

OBS构建项目

Abstract

在OBS中，项目可以作为构建依赖或是构建目标

(构建依赖：构建目标需要的rpm包来源

构建目标：待构建的软件包的系统架构及版本)。

构建依赖的项目可以是本地项目或远程项目（DoD）。

以本文为例，以openEuler:23.09作为基础项目，构建openEuler:24.03

大致步骤：

1、配置了一个DoD（远程依赖）的openEuler23.09项目

2、配置了一个openEuler24.03的项目。

3、将openEuler23.09作为openEuler24.03的依赖，24.03会继承23.09的Project Configuration，引用23.09的后台:full目录的rpm包。

最后基本成功构建了24.03，成功了1030个包。之后的想要构建24.03包时，可以直接将24.03项目作为他的构建目标。

涉及到的OBS使用部分参考打包教程。

1、项目的基礎配置介绍

项目主要关心的部分是**Project Configuration**和**Meta**两部分。

Project Configuration类似于SPEC文件，可以对整个项目所有的包进行控制。

Meta里面则是一些元数据：基本信息，构建控制。

2、openEuler:23.09

Project Configuration部分：

Project Configuration内容的语法

Preinstall:预安装，在构建开始时安装到chroot的包

Prefer:优先，当几个包都提供某个依赖时，在构建时优先使用这个包

Prefer: -A 全局不选 A，除非没其他选项

Prefer: my-web-server:nodejs

只有在my-web-server的情况下才选择nodejs

例子：

假如有两个包都提供 js-engine：

```
quickjs
nodejs
```

同时，两个待构建的包分别依赖这个 js-engine：

```
my-web-server  
my-iot-agent
```

如想实现：

```
my-web-server 使用 nodejs  
my-iot-agent 使用 quickjs
```

设置应为则：

```
Prefer: my-web-server:nodejs  
Prefer: my-iot-agent:quickjs
```

其他的配置项可以参考[OBS构建配置官方文档](#)

Project Configuration内容

```
Substitute: python-devel
```

```
Preinstall: iproute dhcp libatomic_ops  
##### 针对 RISC-V 的一些特殊/临时配置 BEGIN  
#####  
# 为使docker、qemu虚拟构建机工作，增加以下配置，不影响sg2042构建机  
VMInstall: util-linux libmount ncurses-libs coreutils libblkid libuuid  
libsmartcols grep pcre  
VMInstall: libxcrypt perl perl-libs perl-Digest-MD5 perl-Exporter perl-Carp  
# jose、lsof、vdo 等还需要这几个  
VMInstall: perl-File-Temp perl-PathTools perl-constant perl-File-Path perl-  
Scalar-List-Utils perl-parent  
# 2203以来一直是忽略boost对这两个包的require  
Substitute: libquadmath-devel  
Substitute: libquadmath-static  
# valgrind 当前还无法合入OE  
Substitute: valgrind  
Substitute: valgrind-devel  
  
%if 1  
### Fri, 08 Sep 2023 copy from openEuler:23.09:selfbuild:BaseOS  
  
Prefer: libseccomp python2-pip wqy-zenhei-fonts openssl-devel gobject-  
introspection  
Conflict: nss-softokn nss-softokn-freebl  
  
Prefer: openEuler-rpm-config  
Prefer: openEuler-release  
Prefer: openEuler-logos euleros-logos  
Prefer: openEuler-repos  
Prefer: openEuler-indexhtml  
Prefer: protobuf-java protobuf-devel  
#custom prefer for openEuler  
Prefer: autogen texinfo glx-utils  
Prefer: jbig2dec java-1.8.0-openjdk-devel  
Prefer: mesa-devel fontpackages-filesystem
```

```
#end

# 解决postgresql和libpq冲突，两个包同时提供libpq.so.5(64bit)
Prefer: postgresql-lib

Prefer: java-1.7.0-openjdk-javadoc lxp0lkit rubygem-minitest python3-capstone
python2-webtest python-mock

Prefer: sblim-sfcf crda clamav-data java-1.8.0-openjdk-javadoc pkcs11-helper-
devel atlas

Prefer: Lmod

Prefer: lua

Prefer: selinux-policy-mls perl-Archive-Extract-Z-Compress-Zlib perl-Archive-
Extract-bz2-IO-Uncompress-Bunzip2

Prefer: binutils-devel python2-fabric perl-Archive-Extract-gz-Compress-Zlib perl-
Archive-Extract-lzma-IO-Uncompress-UnLzma perl-Archive-Extract-zip-Archive-Zip

Prefer: perl-Archive-Extract-lzma-IO-Uncompress-UnLzma perl-Archive-Extract-tar-
Archive-Tar perl-Archive-Extract-tar-tar perl-Archive-Extract-tar-Archive-Tar

Prefer: perl-Archive-Extract-tbz-Archive-Tar-IO-Uncompress-Bunzip2 perl-Archive-
Extract-txz-Archive-Tar-IO-Uncompress-Unxz perl-Archive-Extract-xz-IO-Uncompress-
Unxz

Prefer: postfix

Prefer: selinux-policy-mls

Prefer: libverto-tevent java-1.7.0-openjdk-devel kernel-devel

Prefer: postfix selinux-policy-minimum

Prefer: atlas-sse3

Prefer: python-setuptools

Prefer: elinks

Prefer: libverto-libev

Prefer: lua

Prefer: kernel

Prefer: rubygem-rspec

Prefer: emacs

Prefer: perl-Archive-Extract-tgz-Archive-Tar-Compress-Zlib

Prefer: php-symfony3-options-resolver

Prefer: golang-gopkg-check-devel

Prefer: kernel-devel

Prefer: rust-serde_derive-devel

Prefer: openni-devel

Prefer: perl-Archive-Extract-tgz-Archive-Tar-Compress-Zlib perl-Archive-Extract-
Z-Compress-Zlib perl-Archive-Extract-bz2-IO-Uncompress-Bunzip2

Prefer: perl-Archive-Extract-gz-Compress-Zlib rubygem-minitest rubygem-rspec
gnuplot

Prefer: perl-Archive-Extract-lzma-IO-Uncompress-UnLzma perl-Archive-Extract-tar-
Archive-Tar perl-Archive-Extract-tbz-Archive-Tar-IO-Uncompress-Bunzip2

Prefer: perl-Archive-Extract-txz-Archive-Tar-IO-Uncompress-Unxz perl-Archive-
Extract-xz-IO-Uncompress-Unxz perl-Archive-Extract-zip-Archive-Zip

Prefer: gnome-themes-standard

Prefer: jbigkit-libs

Prefer: libcdio-paranoia libcdio

Prefer: java-1.8.0-openjdk glassfish-el-api glassfish-servlet-api

# 2022 02 16

Prefer: jakarta-el jakarta-server-pages-api

#2021 09 10#
Prefer: compat-openssl11-libs

#2022 03 22#
Prefer: jakarta-server-pages ocam1-cam1p4 tinyxml2 ocam1-ocamlbuild ocam1-csexp
```

#2022 06 06
Prefer: jakarta-mail

#2023 01 19
Prefer: texlive-latex

Substitute: /usr/bin/protoc protobuf
Substitute: %{_bindir}/pathfix.py python3-devel
Substitute: %{_bindir}/sgml2xml opensp
Substitute: %{_bindir}/nsgmls opensp
Substitute: %{_bindir}/ps procps-ng

