

Fiddling with FreeBSD - Jails

examples

1 Install FreeBSD 14.0-RELEASE on



2 Setup Host

It's essential to setup host when using shared networking, please refer part_4 at <https://t.co/tkrqtdn4GB>



3 Create directory structure

```
$ doas mkdir -p /jail/{demo0,demo1,demo2,demo3}
```

We are going to use

to manipulate jails



jail(8),
jls(8),
jexec(8),
jail.conf(5)

4 Fetch and extract base.txz

fetch and extract base.txz at location demo{1,2,3}, please refer part_2 at <https://t.co/tkrqtdn4GB>

5

```
$ doas jail -vc 1 jid=100 2 name=demo 3 persist
provide details on what's happening
```

• Create new jail

list jails \$ doas jls

to remove \$ doas jail -v **r** <jid|name>

1 ID of the jail, there is limit upto what number you can assign JID, if you don't specify this parameter **jid=100**, system will assign jid for you.

Note
JID can't be redefined once jail created

2 This is alias of jid and can be verified with **\$ doas jls -N**

```
modify $ doas jail -v m jid=100 name=demo_jail
```

3 Let the jail exist without any process running inside it.

```
>_ $ doas jail -vc name=demo0 \
> 1 host.hostname=demojail1 \
> 2 ip4.addr=192.168.15.10/24 \
> 3 interface=em0 \
> 4 path=/jail/demo0 \
> 5 persist
```

6 observe

```
>_ $ doas jail -vc name=demo1 \
> host.hostname=demojail2 \
> ip4.addr=192.168.15.11/24 \
> interface=em0 \
> path=/jail/demo1 \
> 7 exec.start="/bin/sh /etc/rc"
```

observe

```
create /etc/jail.conf with below entries
```

```
demo3 {
  host.hostname="${name}jail4";
  ip4.addr=192.168.15.13/24;
  interface=em0;
  path="/jail/demo3";
  exec.start="/bin/sh /etc/rc";
  exec.stop="/bin/sh /etc/rc.shutdown";
}
```

9 observe

```
>_ $ doas jail -vc name=demo2 \
> host.hostname=demojail3 \
> ip4.addr=192.168.15.12/24 \
> interface=em0 \
> 8 path=/jail/demo2 \
> command="/bin/sh"
```

observe

1 I want to setup hostname for my jail, you can verify that with **\$ doas jexec <jid/name> hostname**

2 I want to share network with host, there are multiple options in networking, **ip4=inherit** is like get everything what host have, **ip4=new** is like **ip4.addr**, **ip4=disable** to disable jail from entier IPv4, you can do same for **ip6**

3 interface on which alias should be created, if you haven't assigned alias manually, jail will do for you in conjunction with **ip4.addr**, if you don't mention **interface=em0** and used only **ip4.addr** then you will not see ip on **em0**

another thing you should note that it works only while you create jail, after that **ip4.addr=<ip address>** will not have any effect, but you can do it from system using **ifconfig**

4 root of the jail, if you don't specify the path it will be mounted on /

5 let the jail exist without any process, **persist** can be replaced with **exec.start="/bin/sh /etc/rc"** but for that you need to extract **base.txz** on the jail root that way it will work otherwise it won't.

same goes for **command="/bin/sh"**, **base.txz** should exist on path, this parameter will take you inside jail.

observe

jail(8) refers to the jail.conf, now let's create our 4th jail **\$ doas jail -vc demo3**

Note
\${name} refers to name of the jail, you can't create variable named \$name, only refer it.

To view ip address of the a jail use
\$ doas jexec <jid|name> ifconfig
\$ doas ifconfig -j <jid|name>

observe

when you remove demo0 and demo1 jail, your ip address will not be removed, remove manually
\$ doas ifconfig em0 inet 192.168.x.x/24 -alias

Cleanup \$ doas chflags -R 0 /jail/*

To view process running inside a jail use
\$ doas ps -J <jid|name>

To update/upgrade packages in a jail use
\$ doas pkg -j <jid|name> update **Required**

List open sockets in a jail
\$ doas sockstat -j <jid|name>

To update/upgrade a jail use
\$ doas freebsd-update -j <jid|name> fetch
\$ doas freebsd-update -j <jid|name> install

Get to the jail shell
\$ doas jexec <jid|name> /bin/sh

observe

When you create demo2 jail, you will get inside the jail, when you exit from shell, run **\$doas jls** and observe

\$ doas rm -rf /jail/demo{0,1,2,3}

When you remove demo3 jail, observe that your ip address will be removed, that's because of **exec.stop** parameter

Required \$ doas cp /etc/resolv.conf /jail/demo3/etc