

Hitachi Vantara VSP One Block Storage Modules for Red Hat Ansible

3.1.0

User Guide

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Preface

Intended audience

This document is intended for IT and data center administrators to automate and manage the configuration of Hitachi storage systems.

Release notes

Read the release notes before installing and using this product. They may contain requirements or restrictions that are not fully described in this document or updates or corrections to this document. Release notes are available on the Hitachi Vantara documentation website: <https://docs.hitachivantara.com>.

Referenced documents

The following documents are referenced in this guide:

- *Hitachi Unified Storage Command Control Interface Installation and Configuration Guide*, MK-91DF8306
- *Hitachi Command Control Interface Command Reference*, MK-90RD7009
- *Hitachi Command Control Interface User and Reference Guide*, MK-90RD7010
- *Hitachi VSP G Series Hitachi Universal Volume Manager User Guide*, MK-92RD8024

Document conventions

This document uses the following typographic conventions:

Convention	Description
Bold	- Indicates text in a window, including window titles, menus, menu options, buttons, fields, and labels. Example: Click OK. - Indicates emphasized words in list items.
<i>Italic</i>	- Indicates a document title or emphasized words in text. - Indicates a variable, which is a placeholder for actual text provided by the user or for output by the system. Example: <pre>pairedisplay -g group</pre> (For exceptions to this convention for variables, see the entry for angle brackets.)
Monospace	Indicates text that is displayed on screen or entered by the user. Example: <code>pairedisplay -g oradb</code>
< > angle brackets	Indicates variables in the following scenarios: - Variables are not clearly separated from the surrounding text or from other variables. Example: <pre>Status-<report-name><file-version>.csv</pre> - Variables in headings.
[] square brackets	Indicates optional values. Example: [a b] indicates that you can choose a, b, or nothing.
{ } braces	Indicates required or expected values. Example: { a b } indicates that you must choose either a or b.
vertical bar	Indicates that you have a choice between two or more options or arguments. Examples: [a b] indicates that you can choose a, b, or nothing. { a b } indicates that you must choose either a or b.

This document uses the following icons to draw attention to information:

Icon	Label	Description
	Note	Calls attention to additional information.

Icon	Label	Description
	Tip	Provides helpful information, guidelines, or suggestions for performing tasks more effectively.
	Important	Highlights information that is essential to the completion of a task.
	Caution	Warns the user of adverse conditions and/or consequences (for example, disruptive operations, data loss, or a system crash).
	CAUTION	Warns the user of a hazardous situation that, if not avoided, could result in major or minor injury.
	WARNING	Warns the user of a hazardous situation which, if not avoided, could result in death or serious injury.

Conventions for storage capacity values

Physical storage capacity values (for example, disk drive capacity) are calculated based on the following values:

Physical capacity unit	Value
1 kilobyte (KB)	1,000 (10^3) bytes
1 megabyte (MB)	1,000 KB or $1,000^2$ bytes
1 gigabyte (GB)	1,000 MB or $1,000^3$ bytes
1 terabyte (TB)	1,000 GB or $1,000^4$ bytes
1 petabyte (PB)	1,000 TB or $1,000^5$ bytes
1 exabyte (EB)	1,000 PB or $1,000^6$ bytes

Logical capacity values (for example, logical device capacity, cache memory capacity) are calculated based on the following values:

Logical capacity unit	Value
1 block	512 bytes
1 cylinder	Mainframe: 870 KB

Logical capacity unit	Value
	Open-systems: ▪ OPEN-V: 960 KB ▪ Others: 720 KB
1 KB	1,024 (2 ¹⁰) bytes
1 MB	1,024 KB or 1,024 ² bytes
1 GB	1,024 MB or 1,024 ³ bytes
1 TB	1,024 GB or 1,024 ⁴ bytes
1 PB	1,024 TB or 1,024 ⁵ bytes
1 EB	1,024 PB or 1,024 ⁶ bytes

Accessing product documentation

Product user documentation is available on: <https://docs.hitachivantara.com>. Check this site for the most current documentation, including important updates that may have been made after the release of the product.

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The [Hitachi Vantara Support Website](https://support.hitachivantara.com/en_us/contact-us.html) is the destination for technical support of products and solutions sold by Hitachi Vantara. To contact technical support, log on to the Hitachi Vantara Support Website for contact information: https://support.hitachivantara.com/en_us/contact-us.html.

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Thank you!

Chapter 1: Introduction

Overview

The Hitachi Vantara VSP One Block Storage Modules for Red Hat Ansible enables IT and data center administrators to consistently and reliably manage VSP One series and VSP One SDS Block storage systems via Red Hat Ansible playbooks.

You can use these storage modules with playbooks that you create to manage your infrastructure using scripts with either a direct connection (option one) to the storage systems or using a Unified API Infrastructure (UAI) Gateway connection (option two).

The following diagram illustrates the two different connection types:

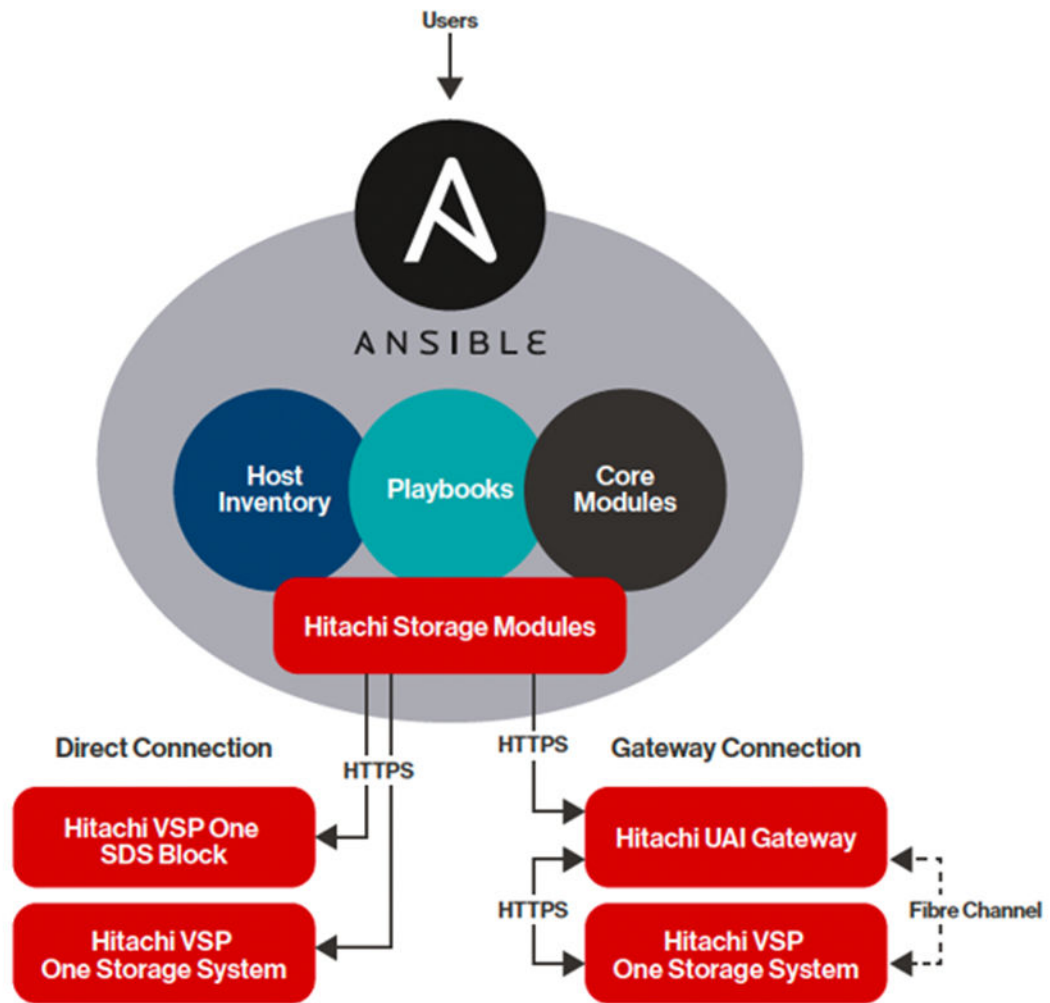


Figure 1: Connection diagram for Hitachi Vantara VSP One Block Storage Modules for Red Hat Ansible

Option 1: Managing storage systems via direct connection

The Hitachi Ansible storage modules can be directly connected to the Hitachi VSP One series and VSP One SDS Block storage systems. This direct connection is the default configuration.

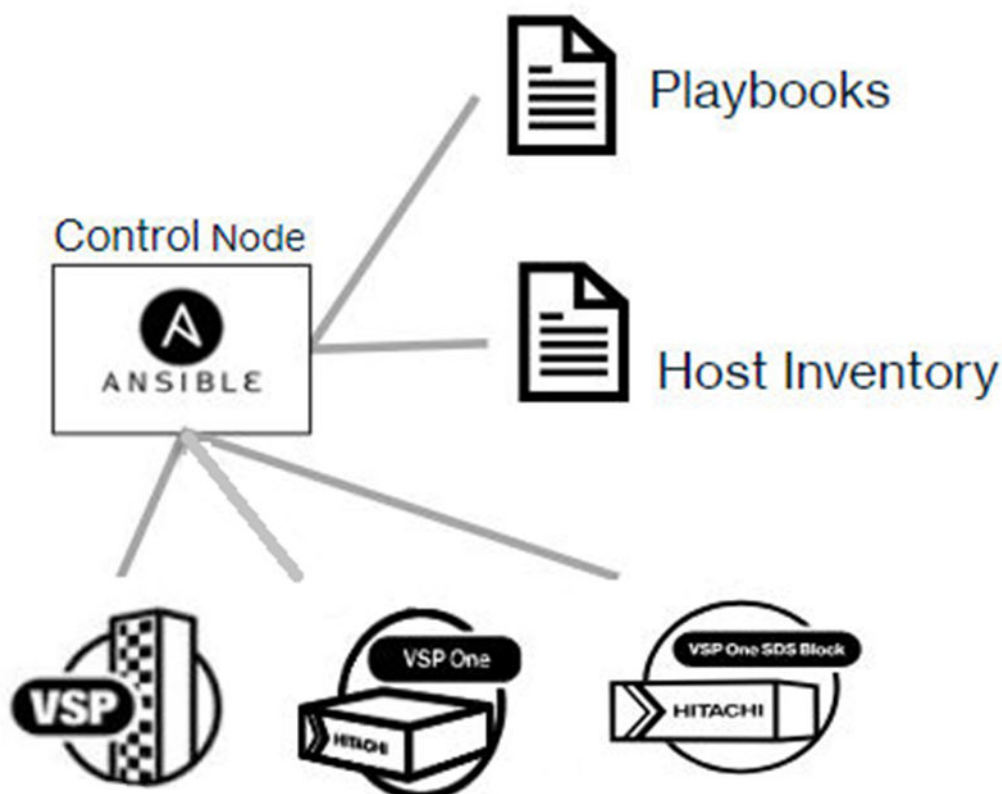


Figure 2: Illustration of the direct connection path between the Ansible control node and the Hitachi VSP One and VSP One SDS Block storage systems.

The advantages of a direct connection are:

- Simplified connection path to the storage systems.
- Faster time to start Day 0 configurations.
- No additional infrastructure is needed to support Ansible automation.



Note:

If you have VSP One SDS Block storage systems, you must use a direct connection.

Mixed direct and gateway modules are not supported.

Option 2: Managing storage systems via gateway connection

The Hitachi Ansible storage modules can be connected to the Hitachi VSP One series storage systems via the Unified API Infrastructure (UAI) Gateway. This connection type will require you to update connection variable in the `playbooks/ansible_vault_vars/ansible_vault_gateway_var.yml` file to `connection = gateway`.