Substitute: %{_bindir}/sgml2xml opensp
Substitute: python-dbus python2-dbus
Substitute: /usr/sbin/useradd shadow
Substitute: /usr/sbin/groupadd shadow
Substitute: /usr/sbin/userdel shadow
Substitute: /usr/sbin/groupdel shadow
Substitute: /usr/bin/pod2man perl-podlators
Substitute: %{_bindir}/dtrace systemtap
Substitute: %{_bindir}/cmake cmake
Substitute: %{_bindir}/dtrace systemtap-sdt-devel
Substitute: %{_bindir}/cmake cmake
Substitute: %{_bindir}/checksec checksec
Substitute: %{_bindir}/sphinx-build python2-sphinx
Substitute: /usr/sbin/sendmail sendmail
Substitute: /usr/bin/pod2man perl-podlators
Substitute: /usr/bin/pdflatex texlive-latex-bin-bin
Substitute: /usr/bin/makeindex texlive-makeindex-bin
Substitute: /lib/libc.so.6 glibc
Substitute: /usr/lib/libc.so glibc
Substitute: /lib64/libc.so.6 glibc
Substitute: /usr/lib64/libc.so glibc
Substitute: /usr/bin/xsltproc libxslt
Substitute: /etc/init.d chkconfig
Substitute: %{_includedir}/linux/if.h kernel-headers
Substitute: /usr/bin/yelp-build yelp-tools
Substitute: /usr/bin/ducktype python3-mallard-ducktype
Substitute: /usr/bin/chrpath chrpath
Substitute: /usr/bin/tclsh tcl
Substitute: /usr/bin/file file
Substitute: /usr/bin/base64 coreutils
Substitute: /usr/bin/head coreutils
Substitute: /usr/bin/sha256sum coreutils
Substitute: /usr/bin/tr coreutils
Substitute: /usr/bin/jq jq
Substitute: %{_bindir}/pkg-config pkgconf-pkg-config
Substitute: /usr/bin/gtk-update-icon-cache gtk-update-icon-cache
Substitute: /usr/bin/c++ c++
Substitute: %{_bindir}/sphinx-build-3 python3-sphinx
Substitute: /usr/bin/awk gawk
Substitute: /usr/bin/pathfix.py python3-devel
Substitute: /usr/bin/doxygen doxygen
Substitute: /usr/bin/execstack execstack
Substitute: /usr/bin/g-iir-scanner gobject-introspection-devel

```
Substitute: %{_bindir}/phpab php-theseer-autoload
Substitute: %{_bindir}/phpunit php-phpunit-PHPUnit

Substitute: %{_bindir}/rst2html python3-docutils
Substitute: %{_bindir}/sphinx-build-2 python2-sphinx
Substitute: %{_bindir}/valac vala

Substitute: /usr/bin/pygmentize python3-pgments
Substitute: /usr/bin/perl perl
Substitute: /usr/bin/iconv glibc-common
Substitute: %{_bindir}/hostname hostname
Substitute: %{_bindir}/a2x asciidoc
Substitute: /usr/bin/certtool gnutls-utils
Substitute: /usr/bin/socat socat
Substitute: /usr/sbin/ss iproute
Substitute: /usr/bin/cmp diffutils
Substitute: /usr/bin/rename util-linux
Substitute: /usr/sbin/sysctl procps-ng
Substitute: %{_bindir}/libgcrypt-config libgcrypt-devel
Substitute: /usr/bin/man man-db
Substitute: /usr/bin/dtrace systemtap-sdt-devel
Substitute: /usr/sbin/ifconfig net-tools
Substitute: %{_bindir}/sphinx-build python2-sphinx
Substitute: /usr/include/gnu/stubs-32.h glibc32
Substitute: /usr/bin/dbus-launch dbus-x11
Substitute: /usr/bin/2to3 python3-devel
Substitute: %{_bindir}/xsldproc libxsld
Substitute: %{_bindir}/sed sed
Substitute: %{_bindir}/sphinx-build-2 python2-sphinx
Substitute: %{_bindir}/sphinx-build-3 python3-sphinx
Substitute: python%{python3_pkgversion}-devel python3-devel
Substitute: python%{python3_pkgversion}-setuptools python3-setuptools
Substitute: python%{python3_pkgversion}-chardet python3-chardet
Substitute: python%{python3_pkgversion}-urllib3 python3-urllib3
Substitute: python%{python3_pkgversion}-idna python3-idna
Substitute: python%{python3_pkgversion}-pytest python3-pytest
Substitute: python%{python3_pkgversion}-pytest-cov python3-pytest-cov
Substitute: python%{python3_pkgversion}-pytest-httpbin python3-pytest-httpbin
Substitute: python%{python3_pkgversion}-pytest-mock python3-pytest-mock
Substitute: python%{python3_pkgversion}-pip python3-pip
Substitute: python%{python3_pkgversion}-wheel python3-wheel
Substitute: /usr/bin/dnf dnf
Substitute: /usr/bin/zip zip
Substitute: pkgconfig(libsystemd-journal) systemd-devel
Substitute: %{_prefix}/share/i18n/locales/de_DE glibc-locale-source
Substitute: /usr/bin/ssh-add openssh-clients
Substitute: /usr/bin/ssh-agent openssh-clients
Substitute: /usr/bin/ssh openssh-clients
Substitute: /usr/bin/appstream-util libappstream-glib
Substitute: /usr/bin/xmlto xmlto
Substitute: /etc/init.d chkconfig
Substitute: %{_includedir}/linux/if.h kernel-headers
Substitute: /usr/bin/dbus-launch dbus-x11
Substitute: /lib/libc.so.6 glibc32
Substitute: /usr/lib/libc.so glibc32
Substitute: /lib64/libc.so.6 glibc
```

```
Substitute: /usr/lib64/libc.so glibc
Substitute: /usr/bin/qemu-img qemu
Substitute: /usr/bin/pod2man perl-podlators
Substitute: /usr/bin/appstream-util libappstream-glib
Substitute: /usr/bin/xmlto xmlto
Substitute: /usr/bin/pod2html perl
Substitute: /usr/sbin/mke2fs e2fsprogs
Substitute: %{_libdir}/krb5/plugins/kdb/db2.so krb5-libs
Substitute: /usr/bin/gtk-encode-symbolic-svg gtk3-devel
Substitute: /usr/bin/dos2unix dos2unix
Substitute: /usr/bin/unix2dos dos2unix
Substitute: /usr/bin/which which
Substitute: /usr/bin/epstopdf texlive-epstopdf
Substitute: /usr/bin/desktop-file-validate desktop-file-utils
#Substitute: pkgconfig(libavcodec) ffmpeg-devel
Substitute: /usr/bin/valac vala
Substitute: %{_bindir}/xsltproc libxslt
Substitute: %{_bindir}/desktop-file-validate desktop-file-utils
Substitute: %{_bindir}/appstream-util libappstream-glib
Substitute: /usr/bin/ssh-agent openssh-clients
Substitute: /usr/bin/ssh-add openssh-clients
Substitute: /usr/bin/2to3 python3-devel
Substitute: /usr/bin/texi2dvi texinfo-tex
Substitute: /usr/bin/ssh openssh-clients
Substitute: %{_bindir}/pod2html perl-podlators
Substitute: %{_bindir}/pod2man perl-podlators
Substitute: /usr/bin/pod2text perl-podlators
Substitute: /usr/bin/ping iputils
Substitute: /usr/bin/wget wget
Substitute: /usr/bin/qemu-img qemu-img
Substitute: /usr/bin/kreadconfig5 kf5-kconfig-core
Substitute: /usr/bin/xmllint libxml2
Substitute: /usr/bin/nc nmap-ncat
Substitute: /usr/bin/lsof lsof
Substitute: /usr/bin/ps procps-ng
Substitute: %{__perl} perl
Substitute: /usr/bin/rpcgen rpcgen
Substitute: %{_bindir}/latex texlive-latex
Substitute: /usr/bin/sphinx-build python2-sphinx
Substitute: %{_bindir}/sphinx-build python2-sphinx
Substitute: %{_bindir}/memcached memcached
Substitute: /usr/bin/tox python3-tox
Substitute: %{_bindir}/2to3 python3-devel
Substitute: %{_bindir}/mongod mongodb-server
Substitute: %{_bindir}/redis-server redis
Substitute: %{_bindir}/pkill procps-ng
Substitute: %{_bindir}/netstat net-tools
Substitute: %{_bindir}/gpg gnupg
Substitute: %{__make} make
Substitute: %{_datadir}/a2ps/afm/phvr.afm a2ps
Substitute: %{_bindir}/podselect perl-Pod-Parser
Substitute: /usr/bin/autopoint gettext-devel
Substitute: %{_bindir}/perl perl
Substitute: %{_bindir}/openssl openssl
Substitute: %{_bindir}/man man-db
Substitute: /usr/bin/zip zip
```

```
Substitute: /usr/bin/c++ gcc
Substitute: /usr/bin/makeinfo texinfo
Substitute: %{_includedir}/magic.h file-devel
Substitute: python2dist(markdown) python2-markdown
Substitute: %{_bindir}/python python-unversioned-command
Substitute: %{_includedir}/gnu/stubs-32.h glibc32
Substitute: /usr/bin/dnf dnf
Substitute: /usr/bin/getopt util-linux
Substitute: mysql-devel mariadb-connector-c-devel
Substitute: gnupg gnupg2
Substitute: audiofile{?_isa} audiofile
Substitute: /etc/pki/tls/certs/ca-bundle.crt ca-certificates
```

```
Prefer: perl-libs fonts-filesystem apr libnhttp2 dnf dnf-plugins-core mozjs60
gstreamer1-plugins-base jboss-websocket-1.0-api
Prefer: nodejs-nan0 uglify-js boost-devel

Prefer: ccid libglvnd-devel device-mapper-persistent-data dbus-libs rpm-libs
Prefer: libffi7 libffi6 ima-evm-utils
Prefer: maven pipewire
Prefer: jetty-http jetty-io jetty-security jetty-server jetty-servlet jetty-util

Substitute: librpm.so.8()(64bit) rpm-libs
Substitute: "python(abi) = 3.7" "python(abi) = 3.8"
%endif

%if 0
### Fri, 08 Sep 2023 copy from openEuler:23.09:selfbuild:BaseOS

Macros:
# Add for glibc by xiasenlin, 2022/02/23, related issue:https://gitee.com/src-openeuler/obs\_meta/issues/I4UXKX
%glibc_abort_after_test_fail 1
:Macros

Preinstall: glibc bash rpm rpm-libs
Preinstall: libcap libacl libdb bzip2 zlib xz-libs zstd lua popt openssl-libs
attr compat-openssl11-libs
#Preinstall: libcap libacl libdb bzip2 zlib xz-libs zstd lua popt compat-
openssl11-libs attr
Preinstall: libselinux pcre2 dbus-libs systemd-libs lz4 libgcrypt libgpg-error
Preinstall: filesystem
Preinstall: digest-list-tools selinux-policy-targeted pesign-obs-integration
Preinstall: cmake
# add for rust, 20230920
Preinstall: libatomic
# add digest-list-tools selinux-policy-targeted by senlin for
:https://gitee.com/openeuler/digest-list-tools/issues/I4VUK0?from=project-issue
# add pesign-obs-integration by senlin for:
:https://e.gitee.com/open\_euler/issues/list?is%5Bsearch%5D=%E6%91%98%E8%A6%81%E5%88%97%E8%A1%A8&is%5Bissue\_type\_id%5D=-1&issue\_id=I4VUK0
```

```

Support: chkconfig
Support: util-linux
Support: rpm-build
Support: make
#Support: custom_build_tool-nocheck

Order: filesystem:glibc
Order: filesystem:bash
Order: ncurses-libs:filesystem
Order: coreutils:openssl-libs
Order: audit:systemd
Order: cryptsetup:unbound-libs
Order: cryptsetup:openssh-server

Support: gcc_secure

#BuildFlags: logidlelimit:1800

Macros:
%source_date_epoch_from_changelog Y
%clamp_mtime_to_source_date_epoch Y
%use_source_date_epoch_as_buildtime Y
:Macros

Order: filesystem:glibc
Order: filesystem:vim-filesystem
Order: filesystem:emacs-filesystem
Order: filesystem:acl
Order: filesystem:attr
Order: filesystem:libgcc
Order: filesystem:setup
Order: filesystem:bash

FileProvides: /usr/bin/fipscheck fipscheck
FileProvides: /usr/bin/db_stat libdb-utils
FileProvides: /usr/bin/gdb-add-index gdb
FileProvides: /usr/bin/gpg2 gnupg2
FileProvides: /usr/bin/ruby ruby
FileProvides: /usr/bin/python python2
FileProvides: /usr/bin/python2 python2
FileProvides: /usr/bin/python3 python3
FileProvides: /usr/bin/dtrace systemtap-sdt-devel
FileProvides: /usr/sbin/ifconfig net-tools
FileProvides: /usr/bin/execstack execstack
%endif

