **"Manual Install"** option. If you select **"Manual Install"**, please visit TerraMaster's website to download the TOS software package from the "Download" before you process the installation.



After TOS installation is complete, TNAS will take several minutes to restart. Please wait patiently for this process to finish. Once TNAS has restarted successfully, you will be guided to the next step.

Step 6: Basic Settings

Complete the basic settings for TNAS according to the instructions. This will involve setting a password, inputting device name, selecting your time zone, and clicking **"Next"**.

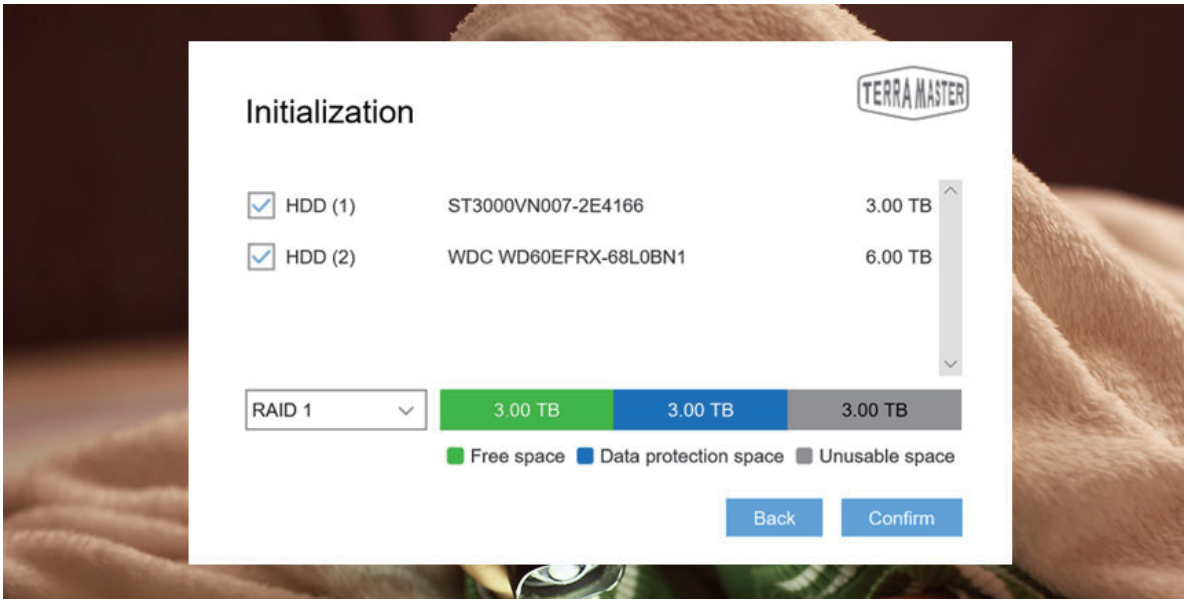


Step 7: Administrator Settings

Please set the administrator password and complete the administrator security mailbox (this is used for administrator authentication) (Note: It is extremely important that you take care when completing this step. If the administrator loses their password, completing the administrator security mailbox will allow them to reset their password). Afterwards, click **"Send Code"**, and the security mailbox will receive an email with a verification code. Please log in to the security mailbox in order to obtain your code, and then complete the administrator settings.

Step 8: Create RAID

Please select the RAID type, and then select the hard drive you intend to use to create RAID and click **Confirm**. There are two file systems to choose from: EXT 4 and Btrfs. The system default file format is Btrfs. If you need to modify the file format, go to the control panel of TOS. When the RAID has been created, hard drive formatting will occur. Therefore, please back your data up in advance (Note: Please take a moment to wait for hard drive formatting to finish. When you see "Congratulations! Initialisation is complete!", this indicates that your TNAS is ready for use).



As a final note, if you receive an error message stating that the number of hard drives you have picked does not match the RAID type you have selected, please reset your settings.