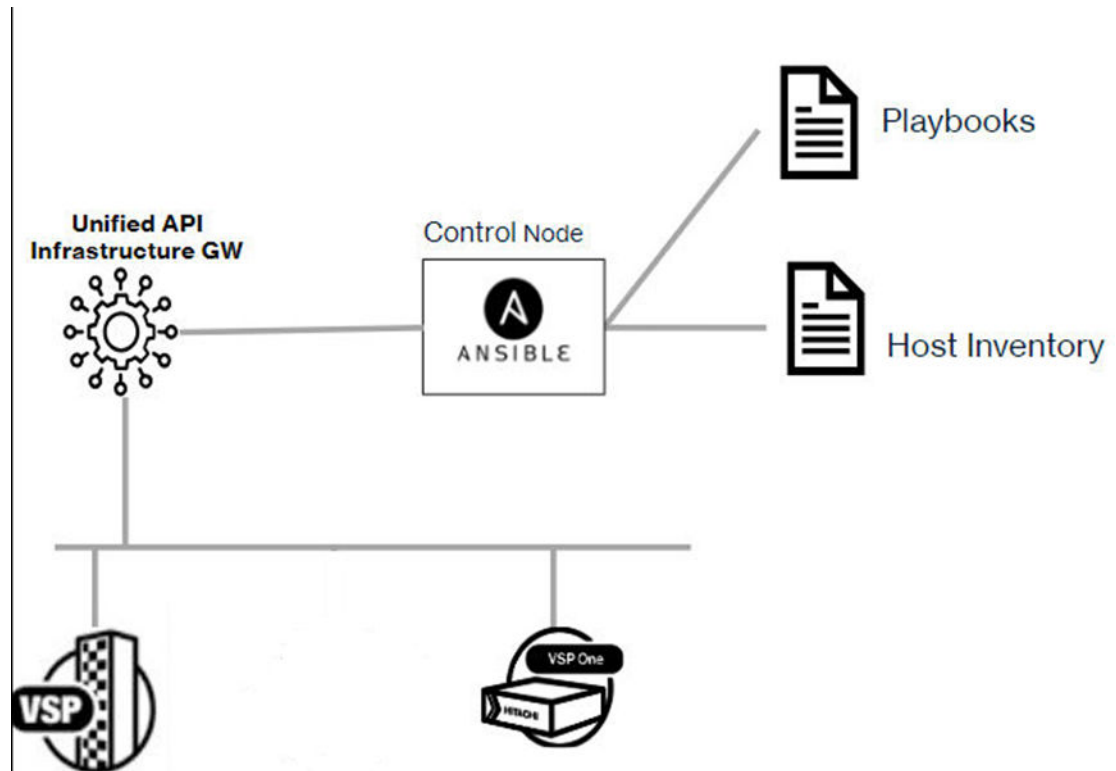


Figure 3: Illustration of the Unified API Infrastructure Gateway connection path between the Ansible control node and the Hitachi VSP One series storage system.

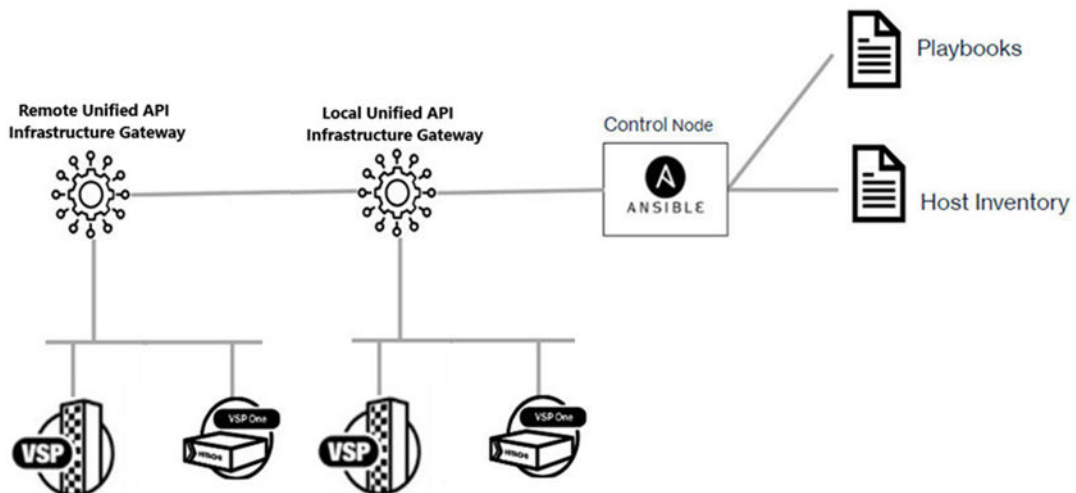


Figure 4: Illustration of Unified API Infrastructure Gateway remote connection path between the Ansible control node and the Hitachi VSP One series storage system. This is required for managing remote replication pairs like GAD, TC and HUR.

The UAI Gateway enables you to securely connect to multiple storage systems across multiple sites. You can also run advanced workflows while providing high performance. The Ansible storage modules securely communicate with the storage systems via the UAI Gateway API token.

The advantages of a UAI Gateway connection are:

- Support for out-of-band (OOB) and in-band (CCI CMD device) communication for high performance.
- Simplified development of playbooks using advanced workflow modules for storage provisioning and data protection available in the API gateway.
- Single secure connection for managing multiple storage systems across all VSP One platforms.
- Federated multisite configurations that enable workflow orchestration.
- Additional services for managing secure multitenancy and task management for tracking status and debugging.

Secure Multitenancy

The Hitachi Unified API Infrastructure Gateway enables you to securely manage storage resources for multiple tenants.

The ability to share storage resources across multiple tenants enables:

- **Resource Isolation:** Ensures that different tenants, such as departments, business units, or clients, have isolated storage environments. Resource isolation enhances security and ensures that data access is restricted to authorized users only.
- **Cost Efficiency:** Multitenancy enables the sharing of infrastructure which reduces overall costs. This means that you can serve multiple tenants using a single storage system, leading to better resource utilization and cost savings.
- **Simplified Management:** Centralized management of storage resources simplifies storage system oversight and maintenance. This means that you can manage multiple tenants from a single interface, thus streamlining operations.
- **Scalability:** Multitenancy solutions are designed to scale easily. As the number of tenants grows, you can allocate additional resources without reconfiguration or downtime.
- **Compliance and Security:** Multitenancy enables you to enforce strict compliance and security policies for each tenant. This is particularly important in industries with stringent regulatory requirements.

Additionally, the UAI Gateway enables a single-partner multiple-subscriber model, where a single partner administers the tenancy rules and configurations for the multiple subscribers.

- Partner:
 - The partner is the apiadmin assigned with super-administrator roles and privileges, and is the default user created in the UAI Gateway.
 - The apiadmin can register multiple subscribers and assign storage resources to subscribers.
 - The apiadmin can assign an entire storage system or just a quota of the storage system, storage ports, storage pools, host groups, and iSCSI targets to the various subscribers by tagging them to only those resources that they individually need.
- Subscribers (tenants):
 - Uses only the storage resources allocated to them by the partner.



Note: Refer to the [Manage subscribers \(on page 277\)](#) page for subscriber-related operations.

The following are some of the use cases where storage system multitenancy enables significant advantages:

- Enterprise IT environments: Large organizations with multiple departments or business units can use multitenancy to provide each unit with dedicated storage resources while managing everything centrally.
- Service Providers: Cloud or managed service providers can offer storage services to multiple clients using a single storage system where each client operates in an isolated virtualized environment.
- Development and Testing: Multitenancy enables development, testing, and production environments to coexist on the same storage infrastructure without interference, facilitating better resource utilization and management.
- Educational Institutions: Universities and schools can provide different faculties or departments with isolated storage environments while using a common infrastructure.
- Healthcare: Healthcare organizations can use multitenancy to store sensitive patient data securely for different departments or practices, ensuring compliance with regulations such as HIPAA.
- Financial Services: Banks and financial institutions can segregate storage for different branches, departments, or customer data, ensuring security and compliance with financial regulations.

Chapter 2: System requirements

The following sections list the hardware and software requirements for the Hitachi Vantara VSP One Block Storage Modules for Red Hat Ansible.

Hardware requirements

The following table lists the hardware requirements for the VSP One Block Storage Modules for Red Hat Ansible.

VSP Storage Systems	Microcode/Firmware
VSP One Block 20	A3-02-21-40/01
VSP One Block 24	A3-02-21-40/01
VSP One Block 26	A3-02-21-40/01
VSP One Block 28	A3-02-21-40/01
VSP 5100, 5500, 5100H, 5500H (SAS)	90-09-25-00/00 SVOS 9.8.7 or later
VSP 5200, 5600, 5200H, 5600H (SAS)	
VSP 5100, 5500, 5100H, 5500H (NVMe)	
VSP 5200, 5600, 5200H, 5600H (NVMe)	
VSP E590, VSP E790	93-07-24-x0/00 SVOS 9.8.7 or later
VSP E990	93-07-24-x0/00 SVOS 9.8.7 or later
VSP E1090	93-07-24-x0/00 SVOS 9.8.7 or later
VSP F350, VSP F370, VSP F700, VSP F900	88-08-14-x0/00 SVOS 9.6.0 or later

VSP Storage Systems	Microcode/Firmware
VSP G370, VSP G700, VSP G900	88-08-14-x0/00 SVOS 9.6.0 or later
VSP G350	88-08-14-x0/00 SVOS 9.6.0 or later
VSP F800	83-06-24-x0/00 SVOS 7.4.1 or later
VSP F1500, VSP G1500	80-06-96-00/00 SVOS 8.3.0 or later
1. The listed microcode versions are the minimum versions.	

VSP One SDS Block system models	Microcode/Firmware
VSP One SDS Block	1.15 or later

Port requirements

The following table lists the port requirements for the Hitachi Vantara VSP One Block Storage Modules for Red Hat Ansible:

Port	Protocol	Application/Storage
22	TCP	▪ SSH to the Hitachi Unified API Infrastructure Gateway
443	HTTPS	▪ Hitachi Unified API Infrastructure Gateway ▪ Hitachi Vantara VSP One series and VSP One SDS Block storage system

Software requirements

The following table lists the software requirements for the Hitachi Vantara VSP One Block Storage Modules for Red Hat Ansible:

Software	Supported version	Related Host
Red Hat Ansible	2.9.27 or higher	Hitachi Vantara VSP One Block Storage Modules for Red Hat Ansible
Ansible core	2.13.9, 2.14, 2.15, 2.16, and 2.17	Hitachi Vantara VSP One Block Storage Modules for Red Hat Ansible Note: Either Red Hat Ansible or Ansible core must be installed.

Software	Supported version	Related Host
Python	full version of Python 3.8 or higher	Hitachi Vantara VSP One Block Storage Modules for Red Hat Ansible



Note: It is recommended that you deploy a Docker image with a full Python-based image.

The following table lists the host requirements for the Hitachi Vantara VSP One Block Storage Modules for Red Hat Ansible:

Host requirements

Red Hat Ansible control node:

Resource	Requirement
CPU/vCPU	2
Memory	4 GB
Hard Disk	30 GB

Hitachi Unified API Infrastructure Gateway

Resource	Requirement
CPU/vCPU	8
Memory	16 GB
Hard Disk	250 GB
Operating system	RHEL 8.10
Supported virtualization host	ESXi 7.0U2 or later

Distribution package

The distribution package for Hitachi Vantara VSP One Block Storage Modules for Red Hat Ansible is available from the following locations:

- [Hitachi Vantara Support Portal > Downloads](#) (login credentials required). Search for Ansible adapters.
- [Ansible Galaxy](#). Search for namespace Hitachi Vantara or modules vspon_block. Install the adapter following the instructions posted to Ansible Galaxy.
- [Hitachi Vantara GitHub](#). Search for vspon-one-ansible. Install the adapter following the instructions posted to Hitachi Vantara GitHub.

The distribution package downloaded from the Hitachi Vantara Support Portal contains the following files:

- Compressed tar archive for the Hitachi Storage Modules installer only:
`hitachivantara-vspon_block-ansible-3.1.0.tar.gz`
- Compressed tar archive for the Hitachi Storage Modules installer along with Hitachi UAI Gateway components: `hitachivantara-vspon_block-ansible-with-gateway-3.1.0.tar.gz`

The `hitachivantara-vspon_block-ansible-3.1.0-362.tar.gz` file contains the following:

- Hitachi Storage Modules installer with the `hitachivantara-vspon_block-ansible-3.1.0.tar.gz` filename
- EULA: `hiAdapterLicense.pdf`

The `hitachivantara-vspon_block-ansible-with-gateway-3.1.0.tar.gz` file contains the following:

- Hitachi Storage Modules installer with the `hitachivantara-vspon_block-ansible-3.1.0-362.tar.gz` file
- Hitachi UAI Gateway OEL OVA with the `Hitachi-Unified-API-Infrastructure-Gateway.OEL.8.10.ova` file
- Hitachi UAI Gateway installer with the `unified-api-infrastructure-gateway-installer-v4.7.0.dev-361.tar.gz` file
- EULA: `hiAdapterLicense.pdf` file
- File for OS upgrade: `uai_os_upgrade_pkg_3.1.tar.gz`

Chapter 3: Installation and upgrade

Installing the Hitachi Vantara VSP One Block Storage Modules for Red Hat Ansible

General overview

Your choice of connection type determines how you install the Hitachi Vantara VSP One Block Storage Modules for Red Hat Ansible. The following two procedures list the general steps for installing with a direct connection (Option 1) and for installing with a UAI Gateway connection (Option 2).

For detailed procedures for installing and configuring each option, see:

- [Option 1: Installing and configuring with a direct connection \(detailed steps\) \(on page 26\)](#)
- [Option 2: Installing and configuring with a UAI Gateway connection \(detailed steps\) \(on page 27\)](#)

Option 1: Installing with a direct connection (general steps)

The following procedure lists the general steps for installing the Hitachi Vantara VSP One Block Storage Modules for Red Hat Ansible with a direct connection to your storage systems.

For the detailed procedure, see [Option 1: Installing and configuring with a direct connection \(detailed steps\) \(on page 26\)](#).

Before you begin

- Verify that the Ansible control node meets the software requirements listed in [System Requirements \(on page 20\)](#).
- Verify that the Ansible control node is up and running.