```

```

%if 1
### Fri, 08 Sep 2023 copy from openEuler:23.09:selfbuild:BaseOS
Macros:
%nocheck_exclude qt5-qtbase
%__brp_digest_list /usr/lib/rpm/brp-digest-list %{buildroot}

```

```
%nodejs_arches aarch64 x86_64 riscv64
:Macros

Release: %{?release}

Macros:
%openeuler 1
%openEuler 1
%_specdir %{_topdir}/SOURCES
%openblas_arches aarch64 x86_64 riscv64

%_vendor openEuler
%_isa %{?__isa:(%{__isa})}%{!__isa:%{nil}}
%vendor http://openeuler.org
%distribution Huawei openEuler
%packager http://openeuler.org

#for sign
%signature gpg
%_gpg_path /home/abuild/.gnupg
%_gpg_name private OBS
%_gpg_sign_cmd      %{__gpg} \
    gpg --no-verbose --no-armor \
    %{?_gpg_digest_algo:--digest-algo %{_gpg_digest_algo}} \
    --batch --pinentry-mode=loopback --passphrase="" \
    --no-secmem-warning \
    %{?_gpg_sign_cmd_extra_args:%{_gpg_sign_cmd_extra_args}} \
    -u "%{_gpg_name}" -sbo %{__signature_filename} %{__plaintext_filename}

%kernel_module_package_buildreqs kernel-devel openEuler-rpm-config

%with_python3 1
%with_python2 1
%python3_pkgversion 3
#%__os_install_post %{nil}
%python3_pkgversion 3
%golang_arches %{ix86} x86_64 %{arm} aarch64 ppc64le s390x riscv64
%efi_arch aa64
%efi_vendor openEuler
%efi aarch64 x86_64 riscv64
%unsignedaa64 shim-unsigned-aarch64
%unsignedx64 shim-unsigned-x64
%unsignedia32 shim-unsigned-ia32
%shimveraa64 15
%shimverx64 15
%shimveria32 15
%valgrind_arches %{ix86} x86_64 %{arm} aarch64 ppc64le s390x
%mono_arches %{ix86} x86_64 %{arm} aarch64 ppc64le s390x
%openblas_arches %{ix86} x86_64 %{arm} aarch64 ppc64le s390x riscv64
%ocaml_native_compiler  %{ix86} x86_64 %{arm} aarch64 ppc64le s390x riscv64
%ocaml_natdynlink      %{ix86} x86_64 %{arm} aarch64 ppc64le s390x riscv64
%ocaml_native_profiling %{ix86} x86_64 %{arm} aarch64 ppc64le s390x riscv64
%with_ocaml 1
%dist .oe2309

%ext_info .gz
```

```

%ext_man .gz
%_unpackaged_files_terminate_build 0

%info_add(:-:) test -x /sbin/install-info -a -f %{?2}%{?!2:%{_infodir}}/%
{1}%ext_info && /sbin/install-info --info-dir=%{?2}%{?!2:%{_infodir}}%{?2}%
{?!2:%{_infodir}}%{1}%ext_info \
%{nil}

%info_del(:-:) test -x /sbin/install-info -a ! -f %{?2}%{?!2:%{_infodir}}/%
{1}%ext_info && /sbin/install-info --quiet --delete --info-dir=%{?2}%{?!2:%
{_infodir}}%{?2}%{?!2:%{_infodir}}%{1}%ext_info \
%{nil}

# 2022-02-17 add automake
%gcc_secure_exclude "gcc-for-openEuler.spec|podman.spec|gcc.spec|arm-trusted-
firmware.spec|docker-engine-openeuler.spec|arts.spec|runc-openeuler.spec|kata-
containers.spec|dyninst.spec|ipxe.spec|tboot.spec|syslinux.spec|gcc-
libraries.spec|kpatch.spec|gdb.spec|xorg-x11-server.spec|xorg-x11-drv-
fbdev.spec|xorg-x11-drv-vesa.spec|xorg-x11-drv-ati.spec|xorg-x11-drv-
dummy.spec|xorg-x11-drv-intel.spec|xorg-x11-drv-nouveau.spec|xorg-x11-drv-
ql.spec|xorg-x11-drv-v4l.spec|xorg-x11-drv-vmware.spec|xorg-x11-drv-
evdev.spec|xorg-x11-drv-synaptics.spec|xorg-x11-drv-vmmouse.spec|xorg-x11-drv-
void.spec|xorg-x11-drv-
wacom.spec|hivex.spec|gimp.spec|memstomp.spec|supermin.spec|system-config-
firewall.spec|isdn4k-
utils.spec|emacs.spec|graphviz.spec|buildah.spec|rhash.spec|automake.spec"

%_build_id_links none

#custom macros
%openEuler 1
%disable_rpath \
sed -i 's|^hardcode_libdir_flag_spec=.*|hardcode_libdir_flag_spec=""|g' libtool \
sed -i 's|^runpath_var=LD_RUN_PATH|runpath_var=DIE_RPATH_DIE|g' libtool

%delete_la_and_a \
find $RPM_BUILD_ROOT -type f -name "*.la" -delete \
find $RPM_BUILD_ROOT -type f -name "*.a" -delete

%delete_la find $RPM_BUILD_ROOT -type f -name "*.la" -delete

%chrpath_delete find $RPM_BUILD_ROOT/ -type f -exec file {} ';' | grep "\<ELF\>" \
| awk -F ':' '{print $1}' | xargs -i chrpath --delete {}

%package_help \
%package help \
Summary: Documents for %{name} \
Buildarch: noarch \
Requires: man info \
\
%description help \
Man pages and other related documents for %{name}.

#%sbin_installinfo_rm bc.info
#%sbin_installinfo_rm bc.info.gz

