

Centos离线安装软件包方法

原创

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linux

服务器

运维

Centos离线安装软件包方法

我们平时安装软件包是通过 yum 在线进行安装的，若是在某些连不上外网的环境，yum 命令还能有效安装吗？

断开本机网络，这里以安装 Python 3.9 为例，其它软件都同样的操作，观察一下执行 yum install python39 的信息；首先执行 yum install python39，的确，在缓存的帮助下，yum 命令很快就知道 Python39 及其所需要依赖包的状况：

```
[root@localhost ~]# yum install python39
Repository extras is listed more than once in the configuration
Last metadata expiration check: 0:00:32 ago on Sat 09 Jul 2022 04:24:45 PM CST.
Dependencies resolved.
=====
Package                                Architecture                               Version                                Repository
=====
Installing:
python39                               x86_64                                    3.9.13-1.module_el8.7.0+1178+0ba51308    appstream
Installing dependencies:
python39-libs                           x86_64                                    3.9.13-1.module_el8.7.0+1178+0ba51308    appstream
python39-pip-wheel                      noarch                                    20.2.4-7.module_el8.6.0+961+ca697fb5    appstream
python39-setuptools-wheel               noarch                                    50.3.2-4.module_el8.6.0+930+10acc06f     appstream
Installing weak dependencies:
python39-pip                            noarch                                    20.2.4-7.module_el8.6.0+961+ca697fb5    appstream
python39-setuptools                     noarch                                    50.3.2-4.module_el8.6.0+930+10acc06f     appstream
Enabling module streams:
python39                                3.9
=====
Transaction Summary
=====
Install 6 Packages

Total download size: 13 M
Installed size: 45 M
Is this ok [y/N]: █
```

可是这真的表示能够下载了吗？我们在提示信息中输入 y 并回车，看到的信息如下：

```
Downloading Packages:
[MIRROR] python39-3.9.13-1.module_el8.7.0+1178+0ba51308.x86_64.rpm: Curl error (6): Couldn't resolve host name for https://mirrors.aliyun.com/centos/8-stream/AppStream/x86_64/os/Packages/python39-3.9.13-1.mod
ule_el8.7.0%2b1178%2b0ba51308.x86_64.rpm [Could not resolve host: mirrors.aliyun.com]
[MIRROR] python39-libs-3.9.13-1.module_el8.7.0+1178+0ba51308.x86_64.rpm: Curl error (6): Couldn't resolve host name for https://mirrors.aliyun.com/centos/8-stream/AppStream/x86_64/os/Packages/python39-libs-3.
9.13-1.module_el8.7.0%2b1178%2b0ba51308.x86_64.rpm [Could not resolve host: mirrors.aliyun.com]
[MIRROR] python39-pip-20.2.4-7.module_el8.6.0+961+ca697fb5.noarch.rpm: Curl error (6): Couldn't resolve host name for https://mirrors.aliyun.com/centos/8-stream/AppStream/x86_64/os/Packages/python39-pip-20.2.
4-7.module_el8.6.0%2b961%2bca697fb5.noarch.rpm [Could not resolve host: mirrors.aliyun.com]
[MIRROR] python39-3.9.13-1.module_el8.7.0+1178+0ba51308.x86_64.rpm: Curl error (6): Couldn't resolve host name for https://mirrors.aliyun.com/centos/8-stream/AppStream/x86_64/os/Packages/python39-3.9.13-1.mod
ule_el8.7.0%2b1178%2b0ba51308.x86_64.rpm [Could not resolve host: mirrors.aliyun.com]
[MIRROR] python39-libs-3.9.13-1.module_el8.7.0+1178+0ba51308.x86_64.rpm: Curl error (6): Couldn't resolve host name for https://mirrors.aliyun.com/centos/8-stream/AppStream/x86_64/os/Packages/python39-libs-3.
9.13-1.module_el8.7.0%2b1178%2b0ba51308.x86_64.rpm [Could not resolve host: mirrors.aliyun.com]
[MIRROR] python39-pip-20.2.4-7.module_el8.6.0+961+ca697fb5.noarch.rpm: Curl error (6): Couldn't resolve host name for https://mirrors.aliyun.com/centos/8-stream/AppStream/x86_64/os/Packages/python39-pip-20.2.
4-7.module_el8.6.0%2b961%2bca697fb5.noarch.rpm [Could not resolve host: mirrors.aliyun.com]
[FAILED] python39-3.9.13-1.module_el8.7.0+1178+0ba51308.x86_64.rpm: No more mirrors to try - All mirrors were already tried without success
(2-3/6): python39-libs-3.9.13-1.module_el8.7.0+1178+0ba51308.x86_64.rpm 0% [
The downloaded packages were saved in cache until the next successful transaction.
You can remove cached packages by executing 'yum clean packages'.
Error: Error downloading packages:
  python39-3.9.13-1.module_el8.7.0+1178+0ba51308.x86_64: Cannot download, all mirrors were already tried without success
[root@localhost ~]#
```

