Deploy ONTAP tools

ONTAP tools for VMware vSphere 9.10

NetApp
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How to download ONTAP tools

You can download the *.ova* file for ONTAP tools for VMware vSphere from the NetApp Support Site.

The *.ova* file includes the ONTAP tools. When the deployment is complete, all the three products are installed in your environment. By default, VSC starts working as soon as you decide on the subsequent deployment model and choose whether to enable VASA Provider and SRA based on your requirements.

You can download ONTAP tools from the NetApp Support Site by using the software download page.

If you want to enable SRA in your deployment of ONTAP tools, then you must have installed the SRA plug-in on the Site Recovery Manager (SRM) server. You can download the installation file for the SRA plug-in from the **Storage Replication Adapter for ONTAP** menu in the Software Downloads section.

How to deploy ONTAP tools

You should deploy ONTAP tools in your environment, and specify the required parameters, to be able to use the appliance.

What you will need

- You must be running a supported release of vCenter Server.

  ONTAP tools can be registered either with a Windows deployment of vCenter Server or a VMware vCenter Server Virtual Appliance (vCSA) deployment.

  Interoperability Matrix Tool

- You must have configured and set up your vCenter Server environment.
- You must have set up an ESXi host for your virtual machine.
- You must have downloaded the *.ova* file.
- You must have the administrator login credentials for your vCenter Server instance.
- You should have logged out of and closed all of the browser sessions of vSphere Client, and deleted the browser cache to avoid any browser cache issue during the deployment of ONTAP tools.
- You must have enabled Internet Control Message Protocol (ICMP).

  If ICMP is disabled, then the initial configuration of ONTAP tools fails, and VSC cannot start the VSC and VASA Provider services after deployment. You must manually enable the VSC and VASA Provider services after deployment.

About this task

If you are deploying a fresh installation of ONTAP tools, then VASA Provider is enabled by default. But in case of an upgrade from an earlier release of the ONTAP tools, the state of VASA Provider is retained and you might need to enable VASA Provider manually.

Enable VASA Provider for configuring virtual datastores

Steps

1. Log in to the vSphere Client.
2. Select **Home** > **Host & Clusters**.
3. Right-click the required datacenter, and then click **Deploy OVA template**.
4. Select the applicable method to provide the deployment file for ONTAP tools, and then click **Next**.

Location	Action
URL	Provide the URL for the *.ova* file for ONTAP tools.
Folder	Select the *.ova* file for ONTAP tools from the saved location.

5. Enter the details to customize the deployment wizard.

   (Optional) In the Configure vCenter or Enable VCF section, select the **Enable VMware Cloud Foundation (VCF)** checkbox and provide a password for ONTAP tools credentials. You do not need to provide IP address but providing a password is mandatory. See the following for complete details.

   - Deployment customization considerations
   - VMware Cloud Foundation mode of deployment for ONTAP tools

6. Review the configuration data, and then click **Next** to finish deployment.

   As you wait for deployment to finish, you can view the progress of the deployment from the Tasks tab.

7. Power on the ONTAP tools virtual machine, and then open a console of the virtual machine running the ONTAP tools.
8. Verify that ONTAP tools is running after the deployment is completed.
9. If ONTAP tools is not registered with any vCenter Server, use `\https://appliance_ip:8143/Register.html` to register the VSC instance.
10. Log out and re-log in to the vSphere Client to view the deployed ONTAP tools.

    It might take a few minutes for the plug-in to be updated in the vSphere Client.

    Troubleshooting: If you cannot view the plug-in even after logging in, you must clean the vSphere Client cache.

    Clear the vSphere cached downloaded plug-in packages

> If you are using ONTAP 9.6 or earlier, then to view the vVols dashboard, you must download and install OnCommand API Services. But for ONTAP 9.7 you do not require OnCommand API Services to be registered with VASA Provider.

Enable VASA Provider for configuring virtual datastores

Related information

Error during fresh deployment of virtual appliance for VSC, VASA Provider, and SRA

Enable VASA Provider for configuring virtual datastores

The ONTAP tools for VMware vSphere has the VASA Provider capability enabled by default. You can configure VMware Virtual Volumes (vVols) datastores with required storage capability profiles for each vVols datastore.

What you will need

- You must have set up your vCenter Server instance and configured ESXi.
- You must have deployed ONTAP tools .

About this task

If the VASA Provider capability is disabled before upgrading to the 9.7.1 release of ONTAP tools , the VASA Provider capability remains disabled after the upgrade. This release allows you to enable vVols replication feature for vVols datastores.