```

```
%install_info() \
/sbin/install-info %1 %{_infodir}/dir || :

%install_info_rm() \
/sbin/install-info --remove %1 %{_infodir}/dir || :

:Macros
%endif

%if 1
Macros:
%_texmf      /usr/share/texlive/texmf-local
%_texmf_main  /usr/share/texlive/texmf-dist
%_texmf_vendor /usr/share/texlive/texmf-dist
%_texmf_var   /var/lib/texmf
%_texmf_conf  /usr/share/texlive/texmf-config

%texlive_post \
mkdir -p /var/run/texlive \
touch /var/run/texlive/run-texhash \
touch /var/run/texlive/run-mtxrun \
:

%texlive_postun \
if [ $1 == 1 ]; then \
mkdir -p /var/run/texlive \
touch /var/run/run-texhash \
else \
%{_bindir}/texhash 2> /dev/null \
fi \
:

%texlive_posttrans \
if [ -e /var/run/texlive/run-texhash ] && [ -e %{_bindir}/texhash ]; then % 
{_bindir}/texhash 2> /dev/null; rm -f /var/run/texlive/run-texhash; fi \
if [ -e /var/run/texlive/run-mtxrun ]; then export
TEXMF=/usr/share/texlive/texmf-dist; export TEXMFCNF=/usr/share/texlive/texmf-
dist/web2c; export TEXMFCACHE=/var/lib/texmf; %{_bindir}/mtxrun --generate &>
/dev/null; rm -f /var/run/texlive/run-mtxrun; fi \
:

:Macros
%endif
```

```
%if 1
Preinstall: glibc bash rpm rpm-libs
Preinstall: libcap libacl libdb bzip2 zlib xz-libs zstd lua popt openssl-libs
attr compat-openssl11-libs
#Preinstall: libcap libacl libdb bzip2 zlib xz-libs zstd lua popt compat-
openssl11-libs attr
Preinstall: libselinux pcre2 dbus-libs systemd-libs lz4 libgcrypt libgpg-error
Preinstall: filesystem
Preinstall: digest-list-tools selinux-policy-targeted pesign-obs-integration
# add digest-list-tools selinux-policy-targeted by senlin for
:https://gitee.com/openeuler/digest-list-tools/issues/I4VUK0?from=project-issue
# add pesign-obs-integration by senlin for:
https://e.gitee.com/open_euler/issues/list?
is%5Bsearch%5D=%E6%91%98%E8%A6%81%E5%88%97%E8%A1%A8&is%5Bissue_type_id%5D=-1&issu
e=I4VUK0
```

```
Support: chkconfig
Support: util-linux
Support: rpm-build
Support: make
#Support: custom_build_tool-nocheck

Order: filesystem:glibc
Order: filesystem:bash
Order: ncurses-libs:filesystem
Order: coreutils:openssl-libs
Order: audit:systemd
Order: cryptsetup:unbound-libs
Order: cryptsetup:openssh-server

Support: gcc_secure

BuildFlags: logidlelimit:1800

Macros:
%source_date_epoch_from_changelog Y
%clamp_mtime_to_source_date_epoch Y
%use_source_date_epoch_as_buildtime Y
:Macros

Order: filesystem:glibc
Order: filesystem:vim-filesystem
Order: filesystem:emacs-filesystem
Order: filesystem:acl
Order: filesystem:attr
Order: filesystem:libgcc
Order: filesystem:setup
Order: filesystem:bash

FileProvides: /usr/bin/fipscheck fipscheck
FileProvides: /usr/bin/db_stat libdb-utils
FileProvides: /usr/bin/gdb-add-index gdb
FileProvides: /usr/bin/gpg2 gnupg2
FileProvides: /usr/bin/ruby ruby
```

```
FileProvides: /usr/bin/python python2
FileProvides: /usr/bin/python2 python2
FileProvides: /usr/bin/python3 python3
FileProvides: /usr/bin/dtrace systemtap-sdt-devel
FileProvides: /usr/sbin/ifconfig net-tools
FileProvides: /usr/bin/execstack execstack

Prefer: libseccomp python2-pip wqy-zenhei-fonts openssl-devel gobject-introspection
Conflict: nss-softokn nss-softokn-freebl

Prefer: openEuler-rpm-config
Prefer: openEuler-release
Prefer: openEuler-logos euleros-logos
Prefer: openEuler-repos
Prefer: openEuler-indexhtml
Prefer: protobuf-java protobuf-devel
#custom prefer for openEuler
Prefer: autogen texinfo glx-utils
Prefer: jbig2dec java-1.8.0-openjdk-devel
Prefer: mesa-devel fontpackages-filesystem
#end

# 解决postgresql和libpq冲突，两个包同时提供libpq.so.5(64bit)
Prefer: postgresql-lib
Prefer: java-1.7.0-openjdk-javadoc lxp0lkit rubygem-minitest python3-capstone
python2-webtest python-mock
Prefer: sblim-sfcb crda clamav-data java-1.8.0-openjdk-javadoc pkcs11-helper-devel atlas
Prefer: Lmod
Prefer: lua
Prefer: selinux-policy-mls perl-Archive-Extract-Z-Compress-Zlib perl-Archive-Extract-bz2-IO-Uncompress-Bunzip2
Prefer: binutils-devel python2-fabric perl-Archive-Extract-gz-Compress-Zlib perl-Archive-Extract-lzma-IO-Uncompress-UnLzma perl-Archive-Extract-zip-Archive-Zip
Prefer: perl-Archive-Extract-lzma-IO-Uncompress-UnLzma perl-Archive-Extract-tar-Archive-Tar perl-Archive-Extract-tar-tar perl-Archive-Extract-tar-Archive-Tar
Prefer: perl-Archive-Extract-tbz-Archive-Tar-IO-Uncompress-Bunzip2 perl-Archive-Extract-txz-Archive-Tar-IO-Uncompress-Unxz perl-Archive-Extract-xz-IO-Uncompress-Unxz
Prefer: postfix
Prefer: selinux-policy-mls
Prefer: libverto-tevent java-1.7.0-openjdk-devel kernel-devel
Prefer: postfix selinux-policy-minimum
Prefer: atlas-sse3
Prefer: python-setuptools
Prefer: elinks
Prefer: libverto-libev
Prefer: lua
Prefer: kernel
Prefer: rubygem-rspec
Prefer: emacs
Prefer: perl-Archive-Extract-tgz-Archive-Tar-Compress-Zlib
Prefer: php-symfony3-options-resolver
Prefer: golang-gopkg-check-devel
Prefer: kernel-devel
Prefer: rust-serde_derive-devel
```

```
Prefer: openni-devel
Prefer: perl-Archive-Extract-tgz-Archive-Tar-Compress-Zlib perl-Archive-Extract-Z-Compress-Zlib perl-Archive-Extract-bz2-IO-Uncompress-Bunzip2
Prefer: perl-Archive-Extract-gz-Compress-Zlib rubygem-minitest rubygem-rspec
gnuplot
Prefer: perl-Archive-Extract-lzma-IO-Uncompress-UnLzma perl-Archive-Extract-tar-Archive-Tar perl-Archive-Extract-tbz-Archive-Tar-IO-Uncompress-Bunzip2
Prefer: perl-Archive-Extract-txz-Archive-Tar-IO-Uncompress-UnXz perl-Archive-Extract-xz-IO-Uncompress-UnXz perl-Archive-Extract-zip-Archive-Zip
Prefer: gnome-themes-standard
Prefer: jbigkit-libs
Prefer: libcdio-paranoia libcdio
Prefer: java-1.8.0-openjdk glassfish-el-api glassfish-servlet-api
# 2022 02 16
Prefer: jakarta-el jakarta-server-pages-api

#2021 09 10#
Prefer: compat-openssl11-libs

#2022 03 22#
Prefer: jakarta-server-pages ocaml-camlp4 tinyxml2 ocaml-ocamlbuild ocaml-csexp

#2022 06 06
Prefer: jakarta-mail

#2023 01 19
Prefer: texlive-latex

Substitute: /usr/bin/protoc protobuf
