



Automatic worker node preparation

Astra Trident

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Astra Trident can automatically install the required NFS and iSCSI tools on the nodes present in the Kubernetes cluster. This is a **beta feature** and is **not meant for** production clusters. Today, the feature is available for nodes that run **CentOS, RHEL, and Ubuntu**.

For this feature, Astra Trident includes a new install flag: `--enable-node-prep` for installations deployed with `tridentctl`. For deployments with the Trident operator, use the Boolean option `enableNodePrep`.



The `--enable-node-prep` installation option tells Astra Trident to install and ensure that NFS and iSCSI packages and/or services are running when a volume is mounted on a worker node. This is a **beta feature** meant to be used in dev/test environments that is **not qualified** for production use.

When the `--enable-node-prep` flag is included for Astra Trident installations deployed with `tridentctl`, here is what happens:

1. As part of the installation, Astra Trident registers the nodes it runs on.
2. When a Persistent Volume Claim (PVC) request is made, Astra Trident creates a PV from one of the backends it manages.
3. Using the PVC in a pod would require Astra Trident to mount the volume on the node the pod runs on. Astra Trident attempts to install the required NFS/iSCSI client utilities and to ensure that the required services are active. This is done before the volume is mounted.

The preparation of a worker node is done only once as part of the first attempt made to mount a volume. All subsequent volume mounts should succeed as long as no changes outside Astra Trident touch the NFS and iSCSI utilities.

In this manner, Astra Trident can ensure that all the nodes in a Kubernetes cluster have the required utilities needed to mount and attach volumes. For NFS volumes, the export policy should also permit the volume to be mounted. Trident can automatically manage export policies per backend; alternatively, users can manage export policies out-of-band.

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