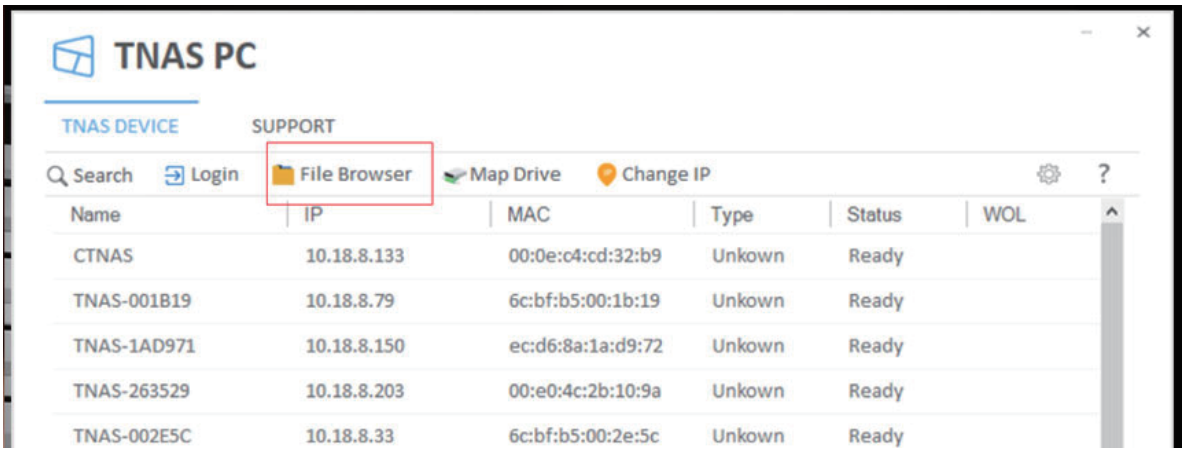
5. Getting Started

This section provides a quick overview of your TNAS device' s core functions.

5.1 Save Files to TNAS

To store files to TNAS, the most convenient and efficient way is to use the Samba file service (for Windows OS users) or the AFS file service (for Mac OS Users).

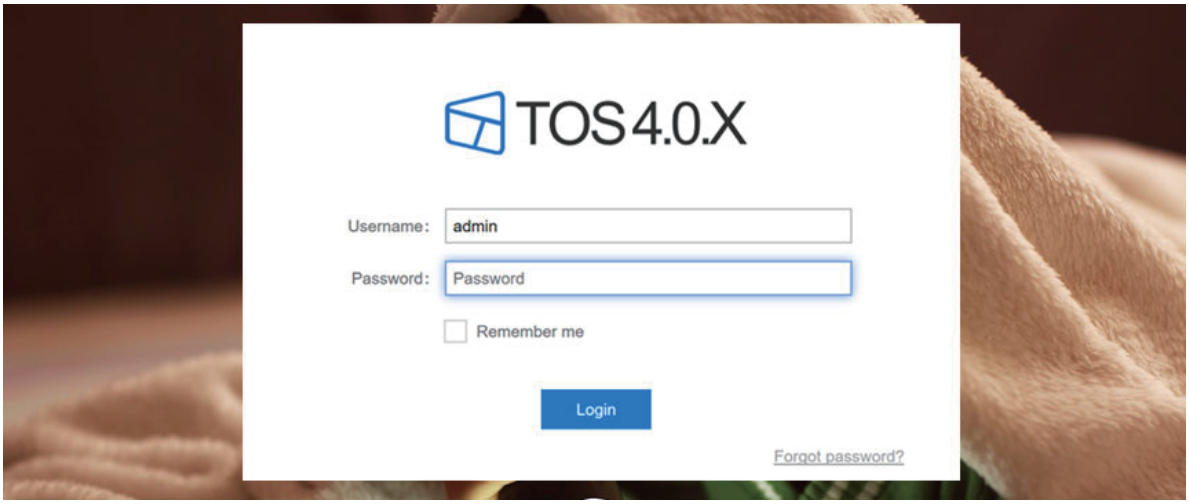
To use these services, select your TNAS from the menu in TNAS PC and click **"File Browser"** . Then, enter your username and password, and you will be able to access the file browsing page. There, you can copy, delete, and edit your files. This feature is used on Windows OS and Mac OS in the same way.



For added efficiency, you can also map your drive to display frequently accessed folders or to create quick links. This method is only applicable to windows OS users, Mac OS users create shortcuts in a slightly different way, please visit the TOS Help for more details.