Substitute: %{_bindir}/pathfix.py python3-devel
Substitute: %{_bindir}/sgml2xml opensp
Substitute: %{_bindir}/nsgmls opensp
Substitute: %{_bindir}/ps procps-ng

Substitute: %{_bindir}/sgml2xml opensp
Substitute: python-dbus python2-dbus
Substitute: /usr/sbin/useradd shadow
Substitute: /usr/sbin/groupadd shadow
Substitute: /usr/sbin/userdel shadow
Substitute: /usr/sbin/groupdel shadow
Substitute: /usr/bin/pod2man perl-podlators
Substitute: %{_bindir}/dtrace systemtap
Substitute: %{_bindir}/cmake cmake
Substitute: %{_bindir}/dtrace systemtap-sdt-devel
Substitute: %{_bindir}/cmake cmake
Substitute: %{_bindir}/checksec checksec
Substitute: %{_bindir}/sphinx-build python2-sphinx
Substitute: /usr/sbin/sendmail sendmail
Substitute: /usr/bin/pod2man perl-podlators
Substitute: /usr/bin/pdflatex texlive-latex-bin-bin
Substitute: /usr/bin/makeindex texlive-makeindex-bin
Substitute: /lib/libc.so.6 glibc
Substitute: /usr/lib/libc.so glibc
Substitute: /lib64/libc.so.6 glibc
Substitute: /usr/lib64/libc.so glibc
Substitute: /usr/bin/xsltproc libxslt
```

```
Substitute: /etc/init.d chkconfig
Substitute: %{_includedir}/linux/if.h kernel-headers
Substitute: /usr/bin/yelp-build yelp-tools
Substitute: /usr/bin/ducktype python3-mallard-ducktype
Substitute: /usr/bin/chrpath chrpath
Substitute: /usr/bin/tclsh tcl
Substitute: /usr/bin/file file
Substitute: /usr/bin/base64 coreutils
Substitute: /usr/bin/head coreutils
Substitute: /usr/bin/sha256sum coreutils
Substitute: /usr/bin/tr coreutils
Substitute: /usr/bin/jq jq
Substitute: %{_bindir}/pkg-config pkgconf-pkg-config
Substitute: /usr/bin/gtk-update-icon-cache gtk-update-icon-cache
Substitute: /usr/bin/c++ c++
Substitute: %{_bindir}/sphinx-build-3 python3-sphinx
Substitute: /usr/bin/awk gawk
Substitute: /usr/bin/pathfix.py python3-devel
Substitute: /usr/bin/doxygen doxygen
Substitute: /usr/bin/execstack execstack
Substitute: /usr/bin/g-ir-scanner gobject-introspection-devel
Substitute: %{_bindir}/phpab php-theseer-autoload
Substitute: %{_bindir}/phpunit php-phpunit-PHPUnit

Substitute: %{_bindir}/rst2html python3-docutils
Substitute: %{_bindir}/sphinx-build-2 python2-sphinx
Substitute: %{_bindir}/valac vala

Substitute: /usr/bin/pygmentize python3-pygments
Substitute: /usr/bin/perl perl
Substitute: /usr/bin/iconv glibc-common
Substitute: %{_bindir}/hostname hostname
Substitute: %{_bindir}/a2x asciidoc
Substitute: /usr/bin/certtool gnutls-utils
Substitute: /usr/bin/socat socat
Substitute: /usr/sbin/ss iproute
Substitute: /usr/bin/cmp diffutils
Substitute: /usr/bin/rename util-linux
Substitute: /usr/sbin/sysctl procps-ng
Substitute: %{_bindir}/libgcrypt-config libgcrypt-devel
Substitute: /usr/bin/man man-db
Substitute: /usr/bin/dtrace systemtap-sdt-devel
Substitute: /usr/sbin/ifconfig net-tools
Substitute: %{_bindir}/sphinx-build python2-sphinx
Substitute: /usr/include/gnu/stubs-32.h glibc32
Substitute: /usr/bin/dbus-launch dbus-x11
Substitute: /usr/bin/2to3 python3-devel
Substitute: %{_bindir}/xslltproc libxsllt
Substitute: %{_bindir}/sed sed
Substitute: %{_bindir}/sphinx-build-2 python2-sphinx
Substitute: %{_bindir}/sphinx-build-3 python3-sphinx
Substitute: python%{python3_pkgversion}-devel python3-devel
Substitute: python%{python3_pkgversion}-setuptools python3-setuptools
Substitute: python%{python3_pkgversion}-chardet python3-chardet
Substitute: python%{python3_pkgversion}-urllib3 python3-urllib3
Substitute: python%{python3_pkgversion}-idna python3-idna
```

```
Substitute: python%{python3_pkgversion}-pytest python3-pytest
Substitute: python%{python3_pkgversion}-pytest-cov python3-pytest-cov
Substitute: python%{python3_pkgversion}-pytest-httpbin python3-pytest-httpbin
Substitute: python%{python3_pkgversion}-pytest-mock python3-pytest-mock
Substitute: python%{python3_pkgversion}-pip python3-pip
Substitute: python%{python3_pkgversion}-wheel python3-wheel
Substitute: /usr/bin/dnf dnf
Substitute: /usr/bin/zip zip
Substitute: pkgconfig(libsystemd-journal) systemd-devel
Substitute: %{_prefix}/share/i18n/locales/de_DE glibc-locale-source
Substitute: /usr/bin/ssh-add openssh-clients
Substitute: /usr/bin/ssh-agent openssh-clients
Substitute: /usr/bin/ssh openssh-clients
Substitute: /usr/bin/appstream-util libappstream-glib
Substitute: /usr/bin/xmlto xmlto
Substitute: /etc/init.d chkconfig
Substitute: %{_includedir}/linux/if.h kernel-headers
Substitute: /usr/bin/dbus-launch dbus-x11
Substitute: /lib/libc.so.6 glibc32
Substitute: /usr/lib/libc.so glibc32
Substitute: /lib64/libc.so.6 glibc
Substitute: /usr/lib64/libc.so glibc
Substitute: /usr/bin/qemu-img qemu
Substitute: /usr/bin/pod2man perl-podlators
Substitute: /usr/bin/appstream-util libappstream-glib
Substitute: /usr/bin/xmlto xmlto
Substitute: /usr/bin/pod2html perl
Substitute: /usr/sbin/mke2fs e2fsprogs
Substitute: %{_libdir}/krb5/plugins/kdb/db2.so krb5-libs
Substitute: /usr/bin/gtk-encode-symbolic-svg gtk3-devel
Substitute: /usr/bin/dos2unix dos2unix
Substitute: /usr/bin/unix2dos dos2unix
Substitute: /usr/bin/which which
Substitute: /usr/bin/epstopdf texlive-epstopdf
Substitute: /usr/bin/desktop-file-validate desktop-file-utils
#Substitute: pkgconfig(libavcodec) ffmpeg-devel
Substitute: /usr/bin/valac vala
Substitute: %{_bindir}/xsltproc libxslt
Substitute: %{_bindir}/desktop-file-validate desktop-file-utils
Substitute: %{_bindir}/appstream-util libappstream-glib
Substitute: /usr/bin/ssh-agent openssh-clients
Substitute: /usr/bin/ssh-add openssh-clients
Substitute: /usr/bin/2to3 python3-devel
Substitute: /usr/bin/texi2dvi texinfo-tex
Substitute: /usr/bin/ssh openssh-clients
Substitute: %{_bindir}/pod2html perl-podlators
Substitute: %{_bindir}/pod2man perl-podlators
Substitute: /usr/bin/pod2text perl-podlators
Substitute: /usr/bin/ping iputils
Substitute: /usr/bin/wget wget
Substitute: /usr/bin/qemu-img qemu-img
