Centos7 离线安装包及依赖下载安装

以 nginx 为例，如果你想要将 nginx 的包和缺失依赖下载到一个指定的目录（如 /tmp）以备在相同环境的离线机器上安装使用，你可以使用以下命令：

```
yum install --downloadonly --downloaddir=./ nginx
```

不过 yum 获取依赖的判断依据是以所在服务器当前情况为准的。如果需要下载的包依赖 A, B, C. 而所在服务器有 B, 则只下载 A, C。所以非常适合在容器环境使用。

rpm 安装包

暴力安装当前目录下所有的包，忽略依赖顺序，简单又省事

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

因为下载的时候拥有所有包的依赖关系,安装的时候即使不按照顺序来也能达到同样的效果.

yum包安装

需要在无外网服务器上用yum安装软件

分为两步走:

- 产生包

- 使用包

产生包

下载安装 `yum-utils` , `yum install -y yum-utils`
方法有三:

方法一: repotrack

```
# 下载依赖到当前目录
repotrack httpd php subversion mod_dav_svn
```

> repotrack不仅能下载包的依赖, 还会下载依赖所需要的依赖

方法二: yumdownloader

```
yumdownloader httpd php subversion mod_dav_svn
# 指定目录(不指定为当前目录)
```

```
yumdownloader --destdir=/apps/yumtmp/downloader httpd php subversion mod_dav_svn
# 下载包时,同时下载相关依赖
yumdownloader --resolve --destdir=/apps/yumtmp/downloader httpd php subversion mod_dav_svn
```

> yumdownloader 只下载包的依赖

方法三: yum指定downloadonly

1. 修改配置文件, 以便yum下载时产生包

```
vim /etc/yum.conf
```

```
keepcache=1
```

2. 下载软件, 并生成包

```
yum install --downloadonly httpd php subversion mod_dav_svn
yum install --downloadonly --downloaddir=/tmp/yumpackages httpd php subversion mod_dav_svn
```

`yum` 指定downloadonly和 `yumdownloader` 都可以获取包.
不过,前者获取依赖的判断依据,是以所在服务器当前情况为准的. 如果需要下载的包依赖A,B,C. 而所在服务器有B, 则只下载A,C.

3. 找到包

```
# 安装包
# /var/cache/yum/x86_64/7/base/packages
/var/cache/yum/base/packages

# 更新包
/var/cache/yum/updates/packages
```

使用包

将包拷贝进需要安装的内网, 调用安装.

方法有以下几种:

方法一: yum -C install

把下载的包,拷贝进缓存包的默认目录 `/var/cache/yum/base/packages`

使用命令 `yum -C install [packageName]` 从缓存中安装包

方法二: yum localinstall

直接指定本地包的文件

```
# 安装当前目录下所有的包
yum localinstall *.rpm
```

方法三: rpm -ivh --force

暴力安装当前目录下所有的包, 忽略依赖顺序, 简单又省事

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

因为下载的时候拥有所有包的依赖关系,安装的时候即使不按照顺序来也能达到同样的效果.

