

# Binary Repositories at PackageCloud.io

The O-RAN-SC project uses PackageCloud.io repositories to publish binary artifacts including Debian (.deb) and RPM Package Manager (.rpm) packages. For complete details on using PackageCloud please see their documentation: <https://packagecloud.io/docs>

## Repositories

The following O-RAN-SC repositories are defined at PackageCloud:

- [o-ran-sc/master](#) - development builds pushed manually; used as a sandbox only.
- [o-ran-sc/staging](#) - release candidate builds, pushed automatically by Jenkins
- [o-ran-sc/release](#) - released versions, created manually by the Linux Foundation release engineering team.

## Creating and Pushing Packages

In O-RAN-SC the Continuous Integration (CI) system Jenkins is configured with jobs that create and push packages to PackageCloud. At present these jobs all use the following design:

- Define build steps in a Dockerfile to create package files within the running Docker image
- Define an entrypoint command (a shell script) that copies all package files to a specified directory
- Launch the image so the entrypoint command runs and the package files are copied to a mounted volume
- Run a Ruby script "packagecloud\_push" to publish the package files to the PackageCloud site

Note that a package file can only be published exactly once - the PackageCloud site blocks overwriting of existing files.

## Installing Packages

Package files can be downloaded and installed from the command line. For example, here's how to install a recent version of the RMR library in a Dockerfile using an Debian/Ubuntu base:

```
# Install RMR using debian package hosted at packagecloud.io
ARG RMR_VER=1.5.0
RUN wget -nv --content-disposition https://packagecloud.io/o-ran-sc/staging/packages/debian/stretch/rmr_${RMR_VER}_amd64.deb/download.deb
RUN wget -nv --content-disposition https://packagecloud.io/o-ran-sc/staging/packages/debian/stretch/rmr-dev_${RMR_VER}_amd64.deb/download.deb
RUN dpkg -i rmr_${RMR_VER}_amd64.deb
RUN dpkg -i rmr-dev_${RMR_VER}_amd64.deb
```

Alternately a repository can be installed for use by the usual tools, for example in Ubuntu via "apt-get". The following command will make the "staging" repository available in an Ubuntu system:

```
curl -s https://packagecloud.io/install/repositories/o-ran-sc/staging/script.deb.sh | sudo bash
```