Substitute: /usr/bin/kreadconfig5 kf5-kconfig-core
Substitute: /usr/bin/xmllint libxml2
Substitute: /usr/bin/nc nmap-ncat
Substitute: /usr/bin/lsof lsof
Substitute: /usr/bin/ps procps-ng
```

```
Substitute: %{__perl} perl
Substitute: /usr/bin/rpcgen rpcgen
Substitute: %{_bindir}/latex texlive-latex
Substitute: /usr/bin/sphinx-build python2-sphinx
Substitute: %{_bindir}/sphinx-build python2-sphinx
Substitute: %{_bindir}/memcached memcached
Substitute: /usr/bin/tox python3-tox
Substitute: %{_bindir}/2to3 python3-devel
Substitute: %{_bindir}/mongod mongodb-server
Substitute: %{_bindir}/redis-server redis
Substitute: %{_bindir}/pkill procps-ng
Substitute: %{_bindir}/netstat net-tools
Substitute: %{_bindir}/gpg gnupg
Substitute: %{__make} make
Substitute: %{_datadir}/a2ps/afm/phvr.afm a2ps
Substitute: %{_bindir}/podselect perl-Pod-Parser
Substitute: /usr/bin/autopoint gettext-devel
Substitute: %{_bindir}/perl perl
Substitute: %{_bindir}/openssl openssl
Substitute: %{_bindir}/man man-db
Substitute: /usr/bin/zip zip
Substitute: /usr/bin/c++ gcc
Substitute: /usr/bin/makeinfo texinfo
Substitute: %{_includedir}/magic.h file-devel
Substitute: python2dist(markdown) python2-markdown
Substitute: %{_bindir}/python python-unversioned-command
Substitute: %{_includedir}/gnu/stubs-32.h glibc32
Substitute: /usr/bin/dnf dnf
Substitute: /usr/bin/getopt util-linux
Substitute: mysql-devel mariadb-connector-c-devel
Substitute: gnupg gnupg2
Substitute: audiofile{?_isa} audiofile
Substitute: /etc/pki/tls/certs/ca-bundle.crt ca-certificates
```

```
Release: %{?release}
```

```
Macros:
```

```
%openeuler 1
%openEuler 1
%_specdir %{_topdir}/SOURCES
%openblas_arches aarch64 x86_64
```

```
%_vendor openEuler
%_isa %{?__isa:(%{__isa})}%{!?__isa:%{nil}}
%vendor http://openeuler.org
%distribution Huawei openEuler
%packager http://openeuler.org
```

```
#for sign
%_signature gpg
%_gpg_path /home/abuild/.gnupg
%_gpg_name private OBS
%_gpg_sign_cmd      %{__gpg} \
    gpg --no-verbose --no-armor \
    %{?_gpg_digest_algo:--digest-algo %{_gpg_digest_algo}} \
    --batch --pinentry-mode=loopback --passphrase="" \
```

```
--no-secmem-warning \
%{?_gpg_sign_cmd_extra_args:%{_gpg_sign_cmd_extra_args}} \
-u "%{_gpg_name}" -sbo %{__signature_filename} %{__plaintext_filename}

%kernel_module_package_buildreqs kernel-devel openEuler-rpm-config

%with_python3 1
%with_python2 1
%python3_pkgversion 3
#%__os_install_post %{nil}
%python3_pkgversion 3
%golang_arches %{ix86} x86_64 %{arm} aarch64 ppc64le s390x
%efi_arch aa64
%efi_vendor openEuler
%efi aarch64 x86_64
%unsignedaa64 shim-unsigned-aarch64
%unsignedx64 shim-unsigned-x64
%unsignedia32 shim-unsigned-ia32
%shimveraa64 15
%shimverx64 15
%shimveria32 15
%valgrind_arches %{ix86} x86_64 %{arm} aarch64 ppc64le s390x
%mono_arches %{ix86} x86_64 %{arm} aarch64 ppc64le s390x
%openblas_arches %{ix86} x86_64 %{arm} aarch64 ppc64le s390x
%with_ocaml 1
%dist .oe2309

%ext_info .gz
%ext_man .gz
#%_unpackaged_files_terminate_build 0

%info_add(:-:) test -x /sbin/install-info -a -f %{?2}%{?!2:%{_infodir}}/%
{1}%ext_info && /sbin/install-info --info-dir=%{?2}%{?!2:%{_infodir}} %{?2}%
{?!2:%{_infodir}}/%{1}%ext_info \
%{nil}

%info_del(:-:) test -x /sbin/install-info -a ! -f %{?2}%{?!2:%{_infodir}}/%
{1}%ext_info && /sbin/install-info --quiet --delete --info-dir=%{?2}%{?!2:%
{_infodir}} %{?2}%{?!2:%{_infodir}}/%{1}%ext_info \
%{nil}

# 2022-02-17 add automake
%gcc_secure_exclude "gcc-for-openEuler.spec|podman.spec|gcc.spec|arm-trusted-
firmware.spec|docker-engine-openeuler.spec|arts.spec|runc-openeuler.spec|kata-
containers.spec|dyninst.spec|ipxe.spec|tboot.spec|syslinux.spec|gcc-
libraries.spec|kpatch.spec|gdb.spec|xorg-x11-server.spec|xorg-x11-drv-
fbdev.spec|xorg-x11-drv-vesa.spec|xorg-x11-drv-ati.spec|xorg-x11-drv-
dummy.spec|xorg-x11-drv-intel.spec|xorg-x11-drv-nouveau.spec|xorg-x11-drv-
ql.spec|xorg-x11-drv-v4l.spec|xorg-x11-drv-vmware.spec|xorg-x11-drv-
evdev.spec|xorg-x11-drv-synaptics.spec|xorg-x11-drv-vmmouse.spec|xorg-x11-drv-
void.spec|xorg-x11-drv-
wacom.spec|hivex.spec|gimp.spec|memstomp.spec|supermin.spec|system-config-
firewall.spec|isdn4k-
utils.spec|emacs.spec|graphviz.spec|buildah.spec|rhash.spec|automake.spec"

%_build_id_links none
```

```

#custom macros
%openEuler 1
%disable_rpath \
sed -i 's|^hardcode_libdir_flag_spec=.*|hardcode_libdir_flag_spec=""|g' libtool \
sed -i 's|^runpath_var=LD_RUN_PATH|runpath_var=DIE_RPATH_DIE|g' libtool

%delete_la_and_a \
find $RPM_BUILD_ROOT -type f -name "*.*.la" -delete \
find $RPM_BUILD_ROOT -type f -name "*.*.a" -delete

%delete_la  find $RPM_BUILD_ROOT -type f -name "*.*.la" -delete

%chrpath_delete find $RPM_BUILD_ROOT/ -type f -exec file {} ';' | grep "\<ELF\>" \
| awk -F ':' '{print $1}' | xargs -i chrpath --delete {}

%package_help      \
%package          help \
Summary:         Documents for %{name} \
Buildarch:       noarch \
Requires:        man info \
\
%description help \
Man pages and other related documents for %{name}.

#%sbin_installinfo_rm bc.info
#%sbin_installinfo_rm bc.info.gz

%install_info() \
/sbin/install-info %1 %{_infodir}/dir || :

%install_info_rm() \
/sbin/install-info --remove %1 %{_infodir}/dir || :
:Macros

Prefer: perl-libs fonts-filesystem apr libnghpp2 dnf dnf-plugins-core mozjs60
gstreamer1-plugins-base jboss-websocket-1.0-api
Prefer: nodejs-nan0 uglify-js boost-devel

Prefer: ccid libglvnd-devel device-mapper-persistent-data dbus-libs rpm-libs
Prefer: libffi7 libffi6 ima-evm-utils
Prefer: maven pipewire
Prefer: jetty-http jetty-io jetty-security jetty-server jetty-servlet jetty-util

Substitute: librpm.so.8()(64bit) rpm-libs
Substitute: "python(abi) = 3.7" "python(abi) = 3.8"

Macros:
%nocheck_exclude qt5-qtbase
%__brp_digest_list /usr/lib/rpm/brp-digest-list %{buildroot}
%nodejs_arches aarch64 x86_64
:Macros

%endif

