

# Compile XigmaNAS loader.efi Yourself

This is the easiest way for building the loader.efi with increased EFI\_STAGING\_SIZE. It also assumes that the user has an bit of understanding of FreeBSD, including adding ports, packages and using the vi text editor.  
Start prepare the FreeBSD development environment.

## 1. Install FreeBSD 11.x RELEASE.

On your dedicated PC (or under a Virtualbox (on XigmaNAS system), VMware/Qemu) install and setup FreeBSD.

It need less than 15GB total hard drive space for only building the loader.efi.

Setup the networking services. Those are required to download the required source files.

Reboot to complete system install.

You now can login as root.

## 2. Update FreeBSD.

Now, update your installed copy of FreeBSD with the latest patches.

### 2.1. Security update.

Begin with installing the latest security patches:

```
# freebsd-update fetch install
```

### 2.2. Now reboot the system and login as root.

Root login is not necessary but really recommended. It's only the development environment.

### 2.3. Install the required ports.

Go into the system ports and make install clean.

```
# cd /usr/ports/ftp/curl
```

```
# make install clean
```

## 3. Create the working directory.

This is the place where all source files will be stored.

```
# mkdir /xigmanas
```

```
# cd /xigmanas
```

### 3.1. Download the required FreeBSD sources and extract the package.

```
# curl -L https://github.com/freebsd/freebsd/archive/release/11.X.Y.tar.gz --output  
freebsd.tar.gz
```

```
# tar -xvf freebsd.tar.gz
```

### 3.2. CD to the extracted sources directory.

```
# cd freebsd-release-11.X.Y
```

### 3.3. Prepare the build environment.

```
# make kernel-toolchain TARGET=amd64
```

```
# make _includes TARGET=amd64
```

```
# make buildenv TARGET=amd64 EFI_STAGING_SIZE=192
```

#### **4. Now is time to compile and build the custom loader.efi.**

```
# make -C lib/libstand all
# make -C sys/boot/ficl all
# make -C sys/boot/efi/libefi all
# make -C sys/boot/efi/loader all
```

##### **4.1. Copy the loader.efi file to the working directory.**

```
# cp /usr/obj/root/freebsd-release-11.X.Y/sys/boot/efi/loader/loader.efi /xigmanas
```

**Note:** "11.X.Y.tar.gz" is the target source files you want to download and work with, make sure the platform and version match the system as well as for XigmaNAS target working platform. Good luck, now you can do it by yourself!