Procedure

1. From the Hitachi Vantara Support portal, download the Hitachi Vantara VSP One Block Storage Modules for Red Hat Ansible to the Ansible control node.
2. Install the Hitachi Vantara VSP One Block Storage Modules for Red Hat Ansible on the Ansible control node.
3. Onboard one or more Hitachi storage systems to the Ansible control node.
4. Use the provided sample playbooks or create your own playbooks to manage and provision the storage systems.

Option 2: Installing with a UAI Gateway connection (general steps)

The following procedure lists the general steps for installing the Hitachi Vantara VSP One Block Storage Modules for Red Hat Ansible with a Unified API Infrastructure (UAI) Gateway connection to your storage systems.

For the detailed procedure, see [Option 2: Installing and configuring with a UAI Gateway connection \(detailed steps\) \(on page 27\)](#).

Before you begin

- Verify that the Ansible control node meets the software requirements listed in [System Requirements \(on page 20\)](#).
- Verify that the Ansible control node is up and running.



Note:

The UAI Gateway VM uses two passwords for default admin user as mentioned below:

- login-password: This is same as the UAI gateway host password. This is used for the UAI Gateway application installation or logging into the UAI gateway host.
- api-password: This is used for generating the API token for performing the UAI gateway modules task.

Procedure

1. Download the Hitachi Vantara VSP One Block Storage Modules for Red Hat Ansible from the Hitachi Vantara Support portal.
2. Deploy the Hitachi UAI Gateway host in a vSphere environment. The UAI Gateway host must meet the hardware and software requirements listed in [System Requirements \(on page 20\)](#).
3. Provision the command device (for in-band only).
4. Install the Hitachi UAI Gateway installer `unified-api-infrastructure-gateway-installer-v4.7.0.dev-361.tar.gz` on the UAI Gateway host.
5. Install Hitachi Vantara VSP One Block Storage Modules for Red Hat Ansible on the Ansible control node.
6. (Optional) Change the api-password for the UAI gateway admin user. For details, see [Manage UAI gateway admin user password \(on page 244\)](#).
7. Onboard one or more Hitachi storage systems to the Ansible control node. For details, see [Add a storage system \(on page 245\)](#).
8. (Optional) For performing remote replication-related tasks, for example, GAD, HUR, and TC, deploy another UAI gateway (remote) repeating steps 2 to 5. Onboard one or more Hitachi storage systems on the remote UAI gateway using the same Ansible control node. For details, see [Add a storage system with a remote gateway address \(on page 247\)](#) using the remote UAI Gateway address.
9. Use the provided sample playbooks or create your own playbooks to manage and provision the storage systems.

Option 1: Installing and configuring with a direct connection (detailed steps)

Use the following detailed procedure to install and configure the Hitachi Vantara VSP One Block Storage Modules for Red Hat Ansible with a direct connection to your storage systems.

Before you begin

- Verify that the Ansible control node meets the software requirements listed in [System Requirements \(on page 20\)](#).
- Verify that the Ansible control node is up and running.

Procedure

1. From the Hitachi Vantara [Support](#) portal **Downloads** page (login credentials required), search for **Ansible adapters**, and then download the Hitachi Vantara VSP One Block Storage Modules for Red Hat Ansible to the Ansible control node. The Ansible modules are version 3.1.
2. Extract the following file from the distribution media kit installation TAR file:
`hitachivantara-vspone_block-ansible-3.1.0.tar.gz`
3. Upload the `hitachivantara-vspone_block-ansible-3.1.0-362.tar.gz` file to the Linux host that installs the Hitachi Vantara VSP One Block Storage Modules for Red Hat Ansible .

4. Extract the installation files on the Linux server using the following command:
`tar -zxvf hitachivantara-vspone_block-ansible-3.1.0-362.tar.gz`

The following files are extracted to the `HV_Storage_Ansible_Modules` folder:

- `hitachivantara-vspone_block-3.1.0-362.tar.gz`
- `install.sh`
- `uninstall.sh`
- `readme.md`

5. Navigate to the `HV_Storage_Ansible_Modules` folder:

```
[root@hitachivantara HV_Storage_Ansible_Modules]# cd HV_Storage_Ansible_Modules
```

6. Proceed with installation by running the following command:

```
[root@hitachivantara HV_Storage_Ansible_Modules]# sh install.sh
```

Refer to [Upgrading the Hitachi Vantara VSP One Block Storage Modules for Red Hat Ansible \(on page 30\)](#).

7. Post-installation, all playbooks are available in the following location:

```
$HOME/.ansible/collections/ansible_collections/hitachivantara/vspone_block/  
playbooks
```

The following folders are created in the `playbooks` folder:

ansible_vault_vars:

This folder contains two files:

- `ansible_vault_gateway_var.yml`: Contains UAI Gateway related details.



Note: Default api-password for admin user is `overrunsurveysroutewarnssent`

- `ansible_vault_storage_var.yml`: Contains details for VSP One SDS Block or VSP Storage storage systems



Note: It is recommended to use the Ansible Vault feature to keep sensitive data such as passwords or keys in encrypted files.

sds_block_direct:

Contains playbooks related to VSP One SDS Block storage systems.

vsp_direct:

Contains playbooks related to VSP storage systems supported by the direct connection type. This also includes the variable file named `vsp_direct_variables.yml`, which is referred to in all of the direct playbooks.

vsp_uai_gateway

Contains VSP storage-related playbooks supported for the gateway connection. This also includes additional UAI gateway modules sample playbooks such as `uai_gateway_token.yml`, and the variable file named `vsp_uai_gateway_variables.yml`, which is referred to in all of the gateway playbooks.

Most of the task-related playbooks are in the format listed below:

<entity>.yml:

Contains create, update, and delete entity-related samples. For example:
`hostgroup.yml`

<entity_facts>.yml:

Contains read one or all entities related samples. For example:
`hostgroup_facts.yml`

You must copy specific or relevant samples from the master `entity.yml` file or the `entity_facts.yml` file and then create your own playbook.

Option 2: Installing and configuring with a UAI Gateway connection (detailed steps)

Use the following detailed procedure to install and configure the Hitachi Vantara VSP One Block Storage Modules for Red Hat Ansible with a UAI Gateway connection to your storage systems.

Before you begin

Verify that your system meets the following hardware requirements:

- 8 CPUs
- 16 GB memory
- 250 GB disk space

Procedure

1. From the Hitachi Vantara [Support](#) portal **Downloads** page (login credentials required), search for **Ansible adapters**, and then download the Hitachi Vantara VSP One Block Storage Modules for Red Hat Ansible to a local directory. The Ansible modules are version 3.1.
2. Install the UAI Gateway host on a vSphere cluster using the `Hitachi-Unified-API-Infrastructure-Gateway.OEL.8.10.ova` file.
 - a. Extract the following file from the distribution media kit installation TAR file:
`Hitachi-Unified-API-Infrastructure-Gateway.OEL.8.10.ova`
 - b. Log on to the vSphere client and then navigate to the management cluster where you want to deploy the UAI Gateway.
 - c. Right-click the management cluster, and then select **Deploy OVF Template**.
 - d. Select the **Local file** option, and then click **Upload Files**.
 - e. Browse to the local directory where you extracted the Installation Media file, select `Hitachi-Unified-API-Infrastructure-Gateway.OEL.8.10.ova`, and then click **Open**.
 - f. Follow the prompts to complete the deployment.
 - g. Power on the UAI Gateway VM.

Wait approximately 5 minutes while the VM is configured and the IP address becomes reachable over the network.

3. (Optional) Take a VMware snapshot of the UAI Gateway VM.
4. (Optional) Attach the command devices to the UAI Gateway VM. For details, see [Provisioning a command device \(on page 339\)](#)
5. Log on to the UAI Gateway VM as `admin`.
6. Extract the following file from the distribution media kit installation TAR file: `unified-api-infrastructure-gateway-installer-v4.7.0.dev-361.tar.gz`
7. Upload the `unified-api-infrastructure-gateway-installer-v4.7.0.dev-361.tar.gz` file to the Linux host where you want to install the UAI Gateway.
8. Extract the contents of the TAR file. Enter:

```
tar -xvzf unified-api-infrastructure-gateway-installer-v4.7.0.dev-361.tar.gz
```

9. Navigate to the `installer` folder.
10. Run the following command:

```
./installer -m <IP address of the compute node where you want to install Unified-API-Infrastructure-Gateway> -u <admin user> -p <login-password>
```

Refer to [Upgrading the Hitachi Vantara VSP One Block Storage Modules for Red Hat Ansible \(on page 30\)](#).

11. Enter `y` to accept the End User License Agreement.



Note: The deployment is aborted if you do not accept the End User License Agreement.

The installer first checks if the system meets the hardware requirements.



Important: The deployment takes about 45 minutes to complete.

Deployment is complete when you see the following message:

`Congratulations, the installation is successful.`

12. (Optional) If you provisioned a command device, go to [Post-installation tasks \(on page 340\)](#)

Next steps

If you installed the UAI Gateway with an in-band/Fibre Channel command device:

By default, UAI gateway works using the Out-Of-Band [OOB] command device where you can onboard the storage device without the Fibre Channel-based command device mapped to the UAI gateway VM. However, if you have attached the Fibre Channel command device to the gateway VM, you can follow the procedure given below in order to onboard the storage device using an In-band/Fibre Channel command device:

1. SSH to the UAI gateway VM as an admin user.
2. Edit the `infrastructure-operator-config` configmap:

a. `kubectl edit configmap infrastructure-operator-config -n ucp`

3. Search for the `outOfBand` property under `data-> cpuma.properties`
4. Update `outOfBand=true` to `outOfBand=false`.
5. Exit the edit mode. Press the Esc key.
6. Save the changes. Enter:

`:wq`

7. Continue with [Option 1: Installing and configuring with a direct connection \(detailed steps\) \(on page 26\)](#)
8. (Optional) Change the api-password for the admin user. For details, see [Manage UAI gateway admin user password \(on page 244\)](#).
9. (Optional) Deploy another Hitachi UAI Gateway host for performing remote replication--related tasks.
10. Onboard one or more Hitachi storage systems to the Ansible control node using the primary/local UAI gateway. For details, see [Add a storage system \(on page 245\)](#).

11. (Optional) Onboard one or more Hitachi storage systems to the Ansible control node using the remote UAI Gateway address for performing remote replication tasks (TrueCopy, HUR, and GAD). For details, see [Add a storage system with a remote gateway address \(on page 247\)](#).

Upgrading the Hitachi Vantara VSP One Block Storage Modules for Red Hat Ansible

Upgrading details

Upgrade steps

The default directory for Ansible playbooks is:

```
$HOME/.ansible/collections/ansible_collections/hitachivantara/vspone_block/playbooks
```

This directory is part of the Ansible collections for Hitachi Vantara's VSP One Block. It contains the playbooks that are used to automate tasks and manage the VSP One Block systems.



Important: Before performing any upgrades, it is crucial to back up this directory. This ensures that you have a copy of your existing playbooks in case anything goes wrong during the upgrade process. To back up the directory, you can use the following commands:

```
bash
```

```
mkdir -p $HOME/backup/hitachivantara/vspone_block
```

```
cp -r $HOME/.ansible/collections/ansible_collections/hitachivantara/vspone_block/playbooks $HOME/backup/hitachivantara/vspone_block/playbooks_backup
```

This command creates a backup copy of the playbooks directory at `$HOME/backup/hitachivantara/vspone_block/playbooks_backup`, preserving your current configurations and playbooks.

Restoration after upgrade

If you need to restore the playbooks after the upgrade, you can use the following commands:

```
bash
```

```
cp -r $HOME/backup/hitachivantara/vspone_block/playbooks_backup $HOME/.ansible/collections/ansible_collections/hitachivantara/vspone_block/playbooks
```

This command copies the backup playbooks back to their original location, restoring your previous setup.

Upgrading the UAI Gateway

Follow the below steps to upgrade the UAI Gateway.

Upgrade steps

Before you begin

1. Ensure the Unified Gateway VM is operating correctly.
2. Confirm SSH connectivity to the Unified Gateway VM to ensure it is accessible and running.
3. Check that the required ports on the Unified Gateway VM are not blocked by any firewalls.

Procedure

1. Take a snapshot of the VM to preserve the current state.
2. Log in to the UAI Gateway using admin credentials.
3. Delete the existing installer and the 4.6 airgap package.
4. Copy the 4.7 gateway Airgap package to the existing 4.6 Gateway setup on the `/tmp/` directory.
5. Extract the copied UAI Gateway package using the command:

```
tar -xvzf unified-api-infrastructure-gateway-installer-v4.7.0.dev-361.tar.gz
```

6. Navigate to the `installer` folder after extraction.
7. Run the upgrade command:

```
./installer -U -m [IP address of UAI gateway] -u admin -p <UAI gateway VM login-password>
```

8. When prompted to start the upgrade process, type `Y`.
9. Confirm that the upgrade was successful.

OS upgrade

Follow the below steps to perform an OS upgrade after performing UAI gateway upgrade. This task will perform host OS upgrade from OEL 8.9 to 8.10.