显然，缓存信息只存了包名、依赖信息，并没有缓存真正的安装包，即便配置了阿里云的 yum 源，cache 也是创建不了的，因此，我们需要一种方法，在能连外网的机器上下载安装包，复制到无法连外网的机器来安装，来实现离线安装软件包的目的；

“**repotrack**”是一款从 yum 源仓库下载 rpm 包的神器，若是环境中没有 repotrack 命令，可使用 yum install yum-utils 下载，这个软件在能上网的机器上用就够了，现在下载 python39 的依赖包试试，输入如下命令：

```
repotrack python39
```

这个命令会在当前目录下载 python39 包的全部依赖，接下来能够看到超长一串 Downloading ???rpm 的日志：

```

[root@localhost test]# repotrack python39
Repository extras is listed more than once in the configuration
CentOS Linux 8 - AppStream
(1/166): platform-python-3.6.8-41.el8.x86_64.rpm
(2/166): pigz-2.4-4.el8.x86_64.rpm
(3/166): libmount-2.32.1-28.el8.x86_64.rpm
(4/166): platform-python-setuptools-39.2.0-6.el8.noarch.rpm
(5/166): popt-1.18-1.el8.x86_64.rpm
(6/166): libnghttp2-1.33.0-3.el8_2.1.x86_64.rpm
(7/166): procps-ng-3.3.15-6.el8.x86_64.rpm
(8/166): platform-python-pip-9.0.3-20.el8.noarch.rpm
(9/166): libns12-1.2.0-2.20180605git4a062cf.el8.x86_64.rpm
(10/166): publicsuffix-list-dafsa-20180723-1.el8.noarch.rpm
(11/166): python39-pip-wheel-20.2.4-7.module_el8.6.0+961+ca697fb5.noarch.rpm
(12/166): libxkbcommon-0.9.1-1.el8.x86_64.rpm
(13/166): libpsl-0.20.2-6.el8.x86_64.rpm
(14/166): libpwquality-1.4.4-3.el8.x86_64.rpm
(15/166): python39-pip-20.2.4-7.module_el8.6.0+961+ca697fb5.noarch.rpm
(16/166): python39-setuptools-wheel-50.3.2-4.module_el8.6.0+930+10acc06f.noarch.rpm
(17/166): python39-setuptools-50.3.2-4.module_el8.6.0+930+10acc06f.noarch.rpm
(18/166): libseccomp-2.5.1-1.el8.x86_64.rpm
(19/166): libselinux-2.9-5.el8.x86_64.rpm
(20/166): libsemanage-2.9-6.el8.x86_64.rpm
(21/166): python3-pip-wheel-9.0.3-20.el8.noarch.rpm
(22/166): libsepol-2.9-3.el8.x86_64.rpm
(23/166): libsigsegv-2.11-5.el8.x86_64.rpm
(24/166): libsmartcols-2.32.1-28.el8.x86_64.rpm
(25/166): acl-2.2.53-1.el8.x86_64.rpm
(26/166): gmp-6.1.2-10.el8.x86_64.rpm
(27/166): libssh-0.9.4-3.el8.x86_64.rpm
(28/166): libssh-config-0.9.4-3.el8.noarch.rpm
(29/166): python3-setuptools-wheel-39.2.0-6.el8.noarch.rpm
(30/166): python39-libs-3.9.13-1.module_el8.7.0+1178+0ba51308.x86_64.rpm
(31/166): gnutls-3.6.16-4.el8.x86_64.rpm
(32/166): grep-3.1-6.el8.x86_64.rpm
(33/166): audit-libs-3.0-0.17.20191104git1c2f876.el8.x86_64.rpm
(34/166): grub2-common-2.02-106.el8.noarch.rpm
(35/166): grub2-tools-minimal-2.02-106.el8.x86_64.rpm
(36/166): grubby-8.40-42.el8.x86_64.rpm
(37/166): libstdc++-8.5.0-4.el8_5.x86_64.rpm
(38/166): gzip-1.9-12.el8.x86_64.rpm
(39/166): hardlink-1.3-6.el8.x86_64.rpm
(40/166): basesystem-11-5.el8.noarch.rpm
(41/166): grub2-tools-2.02-106.el8.x86_64.rpm