Centos离线安装软件包方法

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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% [                                        ] 901 MB/s |  33 kB     00:00 ETA
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                                                        12 kB/s | 4.4 kB     00:00
(1/166): platform-python-3.6.8-41.el8.x86_64.rpm                                 145 kB/s |  85 kB     00:00
(2/166): pigz-2.4-4.el8.x86_64.rpm                                               122 kB/s |  79 kB     00:00
(3/166): libmount-2.32.1-28.el8.x86_64.rpm                                       228 kB/s | 234 kB     00:01
(4/166): platform-python-setuptools-39.2.0-6.el8.noarch.rpm                      263 kB/s | 632 kB     00:02
(5/166): popt-1.18-1.el8.x86_64.rpm                                              171 kB/s |  61 kB     00:00
(6/166): libnghttp2-1.33.0-3.el8_2.1.x86_64.rpm                                  198 kB/s |  77 kB     00:00
(7/166): procps-ng-3.3.15-6.el8.x86_64.rpm                                       254 kB/s | 329 kB     00:01
(8/166): platform-python-pip-9.0.3-20.el8.noarch.rpm                             281 kB/s | 1.7 MB     00:06
(9/166): libnsl2-1.2.0-2.20180605git4a062cf.el8.x86_64.rpm                       129 kB/s |  58 kB     00:00
(10/166): publicsuffix-list-dafsa-20180723-1.el8.noarch.rpm                      195 kB/s |  56 kB     00:00
(11/166): python39-pip-wheel-20.2.4-7.module_el8.6.0+961+ca697fb5.noarch.rpm     241 kB/s | 1.1 MB     00:04
(12/166): libxkbcommon-0.9.1-1.el8.x86_64.rpm                                    165 kB/s | 116 kB     00:00
(13/166): libpsl-0.20.2-6.el8.x86_64.rpm                                         148 kB/s |  61 kB     00:00
(14/166): libpwquality-1.4.4-3.el8.x86_64.rpm                                    173 kB/s | 107 kB     00:00
(15/166): python39-pip-20.2.4-7.module_el8.6.0+961+ca697fb5.noarch.rpm           232 kB/s | 1.9 MB     00:08
(16/166): python39-setuptools-wheel-50.3.2-4.module_el8.6.0+930+10acc06f.noarch.rpm  219 kB/s | 497 kB     00:02
(17/166): python39-setuptools-50.3.2-4.module_el8.6.0+930+10acc06f.noarch.rpm    239 kB/s | 871 kB     00:03
(18/166): libseccomp-2.5.1-1.el8.x86_64.rpm                                      155 kB/s |  71 kB     00:00
(19/166): libselinux-2.9-5.el8.x86_64.rpm                                        215 kB/s | 165 kB     00:00
(20/166): libsemanage-2.9-6.el8.x86_64.rpm                                       233 kB/s | 165 kB     00:00
(21/166): python3-pip-wheel-9.0.3-20.el8.noarch.rpm                              278 kB/s | 1.0 MB     00:03
(22/166): libsepol-2.9-3.el8.x86_64.rpm                                          265 kB/s | 340 kB     00:01
(23/166): libsigsegv-2.11-5.el8.x86_64.rpm                                        54 kB/s |  30 kB     00:00
(24/166): libsmartcols-2.32.1-28.el8.x86_64.rpm                                  213 kB/s | 177 kB     00:00
(25/166): acl-2.2.53-1.el8.x86_64.rpm                                            166 kB/s |  81 kB     00:00
(26/166): gmp-6.1.2-10.el8.x86_64.rpm                                            244 kB/s | 322 kB     00:01
(27/166): libssh-0.9.4-3.el8.x86_64.rpm                                          229 kB/s | 215 kB     00:00
(28/166): libssh-config-0.9.4-3.el8.noarch.rpm                                    95 kB/s |  19 kB     00:00