OS upgrade steps

Procedure

1. Copy the OS upgrade package to the `/tmp` folder.
2. Extract the package with:

```
tar -xvzf uai_os_upgrade_pkg_3.1.tar.gz
```

3. Navigate to the extracted directory:

```
cd os_upgrade
```

4. Run the upgrade command:

```
sudo  
./upgrade_rpm --master-node 172.25.59.16 --node-username admin --node-password  
<login-password>
```

5. After the upgrade completes, set the default kernel:

```
sudo grubby --set-default /boot/vmlinuz-4.18.0-553.8.1.el8_10.x86_64
```

6. Reboot the VM and allow 10 minutes for services to restart.

Chapter 4: Uninstalling the Hitachi Vantara VSP One Block Storage Modules for Red Hat Ansible

Use the following procedure to uninstall the Hitachi Vantara VSP One Block Storage Modules for Red Hat Ansible from the Unified API Infrastructure Gateway host.

Procedure

1. Open the command line terminal.
2. Navigate to the `<Extracted_directory>/HV_Storage_Ansible_Modules` folder containing the `uninstall.sh` file that is extracted from `hitachivantara-vspone_block-ansible-3.1.0.tar.gz`.
3. Run the `sh uninstall.sh` command to uninstall the service.

```
[root@localhost HV_Storage_Ansible_Modules]# sh uninstall.sh
```

```
Preparing uninstall...
Perform some post-tasks for uninstallation...
```

4. Confirm that you want to uninstall the package.
5. Delete the remaining files from the following locations:
 - `<Extracted_directory>/HV_Storage_Ansible_Modules`
 - `/$HOME/logs/hitachivantara/ansible/vspone_block`

Chapter 5: Hitachi Vantara VSP One Block Storage Modules for Red Hat Ansible

Module names and details

Legend

Key	Definition
Y	Supported on that connection
N	Not supported on that connection

Module names and details

hitachivantara.vspone_block Module Name	Module Details	Direct	Gateway[IB]	Gateway[OOB]
<code>vsp.hv_hg</code>	Create, Update, Delete VSP Storage Host Group	Y	Y	Y
<code>vsp.hv_hg_facts</code>	Get VSP Storage Host Group Details	Y	Y	Y
<code>vsp.hv_iscsi_target</code>	Create, Update, Delete VSP Storage iSCSI Target	Y	Y	Y
<code>vsp.hv_iscsi_target_facts</code>	Get VSP Storage iSCSI Target Details	Y	Y	Y

hitachivantara.vspone_block Module Name	Module Details	Direct	Gateway[IB]	Gateway[OOB]
vsp.hv_ldev	Create, Update, Delete VSP Storage Logical Unit	Y	Y	Y
vsp.hv_ldev_facts	Get VSP Storage Logical Unit Details	Y	Y	Y
vsp.hv_nvm_subsystems_facts	Get VSP Storage NVM Subsystem Details	Y	N	N
vsp.hv_paritygroup_facts	Get VSP Storage Parity Group Details	Y	Y	Y
vsp.hv_shadow_image_pair	Create, Update, Delete VSP Storage ShadowImage	Y	Y	N
vsp.hv_shadow_image_pair_facts	Get VSP Storage ShadowImage Details	Y	Y	N
vsp.hv_snapshot	Create, Update, Delete VSP Storage Thin Image	Y	Y	Y
vsp.hv_snapshot_facts	Get VSP Storage Thin Image Details	Y	Y	Y
vsp.hv_storage_port	Update VSP Storage Port Settings	Y	N	N
vsp.hv_storage_port_facts	Get VSP Storage Port Details	Y	N	N

hitachivantara.vspone_block Module Name	Module Details	Direct	Gateway[IB]	Gateway[OOB]
vsp.hv_storagepool	Create, Update, Delete VSP Storage Pool	N	Y	Y
vsp.hv_storagepool_facts	Get VSP Storage Pool Details	Y	Y	Y
vsp.hv_storagesystem	Onboard, Delete VSP Storage	N	Y	Y
vsp.hv_storagesystem_facts	Get VSP Storage System Details	Y	Y	Y
vsp.hv_troubleshooting_facts	Generate Log Bundle	Y	Y	Y
vsp.hv_gad	Create, Update, Delete VSP Storage GAD Pairs	N	Y	N
vsp.hv_gad_fact	Get VSP Storage GAD Details	N	Y	N
vsp.hv_gateway_admin_password	Update UAI Gateway admin password	N	Y	Y
vsp.hv_gateway_subscriber	Create, Update, Delete UAI Gateway Subscriber	N	Y	Y
vsp.hv_gateway_subscription_facts	Get resources information of a subscriber	N	Y	Y

hitachivantara.vspone_block Module Name	Module Details	Direct	Gateway[IB]	Gateway[OOB]
hv_gateway_unsubscribe_resource	Manages unsubscription of resources of a subscriber	N	Y	Y
vsp.hv_gateway_subscriber_fact	Get UAI Gateway Subscriber Details	N	Y	Y
vsp.hv_hur	Create, Update, Delete VSP Storage HUR Pairs	N	Y	N
vsp.hv_hur_facts	Get VSP Storage HUR Details	N	Y	N
vsp.hv_system_facts	Get All VSP Storages onboarded to UAI Gateway	N	Y	Y
vsp.hv_truecopy	Create, Update, Delete VSP Storage TC Pairs	N	Y	N
vsp.hv_truecopy_facts	Get VSP Storage TC Details	N	Y	N
vsp.hv_uai_token_fact	Generate UAI Gateway Session Token	N	Y	Y

hitachivantara.vspone_block Module Name	Module Details	Direct
sds_block.hv_sds_block_chap_user	Create, Update, Delete SDS Block CHAP User	Y
sds_block.hv_sds_block_chap_user_facts	Get SDS Block CHAP User Details	Y
sds_block.hv_sds_block_compute_node	Create, Update, Delete SDS Block Compute Node	Y
sds_block.hv_sds_block_compute_node_facts	Get SDS Block Compute Node Details	Y
sds_block.hv_sds_block_compute_port_authentication	Set SDS Block Compute Port Authentication	Y
sds_block.hv_sds_block_port_facts	Get SDS Block Compute Port Details	Y
sds_block.hv_sds_block_storage_system_fact	Get SDS Block Storage Details	Y
sds_block.hv_sds_block_volume	Create, Update, Delete SDS Block Volume	Y
sds_block.hv_sds_block_volume_facts	Get SDS Block Volume Details	Y

hitachivantara.vspone_block Module Name	Module Details	Direct
sds_block.hv_sds_block_vps	Update SDS Block Storage VPS Volume ADR Settings	Y
sds_block.hv_sds_block_vps_facts	Get SDS Block VPS Volume ADR Settings	Y

Viewing the documentation for a module

Run the following command on the Hitachi Storage Modules server VM:

For VSP modules:

```
ansible-doc hitachivantara.vspone_block.vsp.<module_name>
```

For example

```
[snewar@localhost playbooks]$ ansible-doc hitachivantara.vspone_block.vsp.hv_ldev
> HITACHIVANTARA.VSPONE_BLOCK.HV_LDEV (/home/snewar/.ansible/collections/ansible_collections/hitachivantara/vspone_block/plugins/modules/vsp/hv_ldev.py)

This module allows for the creation, modification, or deletion of logical devices (LDEVs) on Hitachi VSP storage systems.
It supports operations such as creating a new LDEV, updating an existing LDEV, or deleting a LDEV.

ADDED IN: version 3.0.0 of hitachivantara.vspone_block

OPTIONS (= is mandatory):

= connection_info
  Information required to establish a connection to the storage system.
  type: dict

  SUBOPTIONS:

    = address
      IP address or hostname of either the UAI gateway (if connection_type is gateway) or the storage system (if
      connection_type is direct).
```

For SDS modules:

```
ansible-doc hitachivantara.vspone_block.sds_block.<module_name>
```

To list all hitachivantara-vspone modules, use the following command:

```
[root@hitachivantara-vspone-block playbooks]# ansible-doc -l | grep hitachi
```

Steps to generate a UAI gateway session token

And also prerequisites to multitenancy

1. Go to ansible systems.

2. Create token by running playbook: `uai_gateway_token.yml` For details, see [Get gateway token \(on page 243\)](#).
3. Create subscriber using playbook.
4. Onboard storage.

Chapter 6: Hitachi Vantara VSP One Block series storage modules

Legend

Key	Definition
Y	Supported on that connection
N	Not supported on that connection

Here is a list of all the Hitachi Vantara VSP One Block storage modules and the tasks they can execute:

Module	Playbook	Direct	Inband	OOB
Admin Password	Update UAI Gateway admin user password	N	Y	Y
Detach/Delete Idevs from host	Detach Idevs from hostgroup	Y	Y	Y
	Delete Idev	Y	Y	Y
Global Active Device Pair	Create GAD pair with single server configuration	N	Y	N
	Create GAD pair with server cluster configuration	N	Y	N
	Create GAD pair with cross path server configuration	N	Y	N
	Split GAD pair	N	Y	N
	Resync GAD pair	N	Y	N
	Delete GAD pair	N	Y	N
GAD pair facts	Get all GAD pairs	N	Y	N
	Get GAD pair using primary volume ID	N	Y	N
Hostgroup Module	Create hostgroup	Y	Y	Y

Module	Playbook	Direct	Inband	OOB
	Update host mode and host mode options	Y	Y	Y
	Remove host mode options	Y	Y	Y
	Add wwns to hostgroup	Y	Y	Y
	Remove wwns from hostgroup	Y	Y	Y
	Present ldevs to hostgroup	Y	Y	Y
	Unpresent ldevs from hostgroup	Y	Y	Y
	Delete hostgroup	Y	Y	Y
Hostgroup Facts	Get all hostgroups	Y	Y	Y
	Get hostgroups of specific ports	Y	Y	Y
	Get hostgroups of specific ports with same hg name	Y	Y	Y
	Get hostgroups of specific ports, include wwns and ldevs	Y	Y	Y
Hitachi Universal Replicator Pair	Create HUR pair	N	Y	N
	Split HUR pair	N	Y	N
	Resync HUR pair	N	Y	N
	Delete HUR pair	N	Y	N
HUR facts	Get all HUR pairs	N	Y	N
	Get HUR pair using primary volume ID and mirror unit ID	N	Y	N
	Get HUR pair using only primary volume ID	N	Y	N
	Get HUR pair using secondary volume ID	N	Y	N
iSCSI Target Module	Create iSCSI target	Y	Y	Y
	Update iSCSI target host mode and host mode options	Y	Y	Y

Module	Playbook	Direct	Inband	OOB
	Add CHAP users to iSCSI target	Y	Y	Y
	Remove CHAP user from iSCSI target	Y	Y	Y
	Add IQN initiators to iSCSI target	Y	Y	Y
	Remove IQN initiators from iSCSI target	Y	Y	Y
	Attach ldevs to iSCSI target	Y	Y	Y
	Detach ldevs from iSCSI target	Y	Y	Y
	Delete iSCSI target	Y	Y	Y
iSCSI target Facts	Get all iSCSI targets	Y	Y	Y
	Get iSCSI targets by ports	Y	Y	Y
	Get iSCSI targets by ports and name	Y	Y	Y
Logical Device Module	Create ldev	Y	Y	Y
	Create ldev with free ID and present to NVM system	Y	N	N
	Present existing volume to NVM system	Y	N	N
	Expand size of ldev	Y	Y	Y
	Delete ldev just created	Y	Y	Y
	Create ldev using parity group and auto free ldev ID selection	Y	Y	Y
	Create ldev with capacity saving and auto free ldev ID selection	Y	Y	Y
	Create ldev with capacity saving and data_reduction_share	Y	Y	Y

Module	Playbook	Direct	Inband	OOB
	Remove host nqns from existing volume of NVMe system	Y	N	N
	Force delete ldev removes the ldev from NVMe subsystem name	Y	N	N
	Create ldev with volume tiering	N	Y	Y
	Delete ldev	Y	Y	Y
	Force delete ldev removes the ldev from hostgroups or iSCSI targets	Y	Y	Y
Logical Device Facts	Get all ldevs	Y	Y	Y
	Get ldevs within range	Y	Y	Y
	Get ldevs from start ID to max count	Y	Y	Y
	Get ldevs with same name	Y	Y	Y
	Get one ldev	Y	Y	Y
	Get one ldev with detailed info	Y	N	N
Parity Group Facts	Get all parity groups	Y	Y	Y
	Get one parity group	Y	Y	Y
Provision ldev to host	Create ldev with gateway/direct connection	Y	Y	Y
	Present ldev to hostgroup with gateway/direct connection	Y	Y	Y
Shadow Image Pair Module	Create shadow image pair	Y	Y	N
	Split shadow image pair	Y	Y	N
	Resync shadow image pair	Y	Y	N
	Create and Auto Split shadow image pair	Y	Y	N
	Restore shadow image pair	Y	Y	N