```

Meta部分

```
<project name="openEuler:23.09">
<title/>
<description/>
<person userid="Admin" role="maintainer"/>
<repository name="standard_riscv64">
    <download arch="riscv64" url="https://mirror.icsas.ac.cn/openeuler-sig-
riscv/openEuler-RISC-V/obs/23.09/mainline/" repotype="rpmmdb"/>
        <arch>riscv64</arch>
    </repository>
</project>
```

配置了一个名为**standard_riscv64**的仓库，远程的链接地址写到**repodata**同级别即可。

后端配置

创建并进入目录：

```
mkdir -p /srv/obs/build/openEuler:23.09:Repo/standard_riscv64/riscv64/:full
cd /srv/obs/build/openEuler:23.09:Repo/standard_riscv64/riscv64/:full
```

下载 primary.xml文件并目录更改所有者。

```
wget https://mirror.icsas.ac.cn/openeuler-sig-riscv/openEuler-RISC-
V/obs/23.09/mainline/repodata/ab8e453e5cdc5e5af5682c75f81ee6b271a3a7ac922e1b05967
cdb2e5f62eb60-primary.xml.gz
mv *-primary.xml.gz primary.xml.gz
gunzip primary.xml.gz
chown -R obsrun:obsrun /srv/obs/build/openEuler:23.09:Repo
/usr/lib/obs/server/bs_admin --rescan-repository openEuler:23.09:Repo
standard_riscv64 riscv64
```

注意：具体链接为：Meta中的链接/repodata/XXX-primary.xml.gz，其中XXX-primary.xml.gz选择最新的。

此时openEuler:23.09的:full目录没有rpm包，当配置好了openEuler:24.03之后，OBS会自动计算，并从远程仓库拉取rpm包到openEuler:23.09的:full目录中。

最后显示如下：

The screenshot shows the OBS (Open Source Build System) interface. At the top, there's a navigation bar with 'Projects / openEuler:23.09 / Overview'. On the right, there are links for 'Admin', 'Tasks', 'Create Home', and 'Logout'. Below the navigation, there's a horizontal menu with tabs: 'Overview', 'Repositories', 'Monitor', 'Requests', 'Users', 'Subprojects', 'Project Config', 'Attributes', 'Meta', 'Status', 'Pulse', and 'Staging'. The 'Overview' tab is currently selected. In the main content area, there's a green header 'openEuler:23.09'. Below it, a message says 'No description set'. There are four action buttons: '+ Create Patchinfo', 'GPG Key / SSL Certificate', 'Edit Project', and 'Delete Project'. To the left, there's a 'Packages' section with a button '+ Create Package' and a link 'Branch Existing Package'. It also says 'This project does not contain any packages'. To the right, there's a 'Build Results' section with a 'Refresh' button and a table showing a single build entry for 'standard_riscv64' with a green checkmark icon.

作为DoD的项目， Packages中不会有源包存在；Build Results中仓库显示绿色小车表示仓库配置成功。

Tips:

如果基础项目采用的是非DoD的方式，如直接复制导入的包到:full目录，需确保导入的包所属的用户和组。

检查用户和组命令：

```
find /srv/obs/build ! -user obsrun
```

该命令不应该有输出，如有输出表示添加的包的所属用户和组有问题，需修改。修改用户和组命令：

```
chown -R obsrun:obsrun /srv/obs/build
```

3、openEuler:24.03

此次openEuler:24.03为baseos，有1192个软件包。手动在页面添加添加不符合实际，遂采用命令行方式（亦可参考命令行打包）导入软件包源文件。

导入软件包源文件

导入软件包源文件时，有两种方式：

- 1、通过*service*文件，然后通过*service*文件去openEuler的官方仓库下载软件包的源文件。
- 2、直接将远程仓库的源文件下载到本地，然后在本地上传到服务器。

通过*_service*文件

首先需要现在osc的配置文件中指定远程仓库的基本登录信息。

如果是安装后第一次使用osc命令，需要先链接OBS官方的生成配置文件，在修改。

```
osc co home:zd hello
```

打开osc的配置文件，修改：

```
vim /root/.config/osc/oscrc
```

具体配置如下：

```
# see oscrc(5) man page for the full list of available options
[general]
# Default URL to the API server.
# Credentials and other `apiurl` specific settings must be configured in a
`[$apiurl]` config section.
apiurl=https://leapfive.zobs.com

[https://leapfive.zobs.com]
# aliases=
# user=
# pass=
# credentials_mgr_class=osc.credentials...
user=zz
pass=123456
credentials_mgr_class=osc.credentials.PlainTextConfigFileCredentialsManager
```

```
[https://build.tarsier-infra.isrc.ac.cn/]
# aliases=
# user=
# pass=
# credentials_mgr_class=osc.credentials...
user=zd
pass=123456
credentials_mgr_class=osc.credentials.PlainTextConfigFileCredentialsManager
```

然后复制源包：

```
for i in $(osc -A https://build.tarsier-infra.isrc.ac.cn ls openEuler:24.03); do
    osc -A https://build.tarsier-infra.isrc.ac.cn copypac -t
    https://leapfive.zobs.com openEuler:24.03 "$i" openEuler:24.03
done
```

注意：第一条的osc命令是列出源地址里源项目的包；第二条的osc命令是从源项目中，依次复制service文件到本地项目中，本地项目会根据service文件去gitee拉取源包。

指定链接检出：

```
osc -A https://build.tarsier-infra.isrc.ac.cn co home:zd
```

The screenshot shows the A-Tune project page on gitee. At the top, there are tabs for Overview, Repositories, Revisions, Requests, Users, Attributes, and Meta. Below the tabs, there is a section for Source Files. It includes a search bar and a table listing 12 entries. The table columns are: Filename, Size, Changed, and Actions. Each entry has a download icon and a delete icon. The table shows various patch files and configuration files related to the A-Tune project.

Filename	Size	Changed	Actions
_service	280 Bytes	25 days	
_service:tar_scm:0001-fix-skopt.Optimizer-incompatible-with-numpy-1.24.patch	845 Bytes	25 days	
_service:tar_scm:A-Tune-1726623058.b6009ca.tar	10 KB	25 days	
_service:tar_scm:A-Tune-Add-sw64-architecture.patch	344 KB	25 days	
_service:tar_scm:A-Tune.yaml	82 Bytes	25 days	
_service:tar_scm:adapt-sqlite-3.42-to-resolve-the-build-failure.patch	52.1 KB	25 days	
_service:tar_scm:add-riscv64-support.patch	1.9 KB	25 days	
_service:tar_scm:adjust-the-startup-sequence-of-atune-rest.patch	980 Bytes	25 days	
_service:tar_scm:atune.spec	8.13 KB	25 days	
_service:tar_scm:import-os-for-app.py.patch	591 Bytes	25 days	
_service:tar_scm:remove-the-installation-of-atune-ui-related-files.patch	1.71 KB	25 days	
_service:tar_scm:v1.2.0.tar.gz	24.4 MB	25 days	

Showing 1 to 12 of 12 entries

Previous 1 Next

本地直接上传

首先创建本地工作目录：

```
mkdir test_RPM
```

进入该目录

```
cd test_RPM/
```

检出项目到本地:

```
osc co openEuler:24.03
```

```
leapfive:/home/leapfive/test_RPM # osc co openEuler:24.03:BaseOS:02
A   openEuler:24.03:BaseOS:02
```