5.2 Advanced Settings

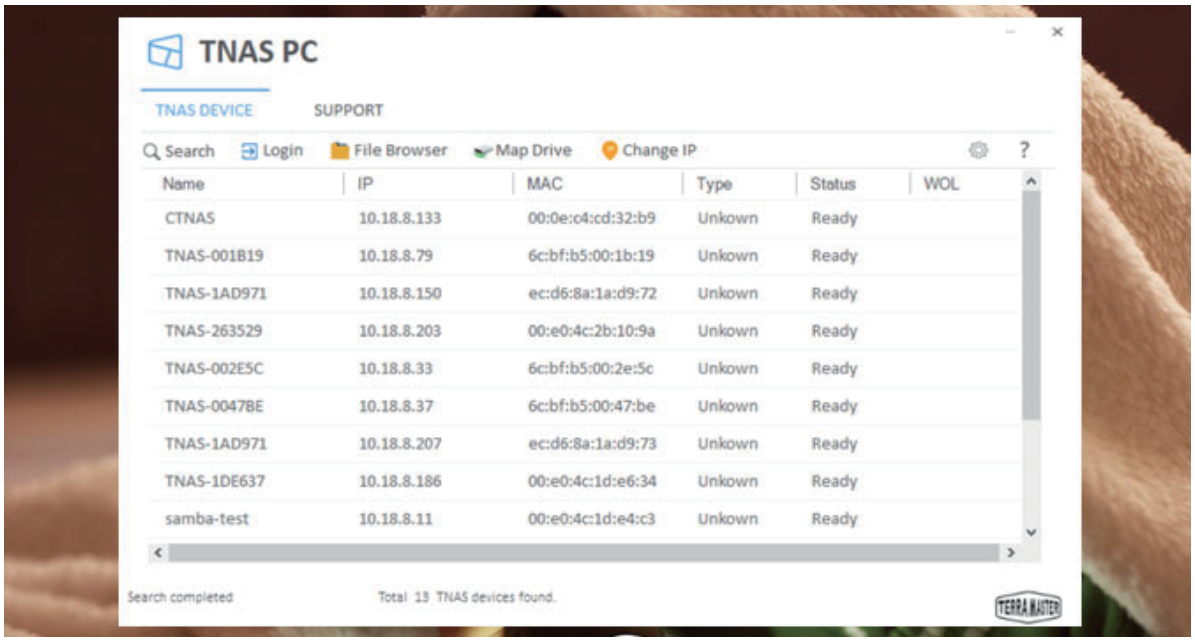
If you need to use the advanced settings features (e.g., to create users, manage permissions, monitor system resources, or to install applications), please log in to TOS. Only users with administrator privileges can use TOS' s advanced features.



You can log in to TOS in two ways:

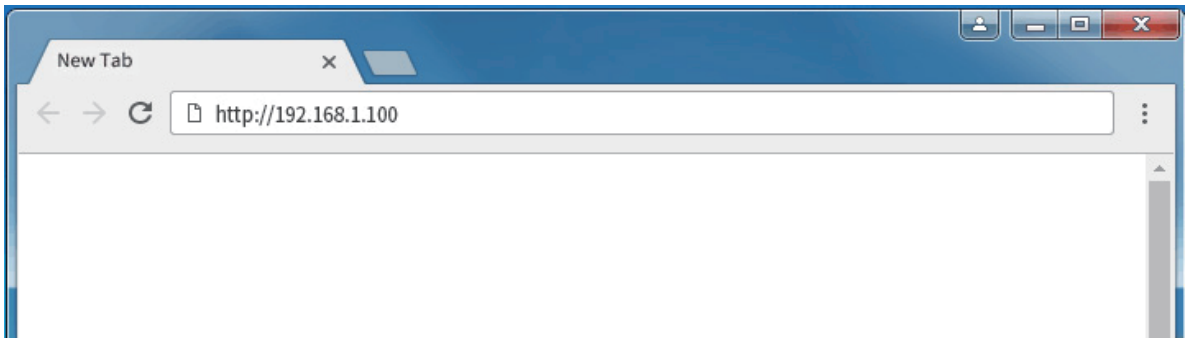
1. Via TNAS PC

Run the TNAS PC application on your computer, select your TNAS from list, and click **"Login"** .



2. Via the TNAS IP address

Input the TNAS IP address (e.g., http://192.168.1.100) in your web browser's address bar and press **"Enter"** (Note: You can obtain your TNAS IP address from the TNAS PC desktop application).



TOS has many advanced features and it is also equipped with its own app store. There, you can download various applications in the marketplace for both home and business purposes.

For more information about TOS's functions and operating instructions, please refer to **"TOS Help"** (Note: You can find **"TOS Help"** from the TOS desktop).

— END —