



systemctl & rpm

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service

```
root@RHEL-zby:/etc/systemd/system (ssh)
[Unit]
Description=1551265-zby

[Service]
Type=forking
ExecStart=/usr/sbin/test-1551265
ExecStop=kill -s 9 `ps -aux | grep test | awk '{print $2}'`
ExecReload=kill -s 9 `ps -aux | grep test | awk '{print $2}'`; \
/usr/sbin/test-1551265
RemainAfterExit=no

[Install]
WantedBy=multi-user.target

~
~
~
~
~
~
~
~
~
~
~
~
~
~
~
test-1551265.service" 13L, 292C
```

放在/etc/systemd/system 目录下

这个地方我卡了很久

最后发现很早之前在/etc/systemd/system 写了个 service

运行了一下发现没有反应 也没 rm 就去 /usr/lib/systemd/system/ 编辑 service 了 然后不管怎么修改怎么运行都没有任何反应 最后 enable 看反馈突然注意到这个

```
[root@RHEL-zby ~]# systemctl enable test-1551265.service
Created symlink from /etc/systemd/system/multi-user.target.wants/test-1551265.s
ervice to /etc/systemd/system/test-1551265.service.
```

既然是从 etc 到 etc 根本就没有到 usr 于是乎到/etc/systemd/system 检查 果然有个几天前瞎写的 service 将新写的覆盖之 运行就好了

```

/multi-user.target
drwxr-xr-x. 2 root root 87 9月 28 18:26 default.target.wants
drwxr-xr-x. 2 root root 32 9月 28 18:26 getty.target.wants
drwxr-xr-x. 2 root root 4096 10月 21 15:32 multi-user.target.wants
drwxr-xr-x. 2 root root 31 9月 28 18:27 remote-fs.target.wants
drwxr-xr-x. 2 root root 51 9月 28 18:26 sockets.target.wants
drwxr-xr-x. 2 root root 122 9月 28 18:27 sysinit.target.wants
drwxr-xr-x. 2 root root 44 9月 28 18:26 system-update.target.wants
-rw-r--r--. 1 root root 322 10月 21 15:37 test-1551265.service
drwxr-xr-x. 2 root root 29 9月 28 18:27 vmtoolsd.service.requires
[root@RHEL-zby system]# systemctl enable test-1551265.service
[root@RHEL-zby system]# systemctl start test-1551265.service

```

这里因为 systemctl 启动的 service 不会再绑 tty 了  
所以 ps 差不到进程 -ef 可以

```

[root@RHEL-zby system]# systemctl enable test-1551265.service
[root@RHEL-zby system]# systemctl start test-1551265.service
[root@RHEL-zby system]# ps
  PID TTY          TIME CMD
 7382 pts/0      00:00:00 bash
 7526 pts/0      00:00:00 ps

```

```

[root@RHEL-zby system]# ps -ef |grep test
root      8568      1  0 10:47 ?        00:00:00 ./test [main 00:00:23]
root      8569    8568  0 10:47 ?        00:00:00 ./test [sub-01 00:00:22]
root      8570    8568  0 10:47 ?        00:00:00 ./test [sub-02 00:00:21]
root      8571    8568  0 10:47 ?        00:00:00 ./test [sub-03 00:00:20]
root      8573    8568  0 10:47 ?        00:00:00 ./test [sub-04 00:00:19]
root      8574    8568  0 10:47 ?        00:00:00 ./test [sub-05 00:00:18]
root      8575    8568  0 10:47 ?        00:00:00 ./test [sub-06 00:00:17]
root      8576    8568  0 10:47 ?        00:00:00 ./test [sub-07 00:00:16]
root      8577    8568  0 10:47 ?        00:00:00 ./test [sub-08 00:00:15]
root      8578    8568  0 10:47 ?        00:00:00 ./test [sub-09 00:00:14]
root      8579    8568  0 10:47 ?        00:00:00 ./test [sub-10 00:00:13]
root      8581    8488  0 10:48 pts/0    00:00:00 grep --color=auto test
[root@RHEL-zby system]#

```

```

[root@RHEL-zby system]# systemctl stop test-1551265.service
[root@RHEL-zby system]# ps -ef |grep test
root      8591    8488  0 10:49 pts/0    00:00:00 grep --color=auto test
[root@RHEL-zby system]#