Module	Playbook	Direct	Inband	OOB
	Delete shadow image pair	Y	Y	N
Shadow Image Pair Facts	Get all shadow image pairs	Y	Y	N
	Get one shadow image pair	Y	Y	N
Snapshot Pair Module	Create snapshot pair	Y	Y	Y
	Split snapshot pair	Y	Y	Y
	Resync snapshot pair	Y	Y	Y
	Create and Auto Split snapshot pair	Y	Y	Y
	Restore snapshot pair	Y	Y	Y
	Create snapshot pair using existing consistency group	Y	Y	Y
	Create snapshot advanced cascade pair	Y	Y	Y
	Create snapshot advanced clone pair	N	Y	Y
	Create clone volume using snapshot advanced clone pair	N	Y	Y
	Delete snapshot pair	Y	Y	Y
Snapshot Pair Facts	Get all snapshot pairs	Y	Y	Y
	Get snapshot pairs with same pvol	Y	Y	Y
	Get one snapshot pair	Y	Y	Y
Storage Pool Module	Create a storage pool using required details	N	Y	Y
	Create a storage pool using other details	N	Y	Y
	Expand pool by pool name	N	Y	Y
	Expand pool by pool ID	N	Y	Y
	Delete pool by pool ID	N	Y	Y
	Delete pool by pool name	N	Y	Y

Module	Playbook	Direct	Inband	OOB
Storage Pool Facts	Get all storage pools	Y	Y	Y
	Get one storage pool	Y	Y	Y
Storage Port Module	Change storage port security settings using port ID	Y	N	N
	Change storage port mode settings using port ID	Y	N	N
Storage Port Facts	Get all storage ports	Y	Y	Y
	Get storage port details using port IDs	Y	Y	Y
Storage System Module	Add storage system	N	Y	Y
	Add storage system with remote gateway address	N	Y	Y
	Delete storage system	N	Y	Y
Storage System Facts	Get storage system facts	Y	Y	Y
	Get storage system facts using query	Y	Y	Y
Subscriber Module	Create subscriber	N	Y	Y
	Update subscriber	N	Y	Y
	Delete subscriber	N	Y	Y
Subscriber Facts	Get all subscribers	N	Y	Y
	Get one subscriber	N	Y	Y
Subscriber Resource Facts	Get all resources for the specific subscriber	N	Y	Y
	Get all resources for the subscriber for a specific storage	N	Y	Y
Get the system details	Get all storages	N	Y	Y
	Get all storages with hard refresh	N	Y	Y
TrueCopy Module	Create TrueCopy	N	Y	N
	Resync TrueCopy	N	Y	N

Module	Playbook	Direct	Inband	OOB
	Split TrueCopy	N	Y	N
	Delete TrueCopy	N	Y	N
TrueCopy Facts	TrueCopy Facts	N	Y	N
UAIG Token	Get UAI gateway token	N	Y	Y
NVM Subsystems Facts	Get all NVM subsystems	Y	N	N
	Get NVM subsystem by name	Y	N	N
	Get NVM subsystem by ID	Y	N	N
Unsubscribe Resources	Unsubscribe resources for the specific subscriber	N	Y	Y

Delete LDEV from host group

Module name

`hv_hg` and `hv_ldev`

Description

This module unpresents an LDEV from a host group and deletes an LDEV from a Hitachi storage system.

This module provides the following tasks

- Detach LDEV from host group with direct/gateway connection
- Delete LDEV with direct/gateway connection

Detach LDEV from host group with direct/gateway connection

Synopsis

Detaches LDEV from a host group with a direct/gateway connection.

Parameters

Connection Info for a direct connection:

Parameter	Required	Direct
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	The UAI API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
state	string	Yes	'unpresent_ldev'
name	string	Yes	Name of the host group.
port	string	Yes	Fibre Channel port

Parameter	Type	Required	Description
ldevs	list of strings	No	LDEV to be unmapped with the host group. Supported format can be decimal.

Example

```
#####
# Task 1 : Detach ldevs from host group with direct/gateway connection
#####
- name: Detach ldevs from host group with direct/gateway connection
  hv_hg:
    connection_info: "{{ connection_info }}"
    state: "{{ state_present }}"
    spec:
      state: "{{ substate_unpresent_ldev }}"
      name: "{{ delete_ldev_from_host_name_1 }}"
      port: "{{ delete_ldev_from_host_port_1 }}"
      ldevs: "{{ delete_ldev_from_host_ldevs_1 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run:

```
ansible-doc hitachivantara.vspone_block.vsp.hv_hg
```

Delete LDEV with direct/gateway connection

Synopsis

Deletes an LDEV with a direct/gateway connection.

Parameters

Connection Info for a direct connection:

Parameter	Required	Direct
connection_type	No	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	The UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'absent'

Spec info:

Parameter	Type	Required	Description
ldev_id	integer	Yes	ID of the LDEV (required for delete and update operations)

Example

```
#####
# Task 2 : Delete ldev with direct/gateway connection
#####
- name: Delete ldev with direct/gateway connection
  hv_ldev:
    connection_info: "{{ connection_info }}"
    state: "{{ state_absent }}"
    spec:
      ldev_id: "{{ delete_ldev_from_host_ldev_id_2 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run:

```
ansible-doc hitachivantara.vspone_block.vsp.hv_ldev
```

Manage host groups

This module manages host groups on Hitachi storage systems.

Module name

hv_hg

This module provides the following tasks

- Create a host group
- Update host mode and host mode options
- Remove host mode options
- Add WWN to host group
- Remove WWN from host group
- Present LDEVs to host group
- Unpresent LDEVs from host group
- Delete a host group

Create a host group

Synopsis

Creates a host group on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
name	string	Yes	Name of the host group.
port	string	Yes	Fibre Channel port.
wwns	list of strings	No	List of host WWNs to add or remove.
ldevs	list of strings	No	LDEVs to be mapped/unmapped with the host group. Supported format can be decimal.

Parameter	Type	Required	Description
host_mode	string	No	Host mode of host group. Choices: LINUX, VMWARE, HP, OPEN_VMS, TRU64, SOLARIS, NETWARE, WINDOWS, HI_UX, AIX, VMWARE_EXTENSION, WINDOWS_EXTENSION, UVM, HP_XP, DYNIX
host_mode_options	list of integers	No	List of host mode options of host group. Choices: see Host mode options (on page 343)

Example

```
#####
# Task 1 : Create hostgroup
#####
- name: Create hostgroup
  hv_hg:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_present }}"
    spec:
      name: "{{ hostgroup_name_1 }}"
      port: "{{ hostgroup_port_1 }}"
      host_mode: "{{ hostgroup_host_mode_1 }}"
      host_mode_options: "{{ hostgroup_host_mode_options_1 }}"
      ldevs: "{{ hostgroup_ldevs_1 }}"
      wwns: "{{ hostgroup_wwns_1 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_hg
```

Update host mode and host mode options

Synopsis

Updates the host mode and host mode options on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
state	string	Yes	'set_host_mode_and_hmo'
name	string	Yes	Name of the host group.
port	string	Yes	Fibre Channel port.
host_mode	string	No	Host mode of host group. Choices: LINUX, VMWARE, HP, OPEN_VMS, TRU64, SOLARIS, NETWARE, WINDOWS, HI_UX, AIX, VMWARE_EXTENSION, WINDOWS_EXTENSION, UVM, HP_XP, DYNIX
host_mode_options	list of integers	No	List of host mode options of host group. Choices: see Host mode options (on page 343)

Example

```
#####
# Task 2 : Update host mode and host mode options
#####
- name: Update host mode and host mode options
  hv_hg:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_present }}"
    spec:
      state: "{{ substate_set_host_mode_and_hmo }}"
      name: "{{ hostgroup_name_2 }}"
      port: "{{ hostgroup_port_2 }}"
      host_mode: "{{ hostgroup_host_mode_2 }}"
      host_mode_options: "{{ hostgroup_host_mode_options_2 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_hg
```

.

Remove host mode options**Synopsis**

Removes the host mode options on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
state	string	Yes	'set_host_mode_and_h mo'
name	string	Yes	Name of the host group.
port	string	Yes	Fibre Channel port.
host_mode_options	list of integers	Yes	List of host mode options of host group. Choices: see Host mode options (on page 343)

Example

```
#####
# Task 3 : Remove host mode options
#####
- name: Remove host mode options
  hv_hg:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_present }}"
    spec:
      state: "{{ substate_absent }}"
      name: "{{ hostgroup_name_3 }}"
      port: "{{ hostgroup_port_3 }}"
      host_mode_options: "{{ hostgroup_host_mode_options_3 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_hg
```

Add WWNs to a host group

Synopsis

Adds WWNs to a host group on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
state	string	Yes	'add_wwn'
name	string	Yes	Name of the host group.
port	string	Yes	Fibre Channel port.
wwns	list of strings	Yes	List of host WWNs to add or remove.

Example

```
#####
# Task 4 : Add wwns to hostgroup
#####
- name: Add wwns to hostgroup
  hv_hg:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_present }}"
    spec:
      state: "{{ substate_add_wwn }}"
      name: "{{ hostgroup_name_4 }}"
      port: "{{ hostgroup_port_4 }}"
      wwns: "{{ hostgroup_wwns_4 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_hg
```

.

Remove WWNs from a host group

Synopsis

Removes WWNs from a host group on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
state	string	Yes	'remove_wwn'
name	string	Yes	Name of the host group.
port	string	Yes	Fibre Channel port.

Parameter	Type	Required	Description
wwns	list of strings	Yes	List of host WWNs to add or remove.

Example

```
#####
# Task 5 : Remove wwns from hostgroup
#####
- name: Remove wwns from hostgroup
  hv_hg:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
      state: "{{ state_present }}"
    spec:
      state: "{{ substate_remove_wnn }}"
      name: "{{ hostgroup_name_5 }}"
      port: "{{ hostgroup_port_5 }}"
      wwns: "{{ hostgroup_wwns_5 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_hg
```

Present LDEVs to a host group

Synopsis

Presents LDEVs to a host group on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name

Parameter	Required	Value/Description
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
state	string	Yes	'present_ldev'
name	string	Yes	Name of the host group.
port	string	Yes	Fibre Channel port.
ldevs	list of strings	Yes	LDEVs to be mapped with the host group. Supported format can be decimal.

Example

```
#####
# Task 6 : Present ldevs to hostgroup
#####
- name: Present ldevs to hostgroup
  hv_hg:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
      state: "{{ state_present }}"
      spec:
        state: "{{ substate_present_ldev }}"
        name: "{{ hostgroup_name_6 }}"
        port: "{{ hostgroup_port_6 }}"
        ldevs: "{{ hostgroup_ldevs_6 }}"
      register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_hg
```

Unpresent LDEVs from a host group

Synopsis

Unpresents LDEVs from a host group on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
state	string	Yes	'unpresent_ldev'
name	string	Yes	Name of the host group.
port	string	Yes	Fibre Channel port.
ldevs	list of strings	No	LDEVs to be unmapped with the host group. Supported format can be decimal.

Example

```
#####
# Task 7 : Unpresent ldevs from hostgroup
#####
- name: Unpresent ldevs from hostgroup
  hv_hg:
```



```

connection_info: "{{ connection_info }}"
storage_system_info:
  serial: "{{ storage_serial }}"
  state: "{{ state_present }}"
  spec:
    state: "{{ substate_unpresent_ldev }}"
    name: "{{ hostgroup_name_7 }}"
    port: "{{ hostgroup_port_7 }}"
    ldevs: "{{ hostgroup_ldevs_7 }}"
register: result

```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_hg
```

Delete a host group

Synopsis

Deletes a host group on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'absent'

Spec info:

Parameter	Type	Required	Description
name	string	Yes	Name of the host group
port	string	Yes	Fibre Channel port
should_delete_all_ldevs	boolean	No	If the value is true, destroy the logical units that are no longer attached to any host group or iSCSI target.

Example

```
#####
# Task 8 : Delete hostgroup
#####
- name: Delete hostgroup
  hv_hg:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_absent }}"
    spec:
      name: "{{ hostgroup_name_8 }}"
      port: "{{ hostgroup_port_8 }}"
      should_delete_all_ldevs: "{{ hostgroup_should_delete_all_ldevs_8 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_hg
```

Get host groups

Retrieves host group information from a specified Hitachi storage system.

Module name

hv_hg_facts

Description

This module fetches detailed information about host groups configured within a given Hitachi storage system.

This module provides the following tasks

- Get all host groups
- Get host groups of specific ports
- Get host groups of specific ports with the same host group name
- Get host groups of specific ports, including WWNs and LDEVs

Get all host groups

Synopsis

Get all host groups on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

Example

```
#####
# Task 1 : Get all hostgroups
#####
- name: Get all hostgroups
  hv_hg_facts:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_hg_facts
```

Get host groups of specific ports

Synopsis

Gets host groups of specific ports on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
ports	list	Yes	Filters the host groups to those associated with the specified storage Fibre Channel ports.

Example

```
#####
# Task 2 : Get hostgroups of specific ports
#####
- name: Get hostgroups of specific ports
```

```

hv_hg_facts:
  connection_info: "{{ connection_info }}"
  storage_system_info:
    serial: "{{ storage_serial }}"
  spec:
    ports: "{{ hostgroup_facts_ports_2 }}"
  register: result

```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_hg_facts
```

Get host groups of specific ports with the same host group name

Synopsis

Get host groups of specific ports with the same host group name on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
name	string	Yes	If specified, filters the results to include only the host groups with this name.
ports	list	Yes	Filters the host groups to those associated with the specified storage Fibre Channel ports.

