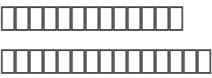


- CentOS 7 LAMP
- CentOS 7 Nextcloud
- CentOS 7 OxOOL (V3 V4)



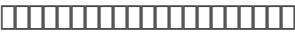
CentOS 7



CentOS 7

CentOS Linux release 7.9.2009 (Core)

```
# cat /etc/redhat-release
CentOS Linux release 7.9.2009 (Core)
```



```
# uname -a
Linux oxoolcommunity.ossii.com.tw 3.10.0-1160.66.1.el7.x86_64 #1 SMP Wed May 18 16:02:34 UTC 2022
x86_64 x86_64 x86_64 GNU/Linux
```

CentOS 7 3.10.0-1160.66.1.el7.x86_64 yum update

```
# yum update -y
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
* base: mirror01.idc.hinet.net
* extras: mirror01.idc.hinet.net
* updates: mirror01.idc.hinet.net
No packages marked for update
```



Kernel



```
# rpm --import https://www.elrepo.org/RPM-GPG-KEY-elrepo.org
# rpm -Uvh http://www.elrepo.org/elrepo-release-7.0-2.el7.elrepo.noarch.rpm
[ ] http://www.elrepo.org/elrepo-release-7.0-2.el7.elrepo.noarch.rpm
[ ] http://elrepo.org/elrepo-release-7.0-4.el7.elrepo.noarch.rpm
[ ] ... ##### [100%]
Updating / installing...
 1:elrepo-release-7.0-4.el7.elrepo ##### [100%]
```

[] 5.x []

```
# yum --enablerepo=elrepo-kernel install kernel-ml -y
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
* base: mirror01.idc.hinet.net
* elrepo: ftp.yz.yamagata-u.ac.jp
* elrepo-kernel: ftp.yz.yamagata-u.ac.jp
* extras: mirror01.idc.hinet.net
* updates: mirror01.idc.hinet.net
elrepo | 3.0 kB 00:00
elrepo-kernel | 3.0 kB 00:00
(1/2): elrepo/primary_db | 580 kB 00:00
(2/2): elrepo-kernel/primary_db | 2.1 MB 00:00
Resolving Dependencies
--> Running transaction check
---> Package kernel-ml.x86_64 0:5.18.6-1.el7.elrepo will be installed
--> Finished Dependency Resolution

Dependencies Resolved

=====
```

```
=====
Package      Arch      Version      Repository      Size
=====
Installing:
kernel-ml     x86_64    5.18.6-1.el7.elrepo    elrepo-kernel    56 M

Transaction Summary
=====
=====
Install 1 Package

Total download size: 56 M
Installed size: 257 M
Is this ok [y/d/N]: y
Downloading packages:
kernel-ml-5.18.6-1.el7.elrepo.x86_64.rpm          | 56 MB  00:05
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
Warning: RPMDB altered outside of yum.
  Installing : kernel-ml-5.18.6-1.el7.elrepo.x86_64      1/1
  Verifying  : kernel-ml-5.18.6-1.el7.elrepo.x86_64      1/1

Installed:
  kernel-ml.x86_64 0:5.18.6-1.el7.elrepo

Complete!
```



```
# rpm -qa |grep kernel
kernel-tools-3.10.0-1160.66.1.el7.x86_64
kernel-3.10.0-1160.49.1.el7.x86_64
kernel-tools-libs-3.10.0-1160.66.1.el7.x86_64
kernel-3.10.0-1160.66.1.el7.x86_64
kernel-3.10.0-1160.53.1.el7.x86_64
kernel-3.10.0-1160.59.1.el7.x86_64
kernel-3.10.0-1160.62.1.el7.x86_64
```

```
kernel-ml-5.18.6-1.el7.elrepo.x86_64
```

The diagram illustrates the relationship between the kernel, tools, and libraries (libs) for different versions of the operating system. It shows that the kernel and tools are shared across versions, while the libs are version-specific.