```

12	kB/s	4.4	kB	00:00
145	kB/s	85	kB	00:00
122	kB/s	79	kB	00:00
228	kB/s	234	kB	00:01
263	kB/s	632	kB	00:02
171	kB/s	61	kB	00:00
198	kB/s	77	kB	00:00
254	kB/s	329	kB	00:01
281	kB/s	1.7	MB	00:06
129	kB/s	58	kB	00:00
195	kB/s	56	kB	00:00
241	kB/s	1.1	MB	00:04
165	kB/s	116	kB	00:00
148	kB/s	61	kB	00:00
173	kB/s	107	kB	00:00
232	kB/s	1.9	MB	00:08
219	kB/s	497	kB	00:02
239	kB/s	871	kB	00:03
155	kB/s	71	kB	00:00
215	kB/s	165	kB	00:00
233	kB/s	165	kB	00:00
278	kB/s	1.0	MB	00:03
265	kB/s	340	kB	00:01
54	kB/s	30	kB	00:00
213	kB/s	177	kB	00:00
166	kB/s	81	kB	00:00
244	kB/s	322	kB	00:01
229	kB/s	215	kB	00:00
95	kB/s	19	kB	00:00
218	kB/s	289	kB	00:01
262	kB/s	8.2	MB	00:31
272	kB/s	1.0	MB	00:03
248	kB/s	274	kB	00:01
184	kB/s	116	kB	00:00
260	kB/s	891	kB	00:03
215	kB/s	210	kB	00:00
151	kB/s	49	kB	00:00
255	kB/s	453	kB	00:01
242	kB/s	167	kB	00:00
115	kB/s	29	kB	00:00
40	kB/s	10	kB	00:00
280	kB/s	2.0	MB	00:07