(29/166): python3-setuptools-wheel-39.2.0-6.el8.noarch.rpm                       218 kB/s | 289 kB     00:01
(30/166): python39-libs-3.9.13-1.module_el8.7.0+1178+0ba51308.x86_64.rpm         262 kB/s | 8.2 MB     00:31
(31/166): gnutls-3.6.16-4.el8.x86_64.rpm                                         272 kB/s | 1.0 MB     00:03
(32/166): grep-3.1-6.el8.x86_64.rpm                                              248 kB/s | 274 kB     00:01
(33/166): audit-libs-3.0-0.17.20191104git1c2f876.el8.x86_64.rpm                  184 kB/s | 116 kB     00:00
(34/166): grub2-common-2.02-106.el8.noarch.rpm                                   260 kB/s | 891 kB     00:03
(35/166): grub2-tools-minimal-2.02-106.el8.x86_64.rpm                            215 kB/s | 210 kB     00:00
(36/166): grubby-8.40-42.el8.x86_64.rpm                                          151 kB/s |  49 kB     00:00
(37/166): libstdc++-8.5.0-4.el8_5.x86_64.rpm                                     255 kB/s | 453 kB     00:01
(38/166): gzip-1.9-12.el8.x86_64.rpm                                             242 kB/s | 167 kB     00:00
(39/166): hardlink-1.3-6.el8.x86_64.rpm                                          115 kB/s |  29 kB     00:00
(40/166): basesystem-11-5.el8.noarch.rpm                                          40 kB/s |  10 kB     00:00
(41/166): grub2-tools-2.02-106.el8.x86_64.rpm                                    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                              hardlink-1.3-6.el8.x86_64.rpm                           lz4-libs-1.8.3-3.el8_4.x86_64.rpm
audit-libs-3.0-0.17.20191104git1c2f876.el8.x86_64.rpm   info-6.5-6.el8.x86_64.rpm                               memstrack-0.1.11-1.el8.x86_64.rpm
basesystem-11-5.el8.noarch.rpm                          json-c-0.13.1-2.el8.x86_64.rpm                          mpfr-3.1.6-1.el8.x86_64.rpm
bash-4.4.20-2.el8.x86_64.rpm                            kbd-2.0.4-10.el8.x86_64.rpm                             ncurses-6.1-9.20180224.el8.x86_64.rpm
brotli-1.0.6-3.el8.x86_64.rpm                           kbd-legacy-2.0.4-10.el8.noarch.rpm                      ncurses-base-6.1-9.20180224.el8.noarch.rpm
bzip2-libs-1.0.6-26.el8.x86_64.rpm                      kbd-misc-2.0.4-10.el8.noarch.rpm                        ncurses-libs-6.1-9.20180224.el8.x86_64.rpm
ca-certificates-2021.2.50-80.0.el8_4.noarch.rpm         keyutils-libs-1.5.10-9.el8.x86_64.rpm                   nettle-3.4.1-7.el8.x86_64.rpm
centos-gpg-keys-8-3.el8.noarch.rpm                      kmod-25-18.el8.x86_64.rpm                               openldap-2.4.46-18.el8.x86_64.rpm
centos-linux-release-8.5-1.2111.el8.noarch.rpm          kmod-libs-25-18.el8.x86_64.rpm                          openssl-1.1.1k-5.el8_5.x86_64.rpm
centos-linux-repos-8-3.el8.noarch.rpm                   kpartx-0.8.4-17.el8.x86_64.rpm                          openssl-libs-1.1.1k-5.el8_5.x86_64.rpm
chkconfig-1.19.1-1.el8.x86_64.rpm                       krb5-libs-1.18.2-14.el8.x86_64.rpm                      openssl-pkcs11-0.4.10-2.el8.x86_64.rpm
coreutils-8.30-12.el8.x86_64.rpm                        libacl-2.2.53-1.el8.x86_64.rpm                          os-prober-1.74-9.el8.x86_64.rpm
coreutils-common-8.30-12.el8.x86_64.rpm                 libarchive-3.3.3-1.el8.x86_64.rpm                       p11-kit-0.23.22-1.el8.x86_64.rpm
cpio-2.12-10.el8.x86_64.rpm                             libattr-2.4.48-3.el8.x86_64.rpm                         p11-kit-trust-0.23.22-1.el8.x86_64.rpm