Legend:

- kernel: 1 block
- tools: 1 block
- libs: 1 block

Diagram Structure:

- kernel (1 block)
 - tools (1 block)
 - libs (1 block)
- kernel-5.18 (1 block)
 - tools (1 block)
 - libs (1 block)

The diagram shows that the kernel and tools are shared across versions, while the libs are version-specific.

```
# yum remove kernel-tools-3.10.0-1160.66.1.el7.x86_64 kernel-tools-libs-3.10.0-1160.66.1.el7.x86_64
Loaded plugins: fastestmirror
Resolving Dependencies
--> Running transaction check
---> Package kernel-tools.x86_64 0:3.10.0-1160.66.1.el7 will be erased
---> Package kernel-tools-libs.x86_64 0:3.10.0-1160.66.1.el7 will be erased
--> Finished Dependency Resolution

Dependencies Resolved

=====
=====
Package            Arch    Version              Repository    Size
=====
=====
Removing:
kernel-tools       x86_64  3.10.0-1160.66.1.el7 @updates    337 k
kernel-tools-libs  x86_64  3.10.0-1160.66.1.el7 @updates     18 k

Transaction Summary

=====
=====
Remove 2 Packages

Installed size: 355 k
Is this ok [y/N]:☐ y ☐
```

Kernel

```
# rpm -qa|grep kernel
kernel-3.10.0-1160.49.1.el7.x86_64
kernel-3.10.0-1160.66.1.el7.x86_64
kernel-3.10.0-1160.53.1.el7.x86_64
kernel-3.10.0-1160.59.1.el7.x86_64
kernel-3.10.0-1160.62.1.el7.x86_64
```

❏ **kernel-ml-5.18.6-1.el7.elrepo.x86_64** ❏ **kernel-3.10.0-1160.66.1.el7.x86_64**
❏❏❏❏❏❏❏❏❏❏

```
# yum remove kernel-3.10.0-1160.49.1.el7.x86_64 kernel-3.10.0-1160.53.1.el7.x86_64 kernel-3.10.0-1160.59.1.el7.x86_64 kernel-3.10.0-1160.62.1.el7.x86_64
Loaded plugins: fastestmirror
Resolving Dependencies
--> Running transaction check
---> Package kernel.x86_64 0:3.10.0-1160.49.1.el7 will be erased
---> Package kernel.x86_64 0:3.10.0-1160.53.1.el7 will be erased
---> Package kernel.x86_64 0:3.10.0-1160.59.1.el7 will be erased
---> Package kernel.x86_64 0:3.10.0-1160.62.1.el7 will be erased
--> Finished Dependency Resolution
```

Dependencies Resolved

=====				
=====				
Package	Arch	Version	Repository	Size
=====				
=====				

Removing:

kernel	x86_64	3.10.0-1160.49.1.el7	@updates	64 M
kernel	x86_64	3.10.0-1160.53.1.el7	@updates	64 M
kernel	x86_64	3.10.0-1160.59.1.el7	@updates	64 M
kernel	x86_64	3.10.0-1160.62.1.el7	@updates	64 M

Transaction Summary

=====				
=====				

Remove 4 Packages

Installed size: 257 M

Is this ok [y/N]:❏❏❏❏❏ y ❏

❏❏❏❏❏❏❏❏❏❏ libs ❏ tools ❏❏

```
# yum --enablerepo=elrepo-kernel install kernel-ml-headers kernel-ml-tools kernel-ml-tools-libs -y
```

Loaded plugins: fastestmirror

Loading mirror speeds from cached hostfile

* base: mirror01.idc.hinet.net

* elrepo: ftp.ne.jp

* elrepo-kernel: ftp.ne.jp

* extras: mirror01.idc.hinet.net

* updates: mirror01.idc.hinet.net

Resolving Dependencies

--> Running transaction check

---> Package kernel-ml-headers.x86_64 0:5.18.6-1.el7.elrepo will be installed

---> Package kernel-ml-tools.x86_64 0:5.18.6-1.el7.elrepo will be installed

---> Package kernel-ml-tools-libs.x86_64 0:5.18.6-1.el7.elrepo will be installed

--> Finished Dependency Resolution

Dependencies Resolved

=====

=====

Package	Arch	Version	Repository	Size
---------	------	---------	------------	------

=====

=====

Installing:

kernel-ml-headers	x86_64	5.18.6-1.el7.elrepo	elrepo-kernel	1.6 M
kernel-ml-tools	x86_64	5.18.6-1.el7.elrepo	elrepo-kernel	267 k
kernel-ml-tools-libs	x86_64	5.18.6-1.el7.elrepo	elrepo-kernel	152 k