命令执行完成后，看一下是否下载了全部的依赖包：

```

[root@localhost test]# ls
acl-2.2.53-1.el8.x86_64.rpm
audit-libs-3.0-0.17.20191104git1c2f876.el8.x86_64.rpm
basesystem-11-5.el8.noarch.rpm
bash-4.4.20-2.el8.x86_64.rpm
brotli-1.0.6-3.el8.x86_64.rpm
bzip2-libs-1.0.6-26.el8.x86_64.rpm
ca-certificates-2021.2.50-80.0.el8_4.noarch.rpm
centos-gpg-keys-8-3.el8.noarch.rpm
centos-linux-release-8.5-1.2111.el8.noarch.rpm
centos-linux-repos-8-3.el8.noarch.rpm
chkconfig-1.19.1-1.el8.x86_64.rpm
coreutils-8.30-12.el8.x86_64.rpm
coreutils-common-8.30-12.el8.x86_64.rpm
cpio-2.12-10.el8.x86_64.rpm
cracklib-2.9.6-15.el8.x86_64.rpm
cracklib-dicts-2.9.6-15.el8.x86_64.rpm
crypto-policies-20210617-1.gitc776d3e.el8.noarch.rpm
crypto-policies-scripts-20210617-1.gitc776d3e.el8.noarch.rpm
cryptsetup-libs-2.3.3-4.el8.x86_64.rpm
curl-7.61.1-22.el8.x86_64.rpm
cyrus-sasl-lib-2.1.27-5.el8.x86_64.rpm
dbus-1.12.8-14.el8.x86_64.rpm
dbus-common-1.12.8-14.el8.noarch.rpm
dbus-daemon-1.12.8-14.el8.x86_64.rpm
dbus-libs-1.12.8-14.el8.x86_64.rpm
dbus-tools-1.12.8-14.el8.x86_64.rpm
device-mapper-1.02.177-10.el8.x86_64.rpm
device-mapper-libs-1.02.177-10.el8.x86_64.rpm
diffutils-3.6-6.el8.x86_64.rpm
dracut-049-191.git20210920.el8.x86_64.rpm
elfutils-debuginfod-client-0.185-1.el8.x86_64.rpm
elfutils-default-yama-scope-0.185-1.el8.noarch.rpm
elfutils-libelf-0.185-1.el8.x86_64.rpm
elfutils-libs-0.185-1.el8.x86_64.rpm
expat-2.2.5-4.el8.x86_64.rpm
file-5.33-20.el8.x86_64.rpm
file-libs-5.33-20.el8.x86_64.rpm
filesystem-3.8-6.el8.x86_64.rpm
findutils-4.6.0-20.el8.x86_64.rpm
gawk-4.2.1-2.el8.x86_64.rpm
gdbm-1.18-1.el8.x86_64.rpm
gdbm-libs-1.18-1.el8.x86_64.rpm
gettext-0.19.8.1-17.el8.x86_64.rpm
gettext-libs-0.19.8.1-17.el8.x86_64.rpm
glib2-2.56.4-156.el8.x86_64.rpm
glibc-2.28-164.el8.x86_64.rpm
glibc-all-langpacks-2.28-164.el8.x86_64.rpm
glibc-common-2.28-164.el8.x86_64.rpm
gmp-6.1.2-10.el8.x86_64.rpm
gnutls-3.6.16-4.el8.x86_64.rpm
grep-3.1-6.el8.x86_64.rpm
grub2-common-2.02-106.el8.noarch.rpm
grub2-tools-2.02-106.el8.x86_64.rpm
hardlink-1.3-6.el8.x86_64.rpm
info-6.5-6.el8.x86_64.rpm
json-c-0.13.1-2.el8.x86_64.rpm
kbd-2.0.4-10.el8.x86_64.rpm
kbd-legacy-2.0.4-10.el8.noarch.rpm
kbd-misc-2.0.4-10.el8.noarch.rpm
keyutils-libs-1.5.10-9.el8.x86_64.rpm
kmod-25-18.el8.x86_64.rpm
kmod-libs-25-18.el8.x86_64.rpm
kpartx-0.8.4-17.el8.x86_64.rpm
krb5-libs-1.18.2-14.el8.x86_64.rpm
libacl-2.2.53-1.el8.x86_64.rpm
libarchive-3.3.3-1.el8.x86_64.rpm
libattr-2.4.48-3.el8.x86_64.rpm
libblkid-2.32.1-28.el8.x86_64.rpm
libcap-2.26-5.el8.x86_64.rpm
libcap-ng-0.7.11-1.el8.x86_64.rpm
libcom_err-1.45.6-2.el8.x86_64.rpm
libcrocko-0.6.12-4.el8_2.1.x86_64.rpm
libcurl-7.61.1-22.el8.x86_64.rpm
libdb-5.3.28-42.el8_4.x86_64.rpm
libdb-utlils-5.3.28-42.el8_4.x86_64.rpm
libfdisk-2.32.1-28.el8.x86_64.rpm
libffi-3.1-22.el8.x86_64.rpm
libgcc-8.5.0-4.el8_5.x86_64.rpm
libgcrypt-1.8.5-6.el8.x86_64.rpm
libgomp-8.5.0-4.el8_5.x86_64.rpm
libgpg-error-1.31-1.el8.x86_64.rpm