Example

```
#####
# Task 3 : Get hostgroups of specific ports with same hostgroup name
#####
- name: Get hostgroups of specific ports with same hostgroup name
  hv_hg_facts:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    spec:
      ports: "{{ hostgroup_facts_ports_3 }}"
      name: "{{ hostgroup_facts_name_3 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_hg_facts
```

Get host groups of specific ports, including WWNs and LDEVs

Synopsis

Gets host groups of specific ports, including WWNs, and LDEVs on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
ports	list of strings	Yes	Filters the host groups to those associated with the specified storage Fibre Channel ports.

Parameter	Type	Required	Description
query	list of strings	Yes	Determines what information to return about the host groups. Can specify 'wwns' for HBA WWNs, 'ldevs' for mapped LDEVs, or both. Choices: ['wwns', 'ldevs']

Example

```
#####
# Task 4 : Get hostgroups of specific ports, include wwns and ldevs
#####
- name: Get hostgroups of specific ports, include wwns and ldevs
  hv_hg_facts:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    spec:
      ports: "{{ hostgroup_facts_ports_4 }}"
      query: "{{ hostgroup_facts_query_4 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_hg_facts
```

Manage iSCSI targets

This module manages iSCSI targets on Hitachi storage systems.

Module name

hv_iscsi_target

This module provides the following tasks

- Create an iSCSI target
- Update iSCSI target host mode and host mode options
- Add CHAP users to an iSCSI target

- Remove a CHAP user from an iSCSI target
- Add IQN initiators to an iSCSI target
- Remove IQN initiators from an iSCSI target
- Attach LDEVs to an iSCSI target
- Detach LDEVs from an iSCSI target
- Delete an iSCSI target

Create an iSCSI target

Synopsis

Creates an iSCSI target on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
port	string	Yes	Port of the iSCSI target
name	string	Yes	Name of the iSCSI target
ldevs	list	No	LDEV ID in decimal that you want to present or unpresent.
iqn_initiators	list	No	List of IQN initiators that you want to add or remove.
chap_users	list	No	List of CHAP users that you want to add or remove

Example

```
#####
# Task 1 : Create iscsi target
#####
- name: Create iscsi target
  hv_iscsi_target:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_present }}"
    spec:
      name: "{{ iscsi_target_name_1 }}"
      port: "{{ iscsi_target_port_1 }}"
      iqn_initiators: "{{ iscsi_target_iqn_initiators_1 }}"
      ldevs: "{{ iscsi_target_ldevs_1 }}"
      chap_users: "{{ iscsi_target_chap_users_1 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_iscsi_target
```

Update iSCSI target host mode and host mode options

Synopsis

Updates an iSCSI target host mode and host mode options on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
port	string	Yes	Port of the iSCSI target
name	string	Yes	Name of the iSCSI target
host_mode	integer	Yes	Host mode of the iSCSI target. Valid values: 'LINUX', 'VMWARE', 'HP', 'OPEN_VMS', 'TRU64', 'SOLARIS', 'NETWARE', 'WINDOWS', 'HI_UX', 'AIX', 'VMWARE_EXTENSION', 'WINDOWS_EXTENSION', 'UVM', 'HP_XP', 'DYNIX'
host_mode_options	list of integers	Yes	List of host mode options of host group. Choices: see Host mode options (on page 343)

Example

```
#####
# Task 2 : Update iscsi target host mode and host mode options
#####
- name: Update iscsi target host mode and host mode options
  hv_iscsi_target:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_present }}"
  spec:
    name: "{{ iscsi_target_name_2 }}"
    port: "{{ iscsi_target_port_2 }}"
    host_mode: "{{ iscsi_target_host_mode_2 }}"
```

```
host_mode_options: "{{ iscsi_target_host_mode_options_2 }}"
register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_iscsi_target
```

Add CHAP users to an iSCSI target

Synopsis

Adds CHAP users to an iSCSI target on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
state	string	Yes	'add_chap_user'
port	string	Yes	Port of the iSCSI target
name	string	Yes	Name of the iSCSI target
chap_users	list	Yes	List of CHAP users that you want to add

Example

```
#####
# Task 3 : Add chap users to iscsi target
#####
- name: Add chap users to iscsi target
  hv_iscsi_target:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_present }}"
    spec:
      state: "{{ substate_add_chap_user }}"
      name: "{{ iscsi_target_name_3 }}"
      port: "{{ iscsi_target_port_3 }}"
      chap_users: "{{ iscsi_target_chap_users_3 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_iscsi_target
```

Remove a CHAP user from an iSCSI target

Synopsis

Removes a CHAP user from an iSCSI target on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
state	string	Yes	'remove_chap_user'
port	string	Yes	Port of the iSCSI target
name	string	Yes	Name of the iSCSI target
chap_users	list	Yes	List of CHAP users that you want to remove

Example

```
#####
# Task 4 : Remove chap user from iscsi target
#####
- name: Remove chap user from iscsi target
  hv_iscsi_target:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_present }}"
    spec:
      state: "{{ substate_remove_chap_user }}"
      name: "{{ iscsi_target_name_4 }}"
      port: "{{ iscsi_target_port_4 }}"
      chap_users: "{{ iscsi_target_chap_users_4 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_iscsi_target
```

Add IQN initiators to an iSCSI target

Synopsis

Adds IQN initiators to an iSCSI target on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
state	string	Yes	'add_iscsi_initiator'
port	string	Yes	Port of the iSCSI target

Parameter	Type	Required	Description
name	string	Yes	Name of the iSCSI target
iqn_initiators	list	Yes	List of IQN initiators that you want to add or remove.

Example

```
#####
# Task 5 : Add iqn initiators to iscsi target
#####
- name: Add iqn initiators to iscsi target
  hv_iscsi_target:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
      state: "{{ state_present }}"
    spec:
      state: "{{ substate_add_iscsi_initiator }}"
      name: "{{ iscsi_target_name_5 }}"
      port: "{{ iscsi_target_port_5 }}"
      iqn_initiators: "{{ iscsi_target_iqn_initiators_5 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_iscsi_target
```

Remove IQN initiators from an iSCSI target

Synopsis

Removes IQN initiators from an iSCSI target on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct

Parameter	Required	Value/Description
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
state	string	Yes	'remove_iscsi_initiator'
port	string	Yes	Port of the iSCSI target
name	string	Yes	Name of the iSCSI target

Parameter	Type	Required	Description
iqn_initiators	list	Yes	List of IQN initiators that you want to add or remove.

Example

```
#####
# Task 6 : Remove iqn initiators from iscsi target
#####
- name: Remove iqn initiators from iscsi target
  hv_iscsi_target:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_present }}"
    spec:
      state: "{{ substate_remove_iscsi_initiator }}"
      name: "{{ iscsi_target_name_6 }}"
      port: "{{ iscsi_target_port_6 }}"
      iqn_initiators: "{{ iscsi_target_iqn_initiators_6 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_iscsi_target
```

Attach LDEVs to an iSCSI target

Synopsis

Attaches LDEVs to an iSCSI target on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address

Parameter	Required	Value/Description
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
state	string	Yes	'attach_ldev'
port	string	Yes	Port of the iSCSI target
name	string	Yes	Name of the iSCSI target
ldevs	list	Yes	LDEV ID in decimal that you want to present or unpresent.

Example

```
#####
# Task 7 : Attach ldevs to iscsi target
#####
- name: Attach ldevs to iscsi target
  hv_iscsi_target:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
      state: "{{ state_present }}"
    spec:
      state: "{{ substate_attach_ldev }}"
      name: "{{ iscsi_target_name_7 }}"
      port: "{{ iscsi_target_port_7 }}"
      ldevs: "{{ iscsi_target_ldevs_7 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_iscsi_target
```

Detach LDEVs from an iSCSI target**Synopsis**

Detaches LDEVs from an iSCSI target on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
state	string	Yes	'detach_ldev'
port	string	Yes	Port of the iSCSI target
name	string	Yes	Name of the iSCSI target
ldevs	list	Yes	LDEV ID in decimal that you want to present or unpresent.

Example

```
#####
# Task 8 : Detach ldevs from iscsi target
#####
- name: Detach ldevs from iscsi target
  hv_iscsi_target:
```



```

connection_info: "{{ connection_info }}"
storage_system_info:
  serial: "{{ storage_serial }}"
  state: "{{ state_present }}"
  spec:
    state: "{{ substate_detach_ldev }}"
    name: "{{ iscsi_target_name_8 }}"
    port: "{{ iscsi_target_port_8 }}"
    ldevs: "{{ iscsi_target_ldevs_8 }}"
register: result

```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_iscsi_target
```

Delete an iSCSI target

Synopsis

Deletes an iSCSI target on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'absent'

Spec info:

Parameter	Type	Required	Description
port	string	Yes	Port of the iSCSI target
name	string	Yes	Name of the iSCSI target

Example

```
#####
# Task 9 : Delete iscsi target
#####
- name: Delete iscsi target
  hv_iscsi_target:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
      state: "{{ state_absent }}"
    spec:
      name: "{{ iscsi_target_name_9 }}"
      port: "{{ iscsi_target_port_9 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_iscsi_target
```

Get iSCSI targets

Retrieves information about iSCSI targets from Hitachi storage systems.

Module name

`hv_iscsi_target_facts`

This module provides the following tasks

- `Get all iSCSI targets`
- `Get iSCSI targets by ports`
- `Get iSCSI targets by ports and names`

Get all iSCSI targets

Synopsis

Gets all iSCSI targets on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
<code>connection_type</code>	Yes	direct
<code>address</code>	Yes	Storage management address
<code>username</code>	Yes	Storage user name
<code>password</code>	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
<code>connection_type</code>	Yes	gateway
<code>address</code>	Yes	UAI Gateway address
<code>api_token</code>	Yes	UAI Gateway API token
<code>subscriber_id</code>	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. Yes for direct.	Storage system serial number.

Example

```
#####
# Task 1 : Get all iscsi targets
#####
- name: Get all iscsi targets
  hv_iscsi_target_facts:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_iscsi_target_facts
```

Get iSCSI targets by ports

Synopsis

Gets iSCSI targets by ports on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. Yes for direct.	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
ports	list of strings	Yes	List of ports of the iSCSI target.

Example

```
#####
# Task 2 : Get iscsi targets by ports
#####
- name: Get iscsi targets by ports
  hv_iscsi_target_facts:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    spec:
      ports: "{{ iscsi_target_facts_ports_2 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_iscsi_target_facts
```

Get iSCSI targets by ports and name

Synopsis

Gets iSCSI targets by ports and name on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. Yes for direct.	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
ports	list of strings	Yes	List of ports of the iSCSI target.

Parameter	Type	Required	Description
name	string	Yes	Name of the iSCSI target

Example

```
#####
# Task 3 : Get iscsi targets by ports and name
#####
- name: Get iscsi targets by ports and name
  hv_iscsi_target_facts:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    spec:
      name: "{{ iscsi_target_facts_name_3 }}"
      ports: "{{ iscsi_target_facts_ports_3 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_iscsi_target_facts
```

Manage LDEVs

Manages LDEVs on Hitachi storage systems.

Module name

hv_ldev

Description

This module allows for the creation, modification, or deletion of LDEVs on Hitachi storage systems. It supports operations such as creating a new LDEV, updating an existing LDEV, or deleting a LDEV.

This module provides the following tasks

- Create LDEV
- Create LDEV with free ID and present to NVM System
- Present existing volume to NVM System
- Expand the size of LDEV

- Create LDEV using a parity group and auto-free LDEV ID selection
- Create LDEV with capacity saving and auto-free LDEV ID selection
- Remove host NQNs from existing volume of NVM System
- Delete LDEV
- Force delete LDEV removes the LDEV from hostgroups, iscsi targets or NVMe subsystem namespace

Create LDEV

Synopsis

Creates an LDEV on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. Yes for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
pool_id	integer	Yes	ID of the pool where the LDEV will be created. Options pool_id and parity_group_id are mutually exclusive.
size	string	Yes	Size of the LDEV. Can be specified in units such as GB, TB, or MB (for example, '10GB', '5TB', '100MB').
ldev_id	integer	No	ID of the LDEV; for new it will assigned to this LDEV if it's free.
name	string	No	Name of the LDEV (optional).

Example

