



Basic rpm Packaging in Fedora

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Introduction

- RPM (RPM Package Manager)
- .rpm as file format extension
- Developed on the basis of the Linux Standard Base (LSB)
- Commonly used format in various Linux distribution like Fedora, Red Hat Linux, CentOS, OpenSUSE

Benefits

- Ease of performing software installation and maintenance
- RPM packages can be crypto verified with GPG and MD5
- Original source archive(s) are included in SRPMs, making verification easier
- Ease of updating your software to newer version
- Automatic build and install time dependency evaluation.

Prerequisites



Packages to be pre-installed

- @development-tools
- fedora-packager
- Setting up RPM build area
\$ rpmddev-setuptree

rpmdev-setuptrees



Creates rpmbuild directory in home with sub-directories

- **BUILD:** where software is unpacked and built
- **BUILDROOT:** where files are installed during the install stage
- **RPMS:** Created rpm during build process
- **SOURCES :** Source tar file, patches
- **SPECS:** Spec file
- **SRPMS:** Source RPM

Spec File

- Instruction containing how to build rpm
- Spec file template

Name:

Version:

Release: 1%{?dist}

Summary:

Group:

License:

URL:

Source0:

BuildRequires:

Requires:

Contd...

%description

%prep

%build

%configure

make % {?_smp_mflags}

%check

%install

%make_install

%files

%doc

%changelog

Building RPM package

Locally

- Executes %prep stage from the spec file
\$ rpmbuild -bp hello.spec
- Executes "%build" stage from the spec file
\$ rpmbuild -bc hello.spec
- Executes %install stage from the spec file
\$ rpmbuild -bi hello.spec
- Build binary package (after running %prep %build %install)
\$ rpmbuild -bb hello.spec
- Build binary and source packages ((after running %prep %build %install)
\$ rpmbuild -ba hello.spec
- Build Only Source Package
\$ rpmbuild -bs hello.spec

Remotely (Using Koji)

- Need FAS (Fedora Account System) account
- Run on local machine

```
$fedora-packager-setup
```

Generates certificate to authenticate user

- Scratch build

```
$koji build --scratch f21 hello.srpm
```

- fedpkg is another easy way to build and maintain Fedora packages

```
$fedpkg build --target TARGET
```


Error check using rpmlint

- Rpmlint - check common problems in rpm packages

```
$ rpmlint hello.spec
```

```
$ rpmlint hello.rpm
```

```
$ rpmlint hello.srpm
```

Installing & Extracting RPMs

- Installing rpm in your machine
yum install hello.rpm
- Extracting rpm/srpm
\$ rpm2cpio hello.rpm | cpio -dium
- Knowing contents of an rpm
\$repoquery -l <pkg name>
\$ rpm -qlp <rpm path>

Demo

Important Links

- Fedora packaging Guideline - <http://fedoraproject.org/wiki/Packaging:Guidelines>
- Koji Build Url - <http://koji.fedoraproject.org/>
- Hello world RPM packaging example - https://fedoraproject.org/wiki/How_to_create_a_GNU_Hello_RPM_package
- Fedora wishlist package - https://fedoraproject.org/wiki/Package_maintainers_wishlist?rd=PackageMaintainers/WishList
- Planet Fedora - <http://planet.fedoraproject.org/>

Questions?



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