```

```
[root@RHEL-zby system]# systemctl start test-1551265.service
[root@RHEL-zby system]# systemctl restart test-1551265.service
[root@RHEL-zby system]# ps -ef |grep test
root      8614      1  0 10:49 ?        00:00:00 ./test [main 00:00:02]
root      8615     8614 0 10:49 ?        00:00:00 ./test [sub-01 00:00:01]
root      8616     8614 0 10:49 ?        00:00:00 ./test [sub-02 00:00:00]
root      8618     8488 0 10:49 pts/0    00:00:00 grep --color=auto test
[root@RHEL-zby system]#

[root@RHEL-zby system]# systemctl disable test-1551265.service
Removed symlink /etc/systemd/system/multi-user.target.wants/test-1551265.service
.
[root@RHEL-zby system]#
```

验证 stop restart disable 都符合预期

# rpm

不多说 先上.spec 代码 这也是这个作业的重点

```
Name:          test
Version:       1551265
Release:       zby
Summary:       test

License:       GPL
#URL:
Source0:       %{name}-%{version}.tar.bz2

BuildRoot:     %{_tmppath}/%{name}-%{version}-%{release}-root

BuildRequires: gcc,make
#Requires:

%description
zby

%prep

%setup -q

%build
make

%install
rm -rf $RPM_BUILD_ROOT
%{__install} -d $RPM_BUILD_ROOT/usr/sbin
%{__install} -d $RPM_BUILD_ROOT/usr/lib64
%{__install} -d $RPM_BUILD_ROOT/etc
%{__install} -d $RPM_BUILD_ROOT/usr/1551265
%{__install} -D test-1551265.service $RPM_BUILD_ROOT/usr/lib/systemd/system/test-1551265.service

make install DESTDIR=$RPM_BUILD_ROOT

%pre

echo 准备安装test-1551265
mkdir -p /usr/1551265

%post
    echo 完成安装test-1551265

%preun
    echo 准备卸载test-1551265

%postun
    echo 完成卸载test-1551265
    rm -rf /etc/1551265.conf
    rm -rf /usr/sbin/test-1551265
    rm -rf /usr/lib64/lib1551265.so
    rm -rf /usr/1551265/1551265.dat
    rm -rf /usr/lib/systemd/system/test-1551265.service
    rm -rf /root/rpmbuild/RPMS/x86_64/1551265test-0.x86_64.rpm
    rm -rf /root/rpmbuild/RPMS/x86_64/1551265-debuginfo-test-0.x86_64.rpm
    rm -rf /root/rpmbuild
    if [ "`ls -A /usr/1551265`" = "" ]; then `rm -rf /usr/1551265`; fi

%clean
rm -rf $RPM_BUILD_ROOT

%files
/etc/1551265.conf
/usr/sbin/test-1551265
/usr/lib64/lib1551265.so
/usr/1551265/1551265.dat
/usr/lib/systemd/system/test-1551265.service

%doc

%changelog
```