将源包复制到工作目录中:

```
rsync -v --progress /home/leapfive/scripts/tmp/baseos/ .
```

将所有文件添加到项目的版本控制中:

```
osc add *
```

```
leapfive:/home/leapfive/test_RPM/openEuler:24.03:BaseOS:02 # osc add *
A   A-Tune/../../A-Tune
A   A-Tune/A-Tune-Add-sw64-architecture.patch
A   A-Tune/A-Tune.yaml
A   A-Tune/adapt-sqlite-3.42-to-resolve-the-build-failure.patch
A   A-Tune/add-riscv64-support.patch
A   A-Tune/adjust-the-startup-sequence-of-atune-rest.patch
A   A-Tune/atune.spec
A   A-Tune/import-os-for-app.py.patch
A   A-Tune/remove-the-installation-of-atune-ui-related-files.patch
A   A-Tune/v1.2.0.tar.gz
A   CUnit/../../CUnit
A   CUnit/CUnit.spec
A   CUnit/CUnit.yaml
A   CUnit/cunit-2.1-3.tar.bz2
```

提交更改(输入更改记录):

```
osc commit
```

```
leapfive:/home/leapfive/test_RPM/openEuler:24.03:BaseOS:02 # osc commit
Default log message was not changed. Press 'c' to continue.
a)abort, c)ontinue, e)dit: c
Sending meta data...
Done.
Sending   A-Tune
Sending   A-Tune/A-Tune-Add-sw64-architecture.patch
Sending   A-Tune/A-Tune.yaml
Sending   A-Tune/adapt-sqlite-3.42-to-resolve-the-build-failure.patch
Sending   A-Tune/add-riscv64-support.patch
Sending   A-Tune/adjust-the-startup-sequence-of-atune-rest.patch
Sending   A-Tune/atune.spec
Sending   A-Tune/import-os-for-app.py.patch
Sending   A-Tune/remove-the-installation-of-atune-ui-related-files.patch
Sending   A-Tune/v1.2.0.tar.gz
Transmitting file data
Committed revision 1.
Sending meta data...
Done.
```

等待上传完成。

A-Tune

No description set

Branch package

Submit package

Edit description

Delete package

Source Files

Show 25 entries

Search...

Filename	Size	Changed	Actions
A-Tune-Add-sw64-architecture.patch	344 KB	1 day	
A-Tune.yaml	82 Bytes	1 day	
adapt-sqlite-3.42-to-resolve-the-build-failure.patch	52.1 KB	1 day	
add-riscv64-support.patch	1.9 KB	1 day	
adjust-the-startup-sequence-of-atune-rest.patch	980 Bytes	1 day	
atune.spec	7.94 KB	1 day	
import-os-for-app.py.patch	591 Bytes	1 day	
remove-the-installation-of-atune-ui-related-files.patch	1.71 KB	1 day	
v1.2.0.tar.gz	24.4 MB	1 day	

Showing 1 to 9 of 9 entries

Previous 1 Next

Project Configuration部分:

```
BuildFlags: logidlelimit:36000

#Constraint: sandbox docker
#Constraint: hardware:jobs 32
#Constraint: hostlabel OBS_WORKER_SECURITY_LEVEL_

#Constraint: overwrite:sandbox qemu
#Constraint: overwrite:hostlabel OBS_WORKER_SECURITY_LEVEL_
#Constraint: overwrite:hardware:jobs 8
#Constraint: overwrite:hardware:disk:size unit=G 100
#Constraint: overwrite:hardware:memory:size unit=G 14
#Constraint: overwrite:conditions:package libuv apache-commons-io apr at-spi2-atk
bolt booth chatglm.cpp clevis coreutils cpio cups dbus-broker dbus-glib dconf
diffutils dnf dovecot ethtool elixir findutils freeradius gjs grep groff gssdp
gssproxy gtest gupnp hdf5 ibus-table ibus-typing-booster ima-evm-utils ksh
libimagequant libkapi libldb libblockfile libreport libseccomp libshumate libuser
libxt lldb lsof luksmeta m4 mod_auth_gssapi ModemManager mutt nagios-plugins
netcdf newlib nss obs-bundled-gems openldap openssl-pkcs11 perl passenger perl-
IPC-Run pngquant procenv procps-ng pyparted python3 python-dasbus python-dbusmock
python-ethtool python-joblib python-pytest-virtualenv rubygem-pry satyr sed slang
sudo swtpm tar telepathy-glib telepathy-logger three-eight-nine-ds-base tpm2-tss
tzdata util-linux vala wayland zeromq zsh sbt gradle ibus-table    ibus-typing-
booster nbdkit libsigsegv gc disruptor
#Constraint: overwrite:conditions:package rust firefox kernel openjdk-1.8.0
```

Macros:

```
%dist .oe2403
# KubeOS需要root权限，但spec未申明，这里绕过
%__brp_strip \
case %{name} in \
    KubeOS) %{nil} ;; \
*)      /usr/lib/rpm(brp-strip %{__strip} ;; \
```

```
esac

#%__spec_check_pre exit 0
# nodejs-fast-levenshtein-1.1.3-2 parted-3.6-1 python-httplib-1.1.4-6 python-
pycurl-7.45.2-2
# rubygem-thin-1.8.2-1 xkeyboard-config-2.39-3 rubygem-redis-4.7.0-3
# 以上各构建机均有测试失败。本地（增加超时）成功
# spdk-24.01-4 测试要求额外的大于2G的硬盘，sg2042不满足。本地增加后通过
# cloud-init-23.4.1-3 EBS自动安装了procps-ng。本地安装并增加超时后通过
# at-spi2-core-2.51.0-2 EBS自动安装了一些包。本地曾试着成功过一次
# debugedit-5.0-6 https://sourceware.org/bugzilla/show_bug.cgi?id=31653
# sscg-3.0.5-2 加密操作在sg2042下也大概率超时，偶有成功
# gtk-doc-1.33.2-6 OE看似无意修复测试失败
#%__spec_check_pre %{__build_pre} \
# case %{name} in \
#   nodejs-fast-levenshtein|parted|python-httplib|python-pycurl|rubygem-
thin|xkeyboard-config) \
#     exit 0 ;; \
#   spdk|cloud-init|at-spi2-core|rubygem-redis|debugedit|sscg|gtk-doc) \
#     exit 0 ;; \
#   esac
:Macros
```

Meta部分

```
<project name="openEuler:24.03:BaseOS:01">
<title/>
<description>依赖是DoD的openEuler:23.09:Repo</description>
<person userid="Admin" role="maintainer"/>
<debuginfo>
  <enable/>
</debuginfo>
<repository name="9950x" rebuild="direct" block="never">
  <path project="openEuler:23.09:Repo" repository="standard_riscv64"/>
  <arch>riscv64</arch>
</repository>
</project>
```

Note:

rebuild="direct"表示将触发重新构建的条件设置为：仅构建源代码发生变化的包及其直接依赖的包，但不构建间接依赖的包。

block="never"表示将构建过程中包是否阻塞设置为：从不将包设置为阻塞状态，无论其依赖包是否已经完成构建。

后端配置

在配置好了Meta后，会自动地创建对应的后台目录以及文件。

其他

osc命令行

第一次使用时的配置

需提前安装osc

```
zypper install osc
```

两种方式，第一种是先链接官方的OBS，生成配置文件后修改成自己的OBS；第二种是直接配置自己的OBS。

第一种：以官方生成的模板修改

- 1、请在官方的OBS平台注册自己的账号密码。
- 2、在本地的工作目录执行：

```
osc co projectname
```

就会生成/root/.config/osc/oscrc文件，然后修改成自己的配置即可。

第二种：直接手动生成

增加osc配置，/root/.config/osc/oscrc文件：

```
#以root用户创建osc配置文件的目录  
mkdir -p /root/.config/osc/  
  
#创建osc配置文件  
vim oscrc
```

内容如下：

```
# see oscrc(5) man page for the full list of available options  
  
[general]  
# Default URL to the API server.  
# Credentials and other `apiurl` specific settings must be configured in a  
`[$apiurl]` config section.  
apiurl=https://leapfive.zobs.com  
#no_verify=1  
#allow_http=1  
  
[https://leapfive.zobs.com]  
# aliases=  
# user=  
# pass=  
# credentials_mgr_class=osc.credentials...  
user=Admin  
pass=openSUSE  
credentials_mgr_class=osc.credentials.PlainTextConfigFileCredentialsManager
```

```
[other address]
# aliases=
# user=
# pass=
# credentials_mgr_class=osc.credentials...
user=xxx
pass=xxx
xxx
```

该配置文件是以[]为基本单位，其中**general**部分请填写自己的OBS域名，第一个[]中具体填写自己的OBS用户名和密码，其余的可以填写其他OBS用户名和密码（如官方的）。