libidn2-2.2.0-1.el8.x86_64.rpm
libkcap1-1.2.0-2.el8.x86_64.rpm
libkcap1-hmacalc-1.2.0-2.el8.x86_64.rpm
libmount-2.32.1-28.el8.x86_64.rpm
libnghttp2-1.33.0-3.el8_2.1.x86_64.rpm
libnsl2-1.2.0-2.20180605git4a062cf.el8.x86_64.rpm
libpsl-0.20.2-6.el8.x86_64.rpm
libpwquality-1.4.4-3.el8.x86_64.rpm
libseccomp-2.5.1-1.el8.x86_64.rpm
libselinux-2.9-5.el8.x86_64.rpm
libsemanage-2.9-6.el8.x86_64.rpm
libsepol-2.9-3.el8.x86_64.rpm
libsigsegv-2.11-5.el8.x86_64.rpm
libsmartcols-2.32.1-28.el8.x86_64.rpm
libssh-0.9.4-3.el8.x86_64.rpm
libssh-config-0.9.4-3.el8.noarch.rpm
libstdc++-8.5.0-4.el8_5.x86_64.rpm
libtasn1-4.13-3.el8.x86_64.rpm
libtirpc-1.1.4-5.el8.x86_64.rpm
libunistring-0.9.9-3.el8.x86_64.rpm
libutempter-1.1.6-14.el8.x86_64.rpm
libuuid-2.32.1-28.el8.x86_64.rpm
libverto-0.3.0-5.el8.x86_64.rpm
libxcrypt-4.1.1-6.el8.x86_64.rpm
libxkbcommon-0.9.1-1.el8.x86_64.rpm
lz4-libs-1.8.3-3.el8_4.x86_64.rpm
memstrack-0.1.11-1.el8.x86_64.rpm
mpfr-3.1.6-1.el8.x86_64.rpm
ncurses-6.1-9.20180224.el8.x86_64.rpm
ncurses-base-6.1-9.20180224.el8.noarch.rpm
ncurses-libs-6.1-9.20180224.el8.x86_64.rpm
nettle-3.4.1-7.el8.x86_64.rpm
openldap-2.4.46-18.el8.x86_64.rpm
openssl-1.1.1k-5.el8_5.x86_64.rpm
openssl-libs-1.1.1k-5.el8_5.x86_64.rpm
openssl-pkcs11-0.4.10-2.el8.x86_64.rpm
os-prober-1.74-9.el8.x86_64.rpm
p11-kit-0.23.22-1.el8.x86_64.rpm
p11-kit-trust-0.23.22-1.el8.x86_64.rpm
pam-1.3.1-15.el8.x86_64.rpm
pcre2-10.32-2.el8.x86_64.rpm
pcre-8.42-6.el8.x86_64.rpm
pigz-2.4-4.el8.x86_64.rpm
platform-python-3.6.8-41.el8.x86_64.rpm
platform-python-pip-9.0.3-20.el8.noarch.rpm
platform-python-setuptools-39.2.0-6.el8.noarch.rpm
popt-1.18-1.el8.x86_64.rpm
procps-ng-3.3.15-6.el8.x86_64.rpm
publicsuffix-list-dafsa-20180723-1.el8.noarch.rpm
python39-3.9.13-1.module_el8.7.0+1178+0ba51308.x86_64.rpm
python39-libs-3.9.13-1.module_el8.7.0+1178+0ba51308.x86_64.rpm
python39-pip-20.2.4-7.module_el8.6.0+961+ca697fb5.noarch.rpm
python39-pip-wheel-20.2.4-7.module_el8.6.0+961+ca697fb5.noarch.rpm
python39-setuptools-50.3.2-4.module_el8.6.0+930+10acc06f.noarch.rpm
python39-setuptools-wheel-50.3.2-4.module_el8.6.0+930+10acc06f.noarch.rpm
python3-libs-3.6.8-41.el8.x86_64.rpm
python3-pip-wheel-9.0.3-20.el8.noarch.rpm
python3-setuptools-wheel-39.2.0-6.el8.noarch.rpm
readline-7.0-10.el8.x86_64.rpm
rpm-4.14.3-19.el8.x86_64.rpm
rpm-libs-4.14.3-19.el8.x86_64.rpm
sed-4.5-2.el8.x86_64.rpm
setup-2.12.2-6.el8.noarch.rpm
shadow-utils-4.6-14.el8.x86_64.rpm
shared-mime-info-1.9-3.el8.x86_64.rpm
sqlite-libs-3.26.0-15.el8.x86_64.rpm
systemd-239-51.el8_5.2.x86_64.rpm
systemd-libs-239-51.el8_5.2.x86_64.rpm
systemd-pam-239-51.el8_5.2.x86_64.rpm
systemd-udev-239-51.el8_5.2.x86_64.rpm
trousers-0.3.15-1.el8.x86_64.rpm
trousers-lib-0.3.15-1.el8.x86_64.rpm
tzdata-2021e-1.el8.noarch.rpm
util-linux-2.32.1-28.el8.x86_64.rpm
which-2.21-16.el8.x86_64.rpm
xkeyboard-config-2.28-1.el8.noarch.rpm
xz-5.2.4-3.el8.x86_64.rpm
xz-libs-5.2.4-3.el8.x86_64.rpm