```
#####
# Task 1 : Create ldev
#####
- name: Create ldev
  hv_ldev:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_present }}"
    spec:
      ldev_id: "{{ ldev_ldev_id_1 }}"
      pool_id: "{{ ldev_pool_id_1 }}"
      size: "{{ ldev_size_1 }}"
      name: "{{ ldev_name_1 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_ldev
```

Create ldev with free ID and present to NVM System**Synopsis**

Creates an LDEV with free ID and presents it to an NVM system on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
<code>pool_id</code>	integer	Yes	ID of the pool where the LDEV will be created. Options <code>pool_id</code> and <code>parity_group_id</code> are mutually exclusive.
<code>size</code>	string	Yes	Size of the LDEV. Can be specified in units such as GB, TB, or MB (for example, '10GB', '5TB', '100MB', 200).
<code>name</code>	string	No	Name of the LDEV (optional).
<code>capacity_saving</code>	string	No	Whether capacity saving is compression, <code>compression_deduplication</code> or disabled. Default is disabled. Note: Not applicable when the parity group is selected.
<code>data_reduction_share</code>	boolean	No	Specify whether to create a data reduction shared volume. Default: true for thin image advance direct connect. Default: null. <code>data_reduction_share</code> cannot be changed for existing volume. User can set <code>data_reduction_share</code> value to TRUE only when they have set <code>capacity_saving</code> parameter value to COMPRESSION or DEDUPLICATION. Note: Not applicable when the parity group is selected.
<code>nvm_subsystem_name</code>	string	Yes	Existing NVM subsystem name
<code>host_nqns</code>	list	No	Host NQNs

Example

```
#####
# Task 2 : Create ldev with free id and present to NVM System
#####
- name: Create ldev with free id and present to NVM System
  hv_ldev:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
      state: "{{ state_present }}"
    spec:
      pool_id: "{{ ldev_pool_id_2 }}"
      size: "{{ ldev_size_2 }}"
      name: "{{ ldev_name_2 }}"
      capacity_saving: "{{ ldev_capacity_saving_2 }}"
      data_reduction_share: "{{ ldev_data_reduction_share_2 }}"
      state: "{{ substate_add_host_nqn }}"
      nvm_subsystem_name: "{{ ldev_nvm_subsystem_name_2 }}"
      host_nqns: "{{ ldev_host_nqns_2 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_ldev
```

Present existing volume to NVM System**Synopsis**

Presents an existing volume to an NVM system on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
state	string	Yes	'add_host_nqn'
ldev_id	integer	No	ID of the LDEV; for new it will assigned to this LDEV if it's free.
name	string	No	Name of the LDEV (optional).
nvm_subsystem_name	string	Yes	NVM subsystem name
host_nqns	list	No	Host NQNs

Example

```
#####
# Task 3 : Present existing volume to NVM System
#####
- name: Present existing volume to NVM System
  hv_ldev:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
      state: "{{ state_present }}"
    spec:
      ldev_id: "{{ ldev_ldev_id_3 }}"
      state: "{{ substate_add_host_nqn }}"
      nvm_subsystem_name: "{{ ldev_nvm_subsystem_name_3 }}"
      host_nqns: "{{ ldev_host_nqns_3 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_ldev
```

Expand the size of LDEV**Synopsis**

Expands the size of an LDEV on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. Yes for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
size	string	Yes	Size of the LDEV. Can be specified in units such as GB, TB, or MB (for example, '10GB', '5TB', '100MB').
ldev_id	integer	Yes	ID of the LDEV

Example

```
#####
# Task 4 : Expand size of ldev
#####
- name: Expand size of ldev
  hv_ldev:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_present }}"
    spec:
      ldev_id: "{{ ldev_ldev_id_4 }}"
      size: "{{ ldev_size_4 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_ldev
```

Create LDEV using a parity group and auto-free LDEV ID selection

Synopsis

Creates an LDEV using a parity group and auto-free LDEV ID selection on a Hitachi storage system.



Note: LDEV created in a parity group cannot be assigned to a subscriber.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	The UAI API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. Yes for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
parity_group	integer	Yes	ID of the parity group where the LDEV will be created. Options <code>pool_id</code> and <code>parity_group_id</code> are mutually exclusive.
size	string	Yes	Size of the LDEV. Can be specified in units such as GB, TB, or MB (for example, '10GB', '5TB', '100MB').
name	string	No	Name of the LDEV (optional).

Example

```
#####
# Task 6 : Create ldev using parity group and auto free ldev id selection
#####
- name: Create ldev using parity group and auto free ldev id selection
  hv_ldev:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_present }}"
    spec:
      parity_group: "{{ ldev_parity_group_6 }}"
      size: "{{ ldev_size_6 }}"
      name: "{{ ldev_name_6 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_ldev
```

Create LDEV with capacity saving and auto-free LDEV ID selection

Synopsis

Creates an LDEV with capacity saving and auto-free LDEV ID selection on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. Yes for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
<code>pool_id</code>	integer	Yes	ID of the pool where the LDEV will be created. Options <code>pool_id</code> and <code>parity_group_id</code> are mutually exclusive.
<code>size</code>	string	No	Size of the LDEV. Can be specified in units such as GB, TB, or MB (for example, '10GB', '5TB', '100MB').
<code>capacity_saving</code>	string	Yes	Whether capacity saving is compression, <code>compression_deduplication</code> or disabled. Default is disabled.
<code>data_reduction_share</code>	boolean	no	Specify whether to create a data reduction shared volume. Default: true for direct connect when <code>capacity_saving</code> is set to Compression or Deduplication. Default: False in case of gateway connect. <code>data_reduction_share</code> cannot be changed for existing volume. User can set <code>data_reduction_share</code> value to TRUE only when they have set <code>capacity_saving</code> parameter value to COMPRESSION or DEDUPLICATION.

Example

```
#####
# Task 7 : Create ldev with capacity saving and data_reduction_share
#####
- name: Create ldev with capacity saving and data_reduction_share
```

```

hv_ldev:
  connection_info: "{{ connection_info }}"
  storage_system_info:
    serial: "{{ storage_serial }}"
  state: "{{ state_present }}"
  spec:
    pool_id: "{{ ldev_pool_id_7 }}"
    size: "{{ ldev_size_7 }}"
    capacity_saving: "{{ ldev_capacity_saving_7 }}"
    data_reduction_share: "{{ ldev_data_reduction_share_7 }}"
  register: result

```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_ldev
```

.

Remove host NQNs from existing volume of NVM System

Synopsis

Removes host NQNs from existing volumes of an NVM system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'present'

Spec info:

Parameter	Type	Required	Description
state	string	Yes	'remove_host_nqn'
ldev_id	integer	Yes	ID of the LDEV
nvm_subsystem_name	string	Yes	NVM subsystem name
host_nqns	list	Yes	Host NQNs

Example

```
#####
# Task 8 : Remove host nqns from existing volume of NVM System
#####
- name: Remove host nqns from existing volume of NVM System
  hv_ldev:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_present }}"
    spec:
      ldev_id: "{{ ldev_ldev_id_8 }}"
      state: "{{ substate_remove_host_nqn }}"
      nvm_subsystem_name: "{{ ldev_nvm_subsystem_name_8 }}"
      host_nqns: "{{ ldev_host_nqns_8 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_ldev
```

Delete LDEV

Synopsis

Deletes an LDEV on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. Yes for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'absent'

Spec info

Force delete ldev removes the ldev from hostgroups, iscsi targets or NVM subsystem namespace

Parameter	Type	Required	Description
ldev_id	integer	Yes	ID of the LDEV (required for delete and update operations)

Example

```
#####
# Task 9 : Delete ldev
#####
- name: Delete ldev
  hv_ldev:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
      state: "{{ state_present }}"
    spec:
      ldev_id: "{{ ldev_ldev_id_9 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_ldev
```

Force delete ldev removes the ldev from hostgroups, iscsi targets or NVM subsystem namespace

Synopsis

Removes the LDEV from host group, iSCSI target & NVM subsystem (supported only with direct connect) and deletes it.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address

Force delete ldev removes the ldev from hostgroups, iscsi targets or NVM subsystem namespace

Parameter	Required	Value/Description
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. Yes for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'absent'

Spec info

Parameter	Type	Required	Description
ldev_id	integer	Yes	ID of the LDEV (required for delete and update operations)
force	boolean	Yes	value = false The value only works together with state=absent.

Parameter	Type	Required	Description
			If the value is false, the task will fail if the LDEV is mapped to any host group, iSCSI target, or NVMe subsystem. This should be done during input validation. If the value is true, the task will unmap the LDEV from the host group, iSCSI target, and NVMe subsystem before deleting the LDEV.



Note: To delete the LDEV, the state value must be 'absent'.

Example

```
#####
#####
# Task 10 : Force delete ldev removes the ldev from hostgroups, iscsi targets or NVMe
subsystem namespace
#####
#####
- name: Force delete ldev removes the ldev from hostgroups, iscsi targets or NVMe
subsystem namespace
  hv_ldev:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
      state: "{{ state_absent }}"
    spec:
      ldev_id: "{{ ldev_ldev_id_10 }}"
      force: true
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_ldev
```

Get LDEVs

Retrieves information about LDEVs from Hitachi storage systems descriptions.

Module name

`hv_ldev_facts`

Description

This module retrieves information about LDEVs from Hitachi storage systems. It provides details such as LDEV IDs, names, and other relevant information.

This module provides the following tasks

- `Get all LDEVs`
- `Get LDEVs within range`
- `Get LDEVs from start ID up to max count`
- `Get LDEVs with the same name`
- `Get one LDEV`
- `Get one LDEV_ID with detailed info`

Get all LDEVs

Synopsis

Gets all LDEVs on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
<code>connection_type</code>	No	Default: direct
<code>address</code>	Yes	Storage management address
<code>username</code>	Yes	Storage user name
<code>password</code>	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. Yes for direct.	Storage system serial number.

Example

```
#####
# Task 1 : Get all ldevs
#####
- name: Get all ldevs
  hv_ldev_facts:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_ldev_facts
```

Get LDEVs within range

Synopsis

Gets LDEVs within range on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. Yes for direct.	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
start_ldev_id	integer	Yes	Starting LDEV ID for filtering LDEVs.
end_ldev_id	integer	Yes	Ending LDEV ID for filtering LDEVs

Example

```
#####
# Task 2 : Get ldevs within range
#####
```

```

- name: Get ldevs within range
  hv_ldev_facts:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    spec:
      start_ldev_id: "{{ ldev_facts_start_ldev_id_1 }}"
      end_ldev_id: "{{ ldev_facts_end_ldev_id_1 }}"
  register: result

```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_ldev_facts
```

Get LDEVs from start ID up to max count

Synopsis

Gets LDEVs from start ID up to max count on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. Yes for direct.	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
start_ldev_id	integer	Yes	ID of the start LDEV
count	integer	Yes	Number of LDEVs to retrieve

Example

```
#####
# Task 3 : Get ldevs from start id up to max count
#####
- name: Get ldevs from start id up to max count
  hv_ldev_facts:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    spec:
      start_ldev_id: "{{ ldev_facts_start_ldev_id_3 }}"
      count: "{{ ldev_facts_count_3 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_ldev_facts
```

Get LDEVs with the same name

Synopsis

Gets LDEVs with the same name on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. Yes for direct.	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
name	string	Yes	Name of the LDEV

Example

```
#####
# Task 4 : Get ldev with same name
#####
- name: Get ldev with same name
  hv_ldev_facts:
    connection_info: "{{ connection_info }}"
    storage_system_info:
```

```

    serial: "{{ storage_serial }}"
    spec:
      name: "{{ ldev_facts_name_4 }}"
    register: result

```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_ldev_facts
```

Get one LDEV

Synopsis

Gets one LDEV on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. Yes for direct.	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
ldev_id	integer	Yes	ID of the specific LDEV to retrieve information for

Example

```
#####
# Task 5 : Get one ldev
#####
- name: Get one ldev
  hv_ldev_facts:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    spec:
      ldev_id: "{{ ldev_facts_ldev_id_5 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_ldev_facts
```

Get one LDEV with detailed info

Synopsis

Gets one LDEV with detailed info (host groups, iSCSI targets, snapshots) on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
ldev_id	integer	Yes	ID of the specific LDEV to retrieve information for
is_detailed	boolean	Yes	Flag to retrieve detailed information about LDEVs

Example

```
#####
# Task 6 : Get one ldev with detailed info
#####
- name: Get one ldev with detailed info
  hv_ldev_facts:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    spec:
      ldev_id: "{{ ldev_facts_ldev_id_6 }}"
      is_detailed: "{{ ldev_facts_is_detailed_6 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_ldev_facts
```

Get NVM subsystems

Retrieves information about NVM subsystems from Hitachi storage systems descriptions.

Module name

```
hv_nvm_subsystems_facts
```

Description

This module retrieves information about NVM subsystems from Hitachi storage systems.