cracklib-2.9.6-15.el8.x86_64.rpm                        libblkid-2.32.1-28.el8.x86_64.rpm                       pam-1.3.1-15.el8.x86_64.rpm
cracklib-dicts-2.9.6-15.el8.x86_64.rpm                  libcap-2.26-5.el8.x86_64.rpm                            pcre2-10.32-2.el8.x86_64.rpm
crypto-policies-20210617-1.gitc776d3e.el8.noarch.rpm    libcap-ng-0.7.11-1.el8.x86_64.rpm                       pcre-8.42-6.el8.x86_64.rpm
crypto-policies-scripts-20210617-1.gitc776d3e.el8.noarch.rpm  libcom_err-1.45.6-2.el8.x86_64.rpm                 pigz-2.4-4.el8.x86_64.rpm
cryptsetup-libs-2.3.3-4.el8.x86_64.rpm                  libcroco-0.6.12-4.el8_2.1.x86_64.rpm                    platform-python-3.6.8-41.el8.x86_64.rpm
curl-7.61.1-22.el8.x86_64.rpm                           libcurl-7.61.1-22.el8.x86_64.rpm                        platform-python-pip-9.0.3-20.el8.noarch.rpm
cyrus-sasl-lib-2.1.27-5.el8.x86_64.rpm                  libdb-5.3.28-42.el8_4.x86_64.rpm                        platform-python-setuptools-39.2.0-6.el8.noarch.rpm
dbus-1.12.8-14.el8.x86_64.rpm                           libdb-utils-5.3.28-42.el8_4.x86_64.rpm                  popt-1.18-1.el8.x86_64.rpm
dbus-common-1.12.8-14.el8.noarch.rpm                    libfdisk-2.32.1-28.el8.x86_64.rpm                       procps-ng-3.3.15-6.el8.x86_64.rpm
dbus-daemon-1.12.8-14.el8.x86_64.rpm                    libffi-3.1-22.el8.x86_64.rpm                            publicsuffix-list-dafsa-20180723-1.el8.noarch.rpm
dbus-libs-1.12.8-14.el8.x86_64.rpm                      libgcc-8.5.0-4.el8_5.x86_64.rpm                         python39-3.9.13-1.module_el8.7.0+1178+0ba51308.x86_64.rpm
dbus-tools-1.12.8-14.el8.x86_64.rpm                     libgcrypt-1.8.5-6.el8.x86_64.rpm                        python39-libs-3.9.13-1.module_el8.7.0+1178+0ba51308.x86_64.rpm
device-mapper-1.02.177-10.el8.x86_64.rpm                libgomp-8.5.0-4.el8_5.x86_64.rpm                        python39-pip-20.2.4-7.module_el8.6.0+961+ca697fb5.noarch.rpm
device-mapper-libs-1.02.177-10.el8.x86_64.rpm           libgpg-error-1.31-1.el8.x86_64.rpm                      python39-pip-wheel-20.2.4-7.module_el8.6.0+961+ca697fb5.noarch.rpm
diffutils-3.6-6.el8.x86_64.rpm                          libidn2-2.2.0-1.el8.x86_64.rpm                          python39-setuptools-50.3.2-4.module_el8.6.0+930+10acc06f.noarch.rpm
dracut-049-191.git20210920.el8.x86_64.rpm               libkcapi-1.2.0-2.el8.x86_64.rpm                         python39-setuptools-wheel-50.3.2-4.module_el8.6.0+930+10acc06f.noarch.rpm
elfutils-debuginfod-client-0.185-1.el8.x86_64.rpm       libkcapi-hmaccalc-1.2.0-2.el8.x86_64.rpm                python3-libs-3.6.8-41.el8.x86_64.rpm
elfutils-default-yama-scope-0.185-1.el8.noarch.rpm      libmount-2.32.1-28.el8.x86_64.rpm                       python3-pip-wheel-9.0.3-20.el8.noarch.rpm
elfutils-libelf-0.185-1.el8.x86_64.rpm                  libnghttp2-1.33.0-3.el8_2.1.x86_64.rpm                  python3-setuptools-wheel-39.2.0-6.el8.noarch.rpm
elfutils-libs-0.185-1.el8.x86_64.rpm                    libnsl2-1.2.0-2.20180605git4a062cf.el8.x86_64.rpm       readline-7.0-10.el8.x86_64.rpm
expat-2.2.5-4.el8.x86_64.rpm                            libpsl-0.20.2-6.el8.x86_64.rpm                          rpm-4.14.3-19.el8.x86_64.rpm
file-5.33-20.el8.x86_64.rpm                             libpwquality-1.4.4-3.el8.x86_64.rpm                     rpm-libs-4.14.3-19.el8.x86_64.rpm