```

密密麻麻，只会多不会少了，这里我们将刚刚 yum 命令提示的 python39 需要的包提取出来放在一个目录当中：

```
[root@localhost ~]# yum install python39
Repository extras is listed more than once in the configuration
Last metadata expiration check: 0:00:32 ago on Sat 09 Jul 2022 04:24:45
Dependencies resolved.
=====
Package                                                                    Arch
=====
Installing:
python39                                                                    x86_64
Installing dependencies:
python39-libs                                                                x86_64
python39-pip-wheel                                                          noarch
python39-setuptools-wheel                                                  noarch
Installing weak dependencies:
python39-pip                                                                noarch
python39-setuptools                                                        noarch
Enabling module streams:
python39

Transaction Summary
=====
Install 6 Packages

Total download size: 13 M
Installed size: 45 M
Is this ok [y/N]:
```

名称

..

- ☐ python39-3.9.13-1.module_el8.7.0+1178+0ba51308.x86_64.rpm
- ☐ python39-libs-3.9.13-1.module_el8.7.0+1178+0ba51308.x86_64.rpm
- ☐ python39-pip-20.2.4-7.module_el8.6.0+961+ca697fb5.noarch.rpm
- ☐ python39-pip-wheel-20.2.4-7.module_el8.6.0+961+ca697fb5.noarch.rpm
- ☐ python39-setuptools-50.3.2-4.module_el8.6.0+930+10acc06f.noarch.rpm
- ☐ python39-setuptools-wheel-50.3.2-4.module_el8.6.0+930+10acc06f.noarch.rpm

大小 类型

33KB	RPM 文件
8.20MB	RPM 文件
1.91MB	RPM 文件
1.09MB	RPM 文件
871KB	RPM 文件
497KB	RPM 文件

使用如下命令安装这些 rpm 软件包:

```
rpm -ivh *.rpm --force --nodeps
```



```

[root@localhost 2]# ll
total 12884
-rw-r--r--. 1 root root 33562 Jul 9 16:50 python39-3.9.13-1.module_el8.7.0+1178+0ba51308.x86_64.rpm
-rw-r--r--. 1 root root 8593690 Jul 9 16:50 python39-libs-3.9.13-1.module_el8.7.0+1178+0ba51308.x86_64.rpm
-rw-r--r--. 1 root root 2002214 Jul 9 16:50 python39-pip-20.2.4-7.module_el8.6.0+961+ca697fb5.noarch.rpm
-rw-r--r--. 1 root root 1147366 Jul 9 16:50 python39-pip-wheel-20.2.4-7.module_el8.6.0+961+ca697fb5.noarch.rpm
-rw-r--r--. 1 root root 892078 Jul 9 16:50 python39-setuptools-50.3.2-4.module_el8.6.0+930+10acc06f.noarch.rpm
-rw-r--r--. 1 root root 508670 Jul 9 16:50 python39-setuptools-wheel-50.3.2-4.module_el8.6.0+930+10acc06f.noarch.rpm
[root@localhost 2]# rpm -ivh *.rpm --force --nodeps
Verifying... ##### [100%]
Preparing... ##### [100%]
Updating / installing...
 1:python39-setuptools-wheel-50.3.2-##### [ 17%]
 2:python39-pip-wheel-20.2.4-7.modul##### [ 33%]
 3:python39-libs-3.9.13-1.module_el8##### [ 50%]
 4:python39-3.9.13-1.module_el8.7.0+##### [ 67%]
 5:python39-setuptools-50.3.2-4.modu##### [ 83%]
 6:python39-pip-20.2.4-7.module_el8.##### [100%]
[root@localhost 2]# python3 -V
Python 3.9.13
[root@localhost 2]# python3
Python 3.9.13 (main, Jun 24 2022, 15:32:51)
[GCC 8.5.0 20210514 (Red Hat 8.5.0-13)] on linux
Type "help", "copyright", "credits" or "license" for more information.
>>> print('hello world')
hello world
>>>

```

可见，我们通过离线安装包已经成功安装了Python 3.9。