This module provides the following tasks

- `Get all NVM Subsystems`
- `Get NVM Subsystems by name or ID`

Get all NVM Subsystems

Synopsis

Gets all NVM subsystems on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
<code>connection_type</code>	No	Default: direct
<code>address</code>	Yes	Storage management address
<code>username</code>	Yes	Storage user name
<code>password</code>	Yes	Storage password

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

Example

```
#####
# Task 1 : Get all NVM Subsystems
#####
- name: Get all NVM Subsystems
  hv_nvm_subsystems_facts:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_nvm_subsystems_facts
```

Get NVM Subsystems by name

Synopsis

Gets NVM subsystems by name on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
name	string	Yes	Name of the NVM subsystem

Example

```
#####
# Task 2 : Get NVM Subsystem by name
#####
- name: Get NVM Subsystem by name or id
  hv_nvm_subsystems_facts:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    spec:
      name: "{{ nvm_subsystem_facts_name_2 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_nvm_subsystems_facts
```

Get NVM subsystems by ID

Synopsis

Gets NVM subsystems by ID on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct

Parameter	Required	Value/Description
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
id	integer	Yes	ID of the NVM subsystem

Example

```
#####
# Task 3 : Get NVM Subsystem by id
#####
- name: Get NVM Subsystem by name or id
  hv_nvm_subsystems_facts:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    spec:
      id: "{{ nvm_subsystem_facts_id_3 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_nvm_subsystems_facts
```

Get parity groups

Provides information about the Hitachi storage parity group descriptions.

Module name

`hv_paritygroup_facts`

Description

This module gathers facts about parity groups from a specified storage system.

This module provides the following tasks

- Get all parity groups
- Get one parity group

Get all parity groups

Synopsis

Gets all parity groups on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
<code>connection_type</code>	No	Default: direct
<code>address</code>	Yes	Storage management address
<code>username</code>	Yes	Storage user name
<code>password</code>	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
<code>connection_type</code>	Yes	gateway
<code>address</code>	Yes	UAI Gateway address
<code>api_token</code>	Yes	UAI Gateway API token
<code>subscriber_id</code>	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

Example

```
#####
# Task 1 : Get all paritygroups
#####
- name: Get all paritygroups
  hv_paritygroup_facts:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_paritygroup_facts
```

Get one parity group

Synopsis

Gets one parity group on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
parity_group_id	string	Yes	The parity group number of the parity group to retrieve.

Example

```
#####
# Task 2 : Get one paritygroup
#####
- name: Get one paritygroup
  hv_paritygroup_facts:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    spec:
      parity_group_id: "{{ paritygroup_facts_parity_group_id_1 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_paritygroup_facts
```

Provision LDEV to host

Module name

`hv_hg` and `hv_ldev`

Description

This sample playbook creates and presents LDEVs with a direct/gateway connection to a host group on Hitachi storage systems.

This module provides the following tasks

- Create a LDEV with direct/gateway connection
- Present LDEV to host group with direct/gateway connection

Create LDEV with direct connection

Synopsis

Creates an LDEV with direct/gateway connection on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
<code>connection_type</code>	No	Default: direct
<code>address</code>	Yes	Storage management address
<code>username</code>	Yes	Storage user name
<code>password</code>	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
<code>connection_type</code>	Yes	gateway
<code>address</code>	Yes	UAI Gateway address
<code>api_token</code>	Yes	UAI Gateway API token
<code>subscriber_id</code>	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
pool_id	integer	Yes	ID of the pool where the LDEV will be created. Parameters <code>pool_id</code> and <code>parity_group_id</code> are mutually exclusive.
size	string	Yes	Size of the LDEV. Can be specified in units such as GB, TB, or MB (for example, '10GB', '5TB', '100MB').
name	string	No	Name of the LDEV (optional).

Example

```
#####
# Task 1 : Create ldev with direct/gateway connection
#####
- name: Create ldev with direct/gateway connection
  hv_ldev:
    connection_info: "{{ connection_info }}"
    state: "{{ state_present }}"
    spec:
      pool_id: "{{ provision_ldev_to_host_pool_id_1 }}"
      size: "{{ provision_ldev_to_host_size_1 }}"
      name: "{{ provision_ldev_to_host_name_1 }}"
  register: result_create_ldev
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_ldev
```

Present an LDEV to a host group with direct/gateway connection

Synopsis

Presents an LDEV to a host group with direct/gateway connection on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info

Parameter	Type	Required	Description
state	string	Yes	'present_ldev'
name	string	Yes	Name of the existing host group.
port	string	Yes	Fibre Channel port
ldevs	list of strings	Yes	LDEV to be mapped with the host group. Supported format can be decimal.

Example

```
#####
# Task 2 : Present ldev to host group with direct/gateway connection
#####
- name: Present ldev to host group with direct/gateway connection
  hv_hg:
    connection_info: "{{ connection_info }}"
    state: "{{ state_present }}"
    spec:
      state: "{{ substate_present_ldev }}"
      name: "{{ provision_ldev_to_host_name_2 }}"
      port: "{{ provision_ldev_to_host_port_2 }}"
      ldevs: ["{{ result_create_ldev['data']['ldev_id'] | int }}" ]
    register: result_present_ldev
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_hg
```

Manage ShadowImage pairs

Manages ShadowImage pairs on Hitachi VSP storage systems.

Module name`hv_shadow_image_pair`**Description**

This module allows for the creation, deletion, splitting, syncing and restoring of ShadowImage pairs on Hitachi VSP storage systems.

This module provides the following tasks

- Create a ShadowImage pair
- Split a ShadowImage pair
- Resync a ShadowImage pair
- Create and auto-split a ShadowImage pair
- Restore a ShadowImage pair
- Delete a ShadowImage pair

Create a ShadowImage pair

Synopsis

Creates a ShadowImage pair on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
<code>connection_type</code>	Yes	direct
<code>address</code>	Yes	Storage management address
<code>username</code>	Yes	Storage user name
<code>password</code>	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
<code>connection_type</code>	Yes	gateway
<code>address</code>	Yes	UAI Gateway address
<code>api_token</code>	Yes	UAI Gateway API token

Parameter	Required	Value/Description
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'present'

Spec info:

Parameter	Type	Required	Description
primary_volume_id	integer	Yes	Primary volume ID
secondary_volume_id	integer	Yes	Secondary volume ID
auto_split	boolean	No	Auto split
allocate_new_consistency_group	boolean	No	New consistency group
copy_pace_track_size	string	No	Copy pace track size. Choices: ['SLOW', 'MEDIUM', 'FAST']
enable_quick_mode	boolean	No	Enable quick mode

Example

```
#####
# Task 1 : Create shadow image pair
#####
- name: Create shadow image pair
  hv_shadow_image_pair:
    connection_info: "{{ connection_info }}"
    storage_system_info:
```

```

    serial: "{{ storage_serial }}"
    state: "{{ state_present }}"
    spec:
      primary_volume_id: "{{ shadow_image_pair_pvol_1 }}"
      secondary_volume_id: "{{ shadow_image_pair_svol_1 }}"
      allocate_new_consistency_group:
        "{{ shadow_image_pair_new_consistency_group_1 }}"
      copy_pace_track_size: "{{ shadow_image_pair_copy_pace_track_size_1 }}"
      auto_split: "{{ shadow_image_pair_auto_split_1 }}"
      enable_quick_mode: "{{ shadow_image_pair_enable_quick_mode_1 }}"
    register: result

```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_shadow_image_pair
```

Split a ShadowImage pair

Synopsis

Splits a ShadowImage pair on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token

Parameter	Required	Value/Description
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'split'

Spec info:

Parameter	Type	Required	Description
primary_volume_id	integer	Yes	Primary volume ID
secondary_volume_id	integer	Yes	Secondary volume ID
enable_quick_mode	boolean	No	Enable quick mode
enable_read_write	boolean	No	Enable read write

Example

```
#####
# Task 2 : Split shadow image pair
#####
- name: Split shadow image pair
  hv_shadow_image_pair:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_split }}"
    spec:
      primary_volume_id: "{{ shadow_image_pair_pvol_2 }}"
      secondary_volume_id: "{{ shadow_image_pair_svol_2 }}"
      enable_quick_mode: "{{ shadow_image_pair_enable_quick_mode_2 }}"
```

```
enable_read_write: "{{ shadow_image_pair_enable_read_write_2 }}"
register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_shadow_image_pair
```

Resync ShadowImage pair

Synopsis

Resyncs a ShadowImage pair on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'sync'

Spec info:

Parameter	Type	Required	Description
primary_volume_id	integer	Yes	Primary volume ID
secondary_volume_id	integer	Yes	Secondary volume ID
enable_quick_mode	boolean	No	Enable quick mode
copy_pace	string	No	Copy pace

Example

```
#####
# Task 3 : Resync shadow image pair
#####
- name: Resync shadow image pair
  hv_shadow_image_pair:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_sync }}"
    spec:
      primary_volume_id: "{{ shadow_image_pair_pvol_3 }}"
      secondary_volume_id: "{{ shadow_image_pair_svol_3 }}"
      enable_quick_mode: "{{ shadow_image_pair_enable_quick_mode_3 }}"
      copy_pace: "{{ shadow_image_pair_copy_pace_3 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_shadow_image_pair
```

Create and auto-split a ShadowImage pair**Synopsis**

Creates and auto-splits a ShadowImage pair on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'split'

Spec info:

Parameter	Type	Required	Description
primary_volume_id	integer	Yes	Primary volume ID
secondary_volume_id	integer	Yes	Secondary volume ID
allocate_new_consistency_group	boolean	No	New consistency group
consistency_group_id	integer	No	Consistency group ID
copy_pace_track_size	string	No	Copy pace track size. Choices: ['SLOW', 'MEDIUM', 'FAST']
auto_split	boolean	Yes	Value: True

Example

```
#####
# Task 4 : Create and Auto-Split shadow image pair
#####
- name: Create and Auto-Split shadow image pair
  hv_shadow_image_pair:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_split }}"
    spec:
      primary_volume_id: "{{ shadow_image_pair_pvol_4 }}"
      secondary_volume_id: "{{ shadow_image_pair_svol_4 }}"
      allocate_new_consistency_group:
        "{{ shadow_image_pair_new_consistency_group_4 }}"
      consistency_group_id: "{{ shadow_image_pair_consistency_group_id_4 }}"
      copy_pace_track_size:
        "{{ shadow_image_pair_copy_pace_track_size_4 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_shadow_image_pair
```

Restore a ShadowImage pair**Synopsis**

Restores a ShadowImage pair on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'restore'

Spec info:

Parameter	Type	Required	Description
primary_volume_id	integer	Yes	Primary volume ID
secondary_volume_id	integer	Yes	Secondary volume ID
enable_quick_mode	boolean	No	Enable quick mode
enable_read_write	boolean	No	Enable read write
copy_pace	string	No	Copy pace. Choices for gateway connect: ['SLOW','MEDIUM','FAST']. Default: FAST] Choices for direct connect: [1-2 for SLOW 3 for MEDIUM 4-15 for FAST Default: FAST]

Example

```
#####
# Task 5 : Restore shadow image pair
#####
- name: Restore shadow image pair
  hv_shadow_image_pair:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_restore }}"
    spec:
      primary_volume_id: "{{ shadow_image_pair_pvol_5 }}"
      secondary_volume_id: "{{ shadow_image_pair_svol_5 }}"
      enable_quick_mode: "{{ shadow_image_pair_enable_quick_mode_5 }}"
```

```
copy_pace: "{{ shadow_image_pair_copy_pace_5 }}"
register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_shadow_image_pair
```

Delete ShadowImage pair

Synopsis

Deletes a ShadowImage pair on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'absent'

Spec info:

Parameter	Type	Required	Description
primary_volume_id	integer	Yes	Primary volume ID
secondary_volume_id	integer	Yes	Secondary volume ID

Example

```
#####
# Task 6 : Delete shadow image pair
#####
- name: Delete shadow image pair
  hv_shadow_image_pair:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_absent }}"
    spec:
      primary_volume_id: "{{ shadow_image_pair_pvol_6 }}"
      secondary_volume_id: "{{ shadow_image_pair_svol_6 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_shadow_image_pair
```

Get ShadowImage pairs

Retrieves information about ShadowImage pairs from the Hitachi storage systems description.

Module name

hv_shadow_image_pair_facts

Description

This module retrieves information about ShadowImage pairs from Hitachi VSP storage systems. It provides details about ShadowImage pairs such as ID, status, and other relevant information.

This module provides the following tasks

- Get all ShadowImage pairs
- Get ShadowImage pairs by P-VOL

Get all ShadowImage pairs**Synopsis**

Gets all ShadowImage pairs on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

Example

```
#####
# Task 1 : Get all shadow image pairs
#####
- name: Get all shadow image pairs
  hv_shadow_image_pair_facts:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_shadow_image_pair_facts
```

Get ShadowImage pairs by P-VOL

Synopsis

Gets ShadowImage pairs by P-VOL on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
primary_volume_id	integer	Yes	Primary volume ID

Example

```
#####
# Task 2 : Get shadow image pairs by primary_volume_id
#####
- name: Get shadow image pairs by primary_volume_id
  hv_shadow_image_pair_facts:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    spec:
      primary_volume_id: "{{ shadow_image_pair_facts_pvol_2 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_shadow_image_pair_facts
```

Manage snapshots

Manages snapshots on