

NAME

nss-mymachines, libnss_mymachines.so.2 – Provide hostname resolution for local container instances.

SYNOPSIS

libnss_mymachines.so.2

DESCRIPTION

nss-mymachines is a plug-in module for the GNU Name Service Switch (NSS) functionality of the GNU C Library (**glibc**), providing hostname resolution for the names of containers running locally that are registered with **systemd-machined.service**(8). The container names are resolved to the IP addresses of the specific container, ordered by their scope. This functionality only applies to containers using network namespacing (see the description of **--private-network** in **systemd-nspawn**(1)). Note that the name that is resolved is the one registered with **systemd-machined**, which may be different than the hostname configured inside of the container.

The module also provides name resolution for user and group identifiers mapped to containers. All names from the range allocated to a given container *container* are exposed on the host as "*vu-container-uid*" and "*vg-container-gid*" (see example below). This functionality only applies to containers using user namespacing (see the description of **--private-users** in **systemd-nspawn**(1)).

To activate the NSS module, add "mymachines" to the lines starting with "hosts:", "passwd:" and "group:" in /etc/nsswitch.conf.

It is recommended to place "mymachines" after the "files" or "compat" entry of the /etc/nsswitch.conf lines to make sure that its mappings are preferred over other resolvers such as DNS, but so that /etc/hosts, /etc/passwd and /etc/group based mappings take precedence.

CONFIGURATION IN /ETC/NSSWITCH.CONF

Here is an example /etc/nsswitch.conf file that enables **nss-mymachines** correctly:

```
passwd:    compat mymachines systemd
group:     compat mymachines systemd
shadow:    compat

hosts:     files mymachines resolve [!UNAVAIL=return] dns myhostname
networks:  files

protocols: db files
services:  db files
ethers:    db files
rpc:       db files

netgroup:  nis
```

MAPPINGS PROVIDED BY NSS-MYMACHINES

The container "rawhide" is spawned using **systemd-nspawn**(1):

```
# systemd-nspawn -M rawhide --boot --network-veth --private-users=pick
Spawning container rawhide on /var/lib/machines/rawhide.
Selected user namespace base 20119552 and range 65536.
...

$ machinectl --max-addresses=3
MACHINE CLASS  SERVICE  OS  VERSION ADDRESSES
rawhide container systemd-nspawn fedora 30  169.254.40.164 fe80::94aa:3aff:fe7b:d4b9

$ getent passwd vu-rawhide-0 vu-rawhide-81
vu-rawhide-0:*:20119552:65534:vu-rawhide-0:/usr/sbin/nologin
vu-rawhide-81:*:20119633:65534:vu-rawhide-81:/usr/sbin/nologin
```

```
$ getent group vg-rawhide-0 vg-rawhide-81
vg-rawhide-0:*:20119552:
vg-rawhide-81:*:20119633:
```

```
$ ps -o user:15,pid,tt,command -e|grep '^vu-rawhide'
vu-rawhide-0    692 ?      /lib/systemd/systemd
vu-rawhide-0    731 ?      /lib/systemd/systemd-journald
vu-rawhide-192  734 ?      /lib/systemd/systemd-networkd
vu-rawhide-193  738 ?      /lib/systemd/systemd-resolved
vu-rawhide-0    742 ?      /lib/systemd/systemd-logind
vu-rawhide-81   744 ?      /usr/bin/dbus-daemon --system --address=systemd: --nofork --nopidfile --systemd-activati
vu-rawhide-0    746 ?      /usr/sbin/sshd -D ...
vu-rawhide-0    752 ?      /lib/systemd/systemd --user
vu-rawhide-0    753 ?      (sd-pam)
vu-rawhide-0    1628 ?    login -- zbysek
vu-rawhide-1000 1630 ?      /lib/systemd/systemd --user
vu-rawhide-1000 1631 ?      (sd-pam)
vu-rawhide-1000 1637 pts/8  -zsh
```

```
$ ping -c1 rawhide
PING rawhide(fe80::94aa:3aff:fe7b:d4b9%ve-rawhide (fe80::94aa:3aff:fe7b:d4b9%ve-rawhide)) 56 data bytes
64 bytes from fe80::94aa:3aff:fe7b:d4b9%ve-rawhide (fe80::94aa:3aff:fe7b:d4b9%ve-rawhide): icmp_seq=1 ttl=64 time=0.0
...
$ ping -c1 -4 rawhide
PING rawhide (169.254.40.164) 56(84) bytes of data.
64 bytes from 169.254.40.164 (169.254.40.164): icmp_seq=1 ttl=64 time=0.064 ms
...
```

```
# machinectl shell rawhide /sbin/ip a
Connected to machine rawhide. Press ^] three times within 1s to exit session.
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
...
2: host0@if21: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc noqueue state UP group default qlen 1000
   link/ether 96:aa:3a:7b:d4:b9 brd ff:ff:ff:ff:ff:ff link-netnsid 0
   inet 169.254.40.164/16 brd 169.254.255.255 scope link host0
       valid_lft forever preferred_lft forever
   inet6 fe80::94aa:3aff:fe7b:d4b9/64 scope link
       valid_lft forever preferred_lft forever
Connection to machine rawhide terminated.
```

SEE ALSO

systemd(1), **systemd-machined.service(8)**, **machinectl(1)**, **nss-systemd(8)**, **nss-resolve(8)**, **nss-myhostname(8)**, **nsswitch.conf(5)**, **getent(1)**