## 用 rpmbuild -ba test1.spec 生成 rpm 包

```
[root@RHEL-zby rpmbuild]# rpmbuild -ba /SPEC/test1.spec
执行(%prep): /bin/sh -e /var/tmp/rpm-tmp.f3h1bq
+ umask 022
+ cd /root/rpmbuild/BUILD
+ cd /root/rpmbuild/BUILD
+ rm -rf test-1551265
+ /usr/bin/bzip2 -dc /root/rpmbuild/SOURCES/test-1551265.tar.bz2
+ /usr/bin/tar -xf -
+ STATUS=0
+ '[' 0 -ne 0 ']'
+ cd test-1551265
+ /usr/bin/chmod -Rf a+rx,u+w,g-w,o-w .
+ exit 0
执行(%build): /bin/sh -e /var/tmp/rpm-tmp.X8MgGe
+ umask 022
+ cd /root/rpmbuild/BUILD
+ cd test-1551265
+ make
cc read.c -fPIC -shared -o lib1551265.so
cc -g -Wall -o test test.c -L. -l1551265 -Wl,-rpath .
+ exit 0
执行(%install): /bin/sh -e /var/tmp/rpm-tmp.oZARpD
+ umask 022
+ cd /root/rpmbuild/BUILD
+ '[' /root/rpmbuild/BUILDROOT/test-1551265-...x86_64 ']'
+ rm -rf /root/rpmbuild/BUILDROOT/test-1551265-...x86_64
+ dirname /root/rpmbuild/BUILDROOT/test-1551265-...x86_64/etc
+ mkdir -p /root/rpmbuild/BUILDROOT
+ mkdir /root/rpmbuild/BUILDROOT/test-1551265-...x86_64
+ cd test-1551265
+ rm -rf /root/rpmbuild/BUILDROOT/test-1551265-...x86_64
+ /usr/bin/install -d /root/rpmbuild/BUILDROOT/test-1551265-...x86_64/usr/sbin
+ /usr/bin/install -d /root/rpmbuild/BUILDROOT/test-1551265-...x86_64/usr/lib64
+ /usr/bin/install -d /root/rpmbuild/BUILDROOT/test-1551265-...x86_64/etc
+ /usr/bin/install -d /root/rpmbuild/BUILDROOT/test-1551265-...x86_64/usr/1551265
+ /usr/bin/install -d test-1551265.service /root/rpmbuild/BUILDROOT/test-1551265-...x86_64/lib/systemd/system/test-1551265.service
+ make install DESTDIR=/root/rpmbuild/BUILDROOT/test-1551265-...x86_64
cp test /root/rpmbuild/BUILDROOT/test-1551265-...x86_64/usr/sbin/test-1551265; cp lib1551265.so /root/rpmbuild/BUILDROOT/test-1551265-...x86_64/usr/lib64; cp 1551265.conf /root/rpmbuild/BUILDROOT/test-1551265-...x86_64/etc
6,64/usr/1551265; cp 1551265.dat /root/rpmbuild/BUILDROOT/test-1551265-...x86_64/usr/1551265; cp 1551265.conf /root/rpmbuild/BUILDROOT/test-1551265-...x86_64/etc
+ /usr/lib/rpm/find-debuginfo.sh --strict-build-id -m --run-dwz --dwz-low-mem-die-limit 100000000 --dwz-max-die-limit 1100000000 /root/rpmbuild/BUILD/test-1551265
extracting debug info from /root/rpmbuild/BUILDROOT/test-1551265-...x86_64/usr/lib64/lib1551265.so
dwz: Too few files for multife optimization
/usr/lib/rpm/sepdebugcncfix: Updated 1 CRC32s, 1 CRC32s did match.
11 块
+ /usr/lib/rpm/check-buildroot
+ /usr/lib/rpm/redhat/brp-compress
+ /usr/lib/rpm/redhat/brp-strip-static-archives /usr/bin/strip
+ /usr/lib/rpm/brp-python-bytecompile /usr/bin/python 1
+ /usr/lib/rpm/redhat/brp-python-hardlink
+ /usr/lib/rpm/redhat/brp-java-repack-jars
准备文件: test-1551265-...x86_64
Provides: lib1551265.so()(64bit) test = 1551265- test(x86-64) = 1551265-
Requires(interp): /bin/sh /bin/sh /bin/sh /bin/sh
Requires(rpmlib): rpmlib(CompressedFileNames) <= 3.0.4-1 rpmlib(PayloadFilesHavePrefix) <= 4.0-1
Requires(pre): /bin/sh
Requires(post): /bin/sh
Requires(preun): /bin/sh
Requires(postun): /bin/sh
```

## 到 RPMS 目录的 x86\_64 目录下安装包

```
[root@RHEL-zby rpmbuild]# cd ./RPMS/x86_64/
[root@RHEL-zby x86_64]# ll
总用量 24
-rw-r--r--. 1 root root 10228 10月 22 20:21 test-1551265-zby.x86_64.rpm
-rw-r--r--. 1 root root 10156 10月 22 20:21 test-debuginfo-1551265-zby.x86_64.rpm
[root@RHEL-zby x86_64]# rpm -ivh test-1551265-zby.x86_64.rpm
准备中... ##### [100%]
准备安装 test-1551265
正在升级/安装...
1: test-1551265-zby ##### [100%]
完成安装 test-1551265
[root@RHEL-zby x86_64]#
```

## 检查文件已生成

```
[root@RHEL-zby x86_64]# ll /usr/1551265/
总用量 4
-rw-r--r--. 1 root root 15 10月 22 20:21 1551265.dat
[root@RHEL-zby x86_64]#
```

卸载 检查文件已删除(这里之前忘了备份 直接把 rpmbuild 目录删了 东西没了吓尿)

```
[root@RHEL-zby x86_64]# rpm -e test
准备卸载 test-1551265
完成卸载 test-1551265
[root@RHEL-zby x86_64]# ll /usr/1551265/
ls: 无法访问 /usr/1551265/: 没有那个文件或目录
[root@RHEL-zby x86_64]#
```

重新安装一遍 不再截图

在/usr/1551265 目录下 touch 一个新文件 再卸载程序 可以看到 1551265 目录未被删除并且其中的文件也还在

```
[root@RHEL-zby x86_64]# cd /usr/1551265/
[root@RHEL-zby 1551265]# touch 1551265
[root@RHEL-zby 1551265]# ll
总用量 4
-rw-r--r--. 1 root root 0 10月 22 20:32 1551265
-rw-r--r--. 1 root root 15 10月 22 20:21 1551265.dat
[root@RHEL-zby 1551265]# cd ..
[root@RHEL-zby usr]# rpm -e t
tar                      targetd                  tcp_wrappers            tcsh
targetcli                tcpdump                 tcp_wrappers-libs       teamd
[root@RHEL-zby usr]# rpm -e test
准备卸载 test-1551265
完成卸载 test-1551265
[root@RHEL-zby usr]# ll
总用量 180
drwxr-xr-x.  2 root root   21 10月 22 20:32 1551265
dr-xr-xr-x.  2 root root 32768 10月 15 17:18 bin
drwxr-xr-x.  2 root root    6 3月 10 2016 etc
drwxr-xr-x.  2 root root    6 3月 10 2016 games
drwxr-xr-x. 46 root root  8192 9月 28 19:19 include
dr-xr-xr-x. 40 root root  4096 10月 7 23:01 lib
dr-xr-xr-x. 63 root root 40960 10月 22 20:32 lib64
drwxr-xr-x. 24 root root  4096 9月 28 18:27 libexec
drwxr-xr-x. 12 root root   131 9月 28 18:25 local
dr-xr-xr-x.  2 root root 16384 10月 22 20:32 sbin
drwxr-xr-x. 130 root root  4096 10月 15 17:18 share
drwxr-xr-x.  4 root root    34 9月 28 18:25 src
lrwxrwxrwx.  1 root root    10 9月 28 18:25 tmp -> ../var/tmp
[root@RHEL-zby usr]# cd 1551265/
[root@RHEL-zby 1551265]# ll
总用量 0
-rw-r--r--. 1 root root 0 10月 22 20:32 1551265
[root@RHEL-zby 1551265]#
```

测试 makefile

make makeclean

```
[root@RHEL-zby 1551265-000106]# make
cc read.c -fPIC -shared -o lib1551265.so
cc -g -Wall -o test test.c -L. -l1551265 -Wl,-rpath .
[root@RHEL-zby 1551265-000106]# make clean
rm -rf lib1551265.so test test-1551265.rpm
```

make rpm

```
[root@RHEL-zby 1551265-000106]# make rpm
mkdir -pv ~/rpmbuild/{BUILD,BUILDROOT,RPMS,SOURCES,SPECS,SRPMS}
mkdir: 已创建目录 "/root/rpmbuild"
mkdir: 已创建目录 "/root/rpmbuild/BUILD"
mkdir: 已创建目录 "/root/rpmbuild/BUILDROOT"
mkdir: 已创建目录 "/root/rpmbuild/RPMS"
mkdir: 已创建目录 "/root/rpmbuild/SOURCES"
mkdir: 已创建目录 "/root/rpmbuild/SPECS"
mkdir: 已创建目录 "/root/rpmbuild/SRPMS"
cp test-1551265.tar.bz2 /root/rpmbuild/SOURCES
cp test.spec /root/rpmbuild/SPECS
rpmbuild -ba /root/rpmbuild/SPECS/test.spec
执行(%prep): /bin/sh -e /var/tmp/rpm-tmp.XAK6hQ
+ umask 022
+ cd /root/rpmbuild/BUILD
+ cd /root/rpmbuild/BUILD
```

make install make uninstall

```
[root@RHEL-zby 1551265-000106]# make install
cc read.c -fPIC -shared -o lib1551265.so
cc -g -Wall -o test test.c -L. -l1551265 -Wl,-rpath .
cp test /usr/sbin/test-1551265
cp lib1551265.so /usr/lib64
mkdir -p /usr/1551265
cp 1551265.dat /usr/1551265
cp 1551265.conf /etc
[root@RHEL-zby 1551265-000106]# make uninstall
rm -rf /etc/1551265.conf /usr/sbin/test-1551265 /usr/lib64/lib1551265.so /usr/1551265/1551265.dat /usr/lib/systemd/system/test-1551265.service /root/rpmbuild/RPMS/x86_64/test-1551265-0.x86_64.rpm /root/rpmbuild/RPMS/x86_64/1551265-debuginfo-test-0.x86_64.rpm /root/rpmbuild
if [ `ls -A /usr/1551265` = "" ]; then `rm -rf /usr/1551265`;fi;
[root@RHEL-zby 1551265-000106]#
```