Transaction Summary

=====

=====

Install	3 Packages
---------	------------

Total download size: 2.0 M

Installed size: 6.2 M

Downloading packages:

(1/3): kernel-ml-tools-5.18.6-1.el7.elrepo.x86_64.rpm	267 kB	00:00
(2/3): kernel-ml-tools-libs-5.18.6-1.el7.elrepo.x86_64.rpm	152 kB	00:00
(3/3): kernel-ml-headers-5.18.6-1.el7.elrepo.x86_64.rpm	1.6 MB	00:00

Total	2.6 MB/s 2.0 MB	00:00
-------	-------------------	-------

Running transaction check

Running transaction test

Transaction test succeeded

Running transaction

Installing : kernel-ml-tools-libs-5.18.6-1.el7.elrepo.x86_64	1/3
Installing : kernel-ml-tools-5.18.6-1.el7.elrepo.x86_64	2/3
Installing : kernel-ml-headers-5.18.6-1.el7.elrepo.x86_64	3/3
Verifying : kernel-ml-headers-5.18.6-1.el7.elrepo.x86_64	1/3
Verifying : kernel-ml-tools-5.18.6-1.el7.elrepo.x86_64	2/3
Verifying : kernel-ml-tools-libs-5.18.6-1.el7.elrepo.x86_64	3/3

Installed:

kernel-ml-headers.x86_64 0:5.18.6-1.el7.elrepo
kernel-ml-tools.x86_64 0:5.18.6-1.el7.elrepo
kernel-ml-tools-libs.x86_64 0:5.18.6-1.el7.elrepo

Complete!



```
# yum update -y
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
* base: mirror01.idc.hinet.net
* elrepo: hkg.mirror.rackspace.com
* extras: mirror01.idc.hinet.net
* updates: mirror01.idc.hinet.net
Resolving Dependencies
--> Running transaction check
---> Package elrepo-release.noarch 0:7.0-4.el7.elrepo will be updated
---> Package elrepo-release.noarch 0:7.0-5.el7.elrepo will be an update
--> Finished Dependency Resolution
```

Dependencies Resolved

=====				
=====				
Package	Arch	Version	Repository	Size
=====				
=====				

Updating:

elrepo-release noarch 7.0-5.el7.elrepo elrepo 8.6 k

Transaction Summary

=====

=====

Upgrade 1 Package

Total download size: 8.6 k

Downloading packages:

Delta RPMs disabled because /usr/bin/applydeltarpm not installed.

elrepo-release-7.0-5.el7.elrepo.noarch.rpm | 8.6 kB 00:00

Running transaction check

Running transaction test

Transaction test succeeded

Running transaction

- Updating : elrepo-release-7.0-5.el7.elrepo.noarch 1/2
- Cleanup : elrepo-release-7.0-4.el7.elrepo.noarch 2/2
- Verifying : elrepo-release-7.0-5.el7.elrepo.noarch 1/2
- Verifying : elrepo-release-7.0-4.el7.elrepo.noarch 2/2

Updated:

elrepo-release.noarch 0:7.0-5.el7.elrepo

Complete!



grub 2



```
# awk -F\ ' $1=="menuentry " {print $2}' /etc/grub2.cfg
CentOS Linux (5.18.6-1.el7.elrepo.x86_64) 7 (Core)
CentOS Linux (3.10.0-1160.66.1.el7.x86_64) 7 (Core)
CentOS Linux (0-rescue-db7214c5f0fd4b74abbce0498c2ad9b8) 7 (Core)
```



0

```
# grub2-set-default 0
```



```
CentOS Linux (5.18.6-1.el7.elrepo.x86_64) 7 (Core)
CentOS Linux (3.10.0-1160.66.1.el7.x86_64) 7 (Core)
CentOS Linux (0-rescue-db7214c5f0fd4b74abbce0498c2ad9b8) 7 (Core)
```



```
# uname -a
Linux oxoolcommunity.ossii.com.tw 5.18.6-1.el7.elrepo.x86_64 #1 SMP PREEMPT_DYNAMIC Tue Jun 21 09:11:23
EDT 2022 x86_64 x86_64 x86_64 GNU/Linux
```

