

Maintenance Activities for KumoScale in Managed Mode

This section explains how to upgrade and uninstall KumoScale software for Managed Mode on your target storage nodes.

There are several ways to upgrade and remove KumoScale storage software for Managed Mode

Upgrades: To upgrade the KumoScale target kernel Modules, Engine, Operators, or Provisioner , use any of the following methods:

- [KumoScale Cluster Manager CLI](#)
- [KumoScale package builder](#)

To upgrade the target modules only, you can also use the

- [KumoScale installation script.](#)

Removal: To learn how to remove the KumoScale target kernel Modules, Engine, Operators, or Provisioner , select the appropriate link:

- [Removing the KumoScale Kernel Modules](#)
- [Removing the KumoScale Engine](#)
- [Removing the KumoScale CLI](#)
- [Removing the KumoScale Provisoner and Operators](#)

Upgrading KumoScale Components with the KumoScale Cluster Manager CLI

To upgrade the KumoScale Engine, Operators, or Provisioner, use the KumoScale Cluster Manager CLI command [cluster-software-upgrade](#) command.

To update a single operator with its latest version, use the relevant CR file. For example

Install operator:

```
kubect1 apply -f ks-install-operator-newversion.yaml
```

Config operator:

```
kubect1 apply -f ks-config-operator-newversion.yaml
```

Upgrading KumoScale Software with the KumoScale Package Builder

To upgrade KumoScale software, you can use the KumoScale upgrade package builder, **ks_pkg_builder.tar** to first build a signed package containing the appropriate modules for your kernel and then execute that package. Follow the steps below to complete the process:

1. Extract the content of the archive file, **tar** which includes the following:

- ks_pkg_builder.sh**, the KumoScale, upgrade package build script.
- Shell files (.sh) used by the build script.
- README**, a text file containing useful information on doing the upgrade.

2. Run the builder **sh** with parameters:

```
ks_pkg_builder.sh <KS artifacts folder absolute path> <package password> <target os> [--without_kernel_modules]
```

Parameters	Description	Required/Optional
ks_artifacts_folder_path	The absolute pathname to use for the KumoScale modules and engine.	Required
password	The password to use for gpg encryption and decryption.	Required
target_os	Linux OS platform type package destination. Should be one of centos or ubuntu .	Required
without_kernel_modules	A flag indicating whether to pack the kernel modules for upgrading. Adding --without_kernel_modules indicates that they will not be included.	Optional

If there are any issues with the input provided you will receive an informative message and the script will exit without the upgrade package being created. If all information is valid the script will generate a **package.properties** file, package it with all required files appropriate to the OS specified in **target_os**. and create an encrypted tar file using the password above.

3. An upgrade package is created for the OS specified in step 2:

- RHEL: `upgrade_managed_nvme_<version>_rpm.tar.gpg`
- Ubuntu: `upgrade_managed_nvme_<version>_deb.tar.gpg`

Execute the appropriate package to complete the upgrade. You will need to provide the password specified in step 2 to decrypt the file.

Upgrading Kernel Modules using the KumoScale Installation Script

To upgrade the kernel modules, place the new KumoScale kernel modules (`nvmeoft_pci.ko`, `nvmeofh_fab.ko`, `nvmeofh_tcp.ko`, `nvmeofh_rdma.ko`, `nvmeoft_fab.ko`, `nvmeoft_tgt.ko`, `nvmeoft_ctl.ko`) in the current directory and run the installation script `kminst.sh` with the upgrade option:

```
ksminst.sh -u
```

Removing KumoScale Software

This section describes the processes for removing KumoScale from your environment.

Removing the KumoScale Kernel Modules

If needed, you can remove the KumoScale kernel modules by running the supplied installation script:

Note: If the kernel you are using was compiled with **CONFIG_NVME_CORE=y**, undo the NVMe host driver's initialization functions blacklisting from the Linux command line before proceeding.

ksminst.sh -r

We strongly recommend rebooting once components have been removed.

Removing the KumoScale Engine

We strongly recommend rebooting once components have been removed.

RPM removal

To remove the package run:

```
rpm -e KumoScale-Engine<version>
```

Debian removal

To remove the package run:

```
sudo dpkg --purge kumoscale-engine
```

Removing the KumoScale CLI

If you need to uninstall the KumoScale CLI, run the appropriate command to uninstall the CLI. We recommend rebooting once components have been uninstalled.

CentOS

```
rpm -e ks-managed-cli-<version>.x86_64
```

Ubuntu

```
sudo apt-get remove ks-managed-cli
```

Removing the KumoScale Provisioner and Operators

You can use the delete command to remove the Provisioner and the Operators. However, if a storage node was created or the Provisioner was installed you will get errors about the CRs being deleted.

To uninstall the Provisioner and their CR files use

```
kubectl delete -f provisioner-<version>.yaml
```

To uninstall both operators and their CR files use:

```
kubectl delete -f operators-managed-<version>.yaml
```

To delete a single operator and CR files:

```
kubectl delete -f ks-install-operator-<version>.yaml
```

or

```
kubectl delete -f ks-config-operator-<version>.yaml
```