Steps

1. Log in to the web user interface of VMware vSphere.
2. From the vSphere Client, click **Menu** > **ONTAP tools Console**.
3. Click **Settings**.
4. Click **Manage Capabilities** in the Administrative Settings tab.
5. In the Manage Capabilities dialog box, select the VASA Provider extension to enable.
6. If you want to use replication capability for vVols datastores, then use the **Enable vVols replication** toggle button.
7. Enter the IP address of ONTAP tools and the administrator password, and then click **Apply**.

If VASA Provider status displays as “Offline” even after enabling the VASA Provider extension, then check the `/var/log/vmware/vmware-sps/sps.log` file for any connection errors with VASA Provider or restart the “vmware-sps” service.

Register OnCommand API services with ONTAP 9.6 or earlier releases

If you are using ONTAP 9.6 or earlier, then the vVols dashboard can display the details of VMware Virtual Volumes (vVols) datastores and virtual machines only if you have registered OnCommand API Services for VASA Provider to obtain data for the vVols VM and datastore reports.

What you will need

You must have downloaded OnCommand API Services 2.1 or later from the NetApp Support Site.

The vVols dashboard displays performance metrics only when the SAN vVols datastores and virtual machines are configured using ONTAP 9.3 or later.

Steps

1. From the ONTAP tools home page, click **Settings**.
2. Click **Manage Extension** in the Administrative Settings tab.
3. Use the Register OnCommand API Services slider to enable OnCommand API Services.
4. Enter the IP address, service port, and credentials for OnCommand API Services.

   You can also use the Manage VASA Provider Extensions dialog box for the following modifications:

   - To update OnCommand API Services registration when there is any change to the credentials.
   - To unregister OnCommand API Services when you no longer require the vVols dashboard.

     You must clear the Register OnCommand API Services checkbox to remove the OnCommand API Services registration for VASA Provider.

5. Click **Apply**.

   The vVols dashboard displays the metrics for ONTAP 9.6 or earlier SAN vVols datastores only after the registration of OnCommand API Services is complete.

Related information

NetApp Support

Install the NFS VAAI plug-in

You can install the NetApp NFS Plug-in for VMware vStorage APIs for Array Integration (VAAI) using the GUI of ONTAP tools for VMware vSphere.

What you will need

- You should have downloaded the installation package for the NFS Plug-in for VAAI (`.vib`) from the NetApp Support Site.

  NetApp Support

- You should have installed ESXi host 6.5 or later and ONTAP 9.1 or later.
- You should have powered on the ESXi host and mounted an NFS datastore.
- You should have set the values of the `DataMover.HardwareAcceleratedMove`, `DataMover.HardwareAcceleratedInit`, and `VMFS3.HardwareAcceleratedLocking` host settings to “1”.

  These values are set automatically on the ESXi host when the Recommended Settings dialog box is updated.

- You should have enabled the vstorage option on the storage virtual machine (SVM) by using the `vserver nfs modify -vserver vserver_name -vstorage enabled` command.
- You should have ESXi 7.0 update1 or later if you are using NetApp NFS VAAI plug-in 2.0.

Steps

1. Rename the `.vib` file that you downloaded from the NetApp Support Site to NetAppNasPlugin.vib to

match the predefined name that VSC uses.

2. Click **Settings** in the ONTAP tools home page.
3. Click **NFS VAAI Tools** tab.
4. Click **Change** in the **Existing version** section.
5. Browse and select the renamed `.vib` file, and then click **Upload** to upload the file to ONTAP tools.
6. In the Install on ESXi Hosts section, select the ESXi host on which you want to install the NFS VAAI plug-in, and then click **Install**.

   You should follow the on-screen instructions to complete the installation. You can monitor the installation progress in the Tasks section of vSphere Web Client.

7. Reboot the ESXi host after the installation finishes.

   When you reboot the ESXi host, VSC automatically detects the NFS VAAI plug-in. You do not have to perform additional steps to enable the plug-in.

Clear the vSphere cached downloaded plug-in packages

If plug-ins are not updated automatically after deploying or upgrading ONTAP tools, you should clean up the cached download plug-in packages on the browser and on the vCenter Server to resolve vCenter Server plug-in issues.

Steps

1. Logout from your existing vSphere web client or vSphere-UI.
2. Remove the browser cache.
3. Remove the vSphere Client cached plug-in packages. For VCSA, Perform the following:
   a. SSH into the VCSA appliance.
   b. Stop the VMware vSphere Client service: `service-control --stop vsphere-ui`
   c. Change directories to the vCenter client UI extensions directory: `cd /etc/vmware/vsphere-ui/vc-packages/vsphere-client-serenity`
   d. Remove the cached plug-in packages specific to NetApp using the `rm -rf` commands:

      ```
      rm -rf com.netapp.nvpf.webclient-*

      rm -rf com.netapp.vasa.vvol.webclient-*

      rm -rf com.netapp.vsch5-*
      ```

   e. Start the VMware vSphere Client service: `service-control --start vsphere-ui`

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