

# NanoBSD ##

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FreeBSD # FreeBSD#####

##### FreeBSD  
Project ##### 1st 1st #####  
2014-05-29 # lwhsu.

## ##

##### NanoBSD ##### FreeBSD #####  
##### Compact Flash #(###)#

## ####

1. NanoBSD ## .....	1
2. #### NanoBSD .....	2
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## 1. NanoBSD ##

NanoBSD # Poul-Henning Kamp ##### FreeBSD #####  
# Compact Flash #(#####mass storage medium)#

##### “#####(computer appliances)” #####  
#####(###)#####

NanoBSD #####

- ### FreeBSD ### Ports # Packages — ##### NanoBSD ##### FreeBSD #  
####
- ##### — # FreeBSD ##### NanoBSD #### ##### NanoBSD #####
- ##### — ##### [fsck\(8\)](#) ##

- ##### ———— ##### shell script ##### #####

## 2. #### NanoBSD

### 2.1. NanoBSD ###

##### NanoBSD ## #####

- ##### code#1 # code#2 #
- #####(mount)# /cfg ####

#####

/etc # /var #### md(4)(malloc)###

##### /cfg ### ##### /etc ##### ##### /  
etc ##### /cfg #####

## 1. #### /etc/resolv.conf #####

```
# vi /etc/resolv.conf
[...-]
# mount /cfg
# cp /etc/resolv.conf /cfg
# umount /cfg
```



##

##### /cfg #####

##### /cfg ##### NanoBSD ##### (#####  
#####)#

### 2.2. ## NanoBSD ###

NanoBSD ##### nanobsd.sh shell script ##### script ### /usr/src/tools/  
tools/nanobsd ##### ## script ##### dd(1) #####

## NanoBSD #####

```
# cd /usr/src/tools/tools/nanobsd ❶
# sh nanobsd.sh ❷
# cd /usr/obj/nanobsd.full ❸
# dd if=_disk.full of=/dev/da0 bs=64k ❹
```

- ❶ ## NanoBSD ## script #####
- ❷ #####
- ❸ #####
- ❹ ##### NanoBSD#

## 2.3. ##### NanoBSD ###

#### NanoBSD ##### NanoBSD #####

##### nanobsd.sh ##### myconf.nano #####

```
# sh nanobsd.sh -c myconf.nano
```

#####

- ####
- ####

### 2.3.1. #####

##### NanoBSD ##### buildworld # installworld ##### NanoBSD #  
##### 64 MB ##### FreeBSD# #####  
# kernel ##### userland #####

#####

- NANO\_NAME --- #####(#####)#
- NANO\_SRC --- ##### source tree ####
- NANO\_KERNEL --- ##### kernel #####
- CONF\_BUILD --- ## buildworld #####
- CONF\_INSTALL --- ## installworld #####
- CONF\_WORLD --- ## buildworld # installworld #####
- FlashDevice --- ##### FlashDevice.sub ##

### 2.3.2. #####

##### shell ##### NanoBSD# #####

```

cust_foo(){
    echo "bar=topless" > \
        ${NANO_WORLDDIR}/etc/foo
}
customize_cmd cust_foo

```

##### /etc ##### 5MB ### 30MB#

```

cust_etc_size(){
    cd ${NANO_WORLDDIR}/conf
    echo 30000 > default/etc/md_size
}
customize_cmd cust_etc_size

```

#####

- cust\_comconsole — ## VGA ##### [getty\(8\)](#) (/dev/ttyv\*)### serial port # COM1  
##### console#
- cust\_allow\_ssh\_root — ## [sshd\(8\)](#) ### root #####
- cust\_install\_files — # nanobsd/Files ##### script #

### 2.3.3. #####

##### NanoBSD #####

```

NANO_NAME=custom
NANO_SRC=/usr/src
NANO_KERNEL=MYKERNEL
NANO_IMAGES=2

```

```

CONF_BUILD='
NO_KLDLOAD=YES
NO_NETGRAPH=YES
NO_PAM=YES
'

```

```

CONF_INSTALL='
NO_ACPI=YES
NO_BLUETOOTH=YES
NO_CVS=YES
NO_FORTRAN=YES
NO_HTML=YES
NO_LPR=YES
NO_MAN=YES
NO_SENMAIL=YES
NO_SHAREDOCS=YES
NO_EXAMPLES=YES
NO_INSTALLLIB=YES
NO_CALENDAR=YES
NO_MISC=YES
NO_SHARE=YES
'

```

```

CONF_WORLD='
NO_BIND=YES
NO_MODULES=YES
NO_KERBEROS=YES
NO_GAMES=YES
NO_RESCUE=YES
NO_LOCALES=YES
NO_SYSCONS=YES
NO_INFO=YES
'

FlashDevice SanDisk 1G

cust_nobeastie(){
    touch ${NANO_WORLDDIR}/boot/loader.conf
    echo "beastie_disable=\"YES\"" >> ${NANO_WORLDDIR}/boot/loader.conf
}

customize_cmd cust_comconsole
customize_cmd cust_install_files
customize_cmd cust_allow_ssh_root
customize_cmd cust_nobeastie

```

## 2.4. ## NanoBSD

## NanoBSD ## FreeBSD #####

1. ##### NanoBSD ####
2. ##### NanoBSD #####
 

```

##### NanoBSD ##### _disk.full #(#####)# ####
_.disk.image ###(#####)#

```
3. #####
4. #####
5. ##### (#####)#####
 

```

#####
##### NanoBSD ##### /root ### update1 # update2 script # #####
# script#####
##### NanoBSD #####

```

### 2.4.1. ## ftp(1)

#####

```
# ftp myhost
get _disk.image "| sh update1"
```

### 2.4.2. ## ssh(1)

#####

```
# ssh myhost cat _disk.image.gz | zcat | sh update1
```

### 2.4.3. ## nc(1)

##### ftp(1) ##### sshd(8) #####

1. ##### TCP listen##### client#

```
myhost# nc -l 2222 < _disk.image
```



##

##### port ##### NanoBSD client #####

2. ##### update1 ## script#

```
# nc myhost 2222 | sh update1
```

# ##

# N

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