file-libs-5.33-20.el8.x86_64.rpm                        libseccomp-2.5.1-1.el8.x86_64.rpm                       sed-4.5-2.el8.x86_64.rpm
filesystem-3.8-6.el8.x86_64.rpm                         libselinux-2.9-5.el8.x86_64.rpm                         setup-2.12.2-6.el8.noarch.rpm
findutils-4.6.0-20.el8.x86_64.rpm                       libsemanage-2.9-6.el8.x86_64.rpm                        shadow-utils-4.6-14.el8.x86_64.rpm
gawk-4.2.1-2.el8.x86_64.rpm                             libsepol-2.9-3.el8.x86_64.rpm                           shared-mime-info-1.9-3.el8.x86_64.rpm
gdbm-1.18-1.el8.x86_64.rpm                              libsigsegv-2.11-5.el8.x86_64.rpm                        sqlite-libs-3.26.0-15.el8.x86_64.rpm
gdbm-libs-1.18-1.el8.x86_64.rpm                         libsmartcols-2.32.1-28.el8.x86_64.rpm                   systemd-239-51.el8_5.2.x86_64.rpm
gettext-0.19.8.1-17.el8.x86_64.rpm                      libssh-0.9.4-3.el8.x86_64.rpm                           systemd-libs-239-51.el8_5.2.x86_64.rpm
gettext-libs-0.19.8.1-17.el8.x86_64.rpm                 libssh-config-0.9.4-3.el8.noarch.rpm                    systemd-pam-239-51.el8_5.2.x86_64.rpm
glib2-2.56.4-156.el8.x86_64.rpm                         libstdc++-8.5.0-4.el8_5.x86_64.rpm                      systemd-udev-239-51.el8_5.2.x86_64.rpm
glibc-2.28-164.el8.x86_64.rpm                           libtasn1-4.13-3.el8.x86_64.rpm                          trousers-0.3.15-1.el8.x86_64.rpm
glibc-all-langpacks-2.28-164.el8.x86_64.rpm             libtirpc-1.1.4-5.el8.x86_64.rpm                         trousers-lib-0.3.15-1.el8.x86_64.rpm
glibc-common-2.28-164.el8.x86_64.rpm                    libunistring-0.9.9-3.el8.x86_64.rpm                     tzdata-2021e-1.el8.noarch.rpm
gmp-6.1.2-10.el8.x86_64.rpm                             libutempter-1.1.6-14.el8.x86_64.rpm                     util-linux-2.32.1-28.el8.x86_64.rpm
gnutls-3.6.16-4.el8.x86_64.rpm                          libuuid-2.32.1-28.el8.x86_64.rpm                        which-2.21-16.el8.x86_64.rpm
grep-3.1-6.el8.x86_64.rpm                               libverto-0.3.0-5.el8.x86_64.rpm                         xkeyboard-config-2.28-1.el8.noarch.rpm
grub2-common-2.02-106.el8.noarch.rpm                    libxcrypt-4.1.1-6.el8.x86_64.rpm                        xz-5.2.4-3.el8.x86_64.rpm
grub2-tools-2.02-106.el8.x86_64.rpm                     libxkbcommon-0.9.1-1.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_
Installing dependencies:
 python39-libs                                              x86_
 python39-pip-wheel                                         noar
 python39-setuptools-wheel                                  noar
Installing weak dependencies:
 python39-pip                                               noar
 python39-setuptools                                        noar
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	大小	类型
📁 ..		
📄 python39-3.9.13-1.module_el8.7.0+1178+0ba51308.x86_64.rpm	33KB	RPM 文件
📄 python39-libs-3.9.13-1.module_el8.7.0+1178+0ba51308.x86_64.rpm	8.20MB	RPM 文件
📄 python39-pip-20.2.4-7.module_el8.6.0+961+ca697fb5.noarch.rpm	1.91MB	RPM 文件
📄 python39-pip-wheel-20.2.4-7.module_el8.6.0+961+ca697fb5.noarch.rpm	1.09MB	RPM 文件
📄 python39-setuptools-50.3.2-4.module_el8.6.0+930+10acc06f.noarch.rpm	871KB	RPM 文件
📄 python39-setuptools-wheel-50.3.2-4.module_el8.6.0+930+10acc06f.noarch.rpm	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。