RHEL: How to rebuild and/or patch a RPM package

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# Tested on RHEL 6 & 7

# If possible,  avoid creating packages as 'root' as this is quite
dangerous because we
# could delete or overwrite OS existing files.

# Setup the folder structure. Placed on the HOME folder of a user
without admin privileges,
# run following command:

# As a non-root user, create a build tree based on a ~/rpmbuild/
directory:

user@myhost:/home/user#> mkdir -p
~/rpmbuild/{BUILD,BUILDROOT,RPMS,SOURCES,SPECS,SRPMS}

user@myhost:/home/user#> echo '%_topdir %(echo $HOME)/rpmbuild' >
~/.rpmmacros




# Given a simple package like the one we've built in
# https://sites.google.com/site/syscookbook/rhel/rhel-rpm-build



# Rebuilding the RPM from SRPM
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# If you only want to recompile a source rpm, without doing any
changes, do the following:

user@myhost:/home/user#> rpmbuild --rebuild
</path_to_rpm>/HelloWorld-1.0-1.el6.src.rpm

# Your new package will be under /home/user/rpmbuild/RPMS/<arch>/




# Patching the SRPM
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# First of all, install the source RPM

user@myhost:/home/user#> rpm -ivh
</path_to_rpm>/HelloWorld-1.0-1.el6.src.rpm
1:HelloWorld              ######################################
[100%]

# This will restore a specfile under /home/user/rpmbuild/SPECS, and a
source tarball, as
# well as any other other patches or additional files, under
/home/user/rpmbuild/SOURCES

user@myhost:/home/user#> ll rpmbuild/SPECS/
total 4
-rw-rw-r-- 1 user group 776 Sep 29 11:48 HelloWorld-1.0.spec

user@myhost:/home/user#> ll rpmbuild/SOURCES/
total 4
-rw-rw-r-- 1 user group 210 Sep 29 11:45 HelloWorld-1.0.tar.gz
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# Extract the sources, make a copy of the source and make your
changes

user@myhost:/home/user#> cd rpmbuild/SOURCES

user@myhost:/home/user/rpmbuild/SOURCES#> tar zxvf
HelloWorld-1.0.tar.gz
HelloWorld-1.0/
HelloWorld-1.0/HelloWorld.sh
HelloWorld-1.0/configure

user@myhost:/home/user/rpmbuild/SOURCES#> cp -pr HelloWorld-1.0
HelloWorld-1.0.p

user@myhost:/home/user/rpmbuild/SOURCES#> vi
HelloWorld-1.0.p/HelloWorld.sh
echo "Hello NEW world!"

# After the .new source tree is modified, generate the patch. To
generate the patch,
# run diff against the entire new and original source trees:



user@myhost:/home/user/rpmbuild/SOURCES#> diff -uNrp HelloWorld-1.0
HelloWorld-1.0.p > ../SOURCES/mynewpatch.patch



# Now, we have to add the patch to the specfile. There may be other
patches already,
# and they are applied in order of their number in the specfile, so
we'll have to
# number ours appropriately.

user@myhost:/home/user/rpmbuild/SOURCES#> cd ..

# Add a line after "Source 0" line like following one (respect
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appropriate patch number)

user@myhost:/home/user/rpmbuild#> vi SPECS/HelloWorld-1.0.spec

Patch0: mynewpatch.patch

# After that, add a patch command that corresponds with the patch
line above, usually
# after "%setup" line:

[...]
%prep
%setup -q
    %patch0 -p1
[...]




# Rebuilding the package

user@myhost:/home/user/rpmbuild#> rpmbuild -ba
SPECS/HelloWorld-1.0.spec




user@myhost:/home/user/rpmbuild#> cd RPMS/noarch

user@myhost:/home/user/rpmbuild/RPMS/noarch#> ll
total 4
-rw-rw-r-- 1 user group 2092 Sep 29 12:52
HelloWorld-1.0-1.el6.noarch.rpm

user@myhost:/home/user/rpmbuild/RPMS/noarch#> rpm -qpl
HelloWorld-1.0-1.el6.noarch.rpm
/opt/HelloWorld/HelloWorld.sh



# Let's install our new package (as 'root')
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root@myhost:/root#> rpm -ihv
/home/user/rpmbuild/RPMS/noarch/HelloWorld-1.0-1.el6.noarch.rpm
Preparing...
################################### [100%]
package HelloWorld-1.0-1.el6.noarch is already installed
file /opt/HelloWorld/HelloWorld.sh from install of
HelloWorld-1.0-1.el6.noarch conflicts with file from package
HelloWorld-1.0-1.el6.noarch

root@myhost:/root#> rpm --replacefiles --replacepkgs -ihv
/home/user/rpmbuild/RPMS/noarch/HelloWorld-1.0-1.el6.noarch.rpm
Preparing...
################################### [100%]
1:HelloWorld              ####################################
[100%]


root@myhost:/root#> /opt/HelloWorld/HelloWorld.sh
Hello NEW world!
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