

TerraMaster TOS Application Developer Guide

For x86 platform

Updated: 20 June, 2018

1. System Requirements

In order to compile programs to run on the TerraMaster NAS, the system must meet the following requirements.

- **X86 64bit** Linux environment.
- Require root permission. (Our toolkit will use chroot command)

2. Preparation

- 2.1 Prepare Build Environment. Go to TerraMaster official website www.terra-master.com, find **Download** on website footer, select model **F4-221**, and download the 'TOS Software Package(for New TNAS device installation and system initialization)' from list, the TOS Installation Package named as *TOS_S1.0_install_3.x.xx.ins*. Create a new working directory in your Linux system, for example **TNAS**. Copy the TOS Installation Package to the working directory, and run **tar** command to extract it.

```
Cd <your work path>/TNAS/  
tar -vxf ./TOS_S1.0_install_3.0.26.ins
```

- 2.2 Download native tools chains. Go to TerraMaster official website www.terra-master.com, find **Download** on website footer, select **Buildtools** from dropdown menu, and download it. Copy the **Buildtools** to the TNAS working directory and extract it.

```
tar -vxf ./buldtools.bz2
```

- 2.3 Chroot to the TNAS working directory. For more information about chroot, please check the man chroot in your host.

```
chroot <your work path>/TNAS
```

- 2.4 Run command **source /etc/profile**

```
source /etc/profile
```

If there is segment fault, run command **/etc/init.d/rcs**

```
/etc/init.d/rcS
```

2.5 Add **export CC=/usr/local/bin/x86_64-tnas-linux-gcc** or others variable value if it is necessary.

```
export CC=/usr/local/bin/x86_64-tnas-linux-gcc
```

Note: if you need web interface for your program, please edit configuration **/etc/nginx/nginx.conf**

3. How to make an APP package for TerraMaster NAS

Create a working directory to store the structure and program of your application.

3.1 If you have files need to be installed to TerraMaster NAS system etc directory(/etc), please create an etc folder under the working directory(<working_directory>/etc), then copy those files to <working_directory>/etc.

```
<working_directory>$ mkdir ./etc  
<working_directory>$ cp <your app path>/file ./etc
```

3.2 If you have files need to be installed to TerraMaster NAS system lib directory(/lib), please create an lib folder under the working directory(<working_directory>/lib), then copy those files to <working_directory>/lib.

```
<working_directory>$ mkdir ./lib  
<working_directory>$ cp <your app path>/file ./lib
```

3.3 If you have files need to be installed to TerraMaster NAS system usr/bin directory(/usr/bin), please create an usr/bin folder under the working directory(<working_directory>/usr/bin), then copy those files to the usr/bin folder you just created.

```
<working_directory>$ mkdir ./usr  
<working_directory>$ mkdir ./usr/bin  
<working_directory>$ cp <your app path>/file ./usr/bin
```

3.4 So if you have more files need to be installed into different TerraMaster NAS system directory, please follow the same way as step 2, step 3 or step 4.

3.5 Create an APP package under the working directory.

```
<working_directory>$tar -cvf app_name.tar </.../your app path>/*
```

4. Install and test your APP in TerraMaster NAS system

In order to test your new built APP in Terramaster NAS system, you have to buy a TerraMaster NAS unit with X86 platform, or please contact with our engineer to acquire SSL information for our test machine.

4.1 Copy your APP package to TerraMaster NAS system directory: /mnt/public

4.2 Change to TerraMaster NAS system root directory, extract the APP file *app_name.tar* under this directory.

```
<any path>$ cd /  
/$ tar -vxf /mnt/public/app_name.tar
```

5. Launch your application on TerraMaster APP market

5.1 As soon as your APP ready to launch, please send TerraMaster product team your *app_name.tar* package.

5.2 TerraMaster product team will test the application.

5.3 As soon as the application is approved, TerraMaster product team will launch the application in TerraMaster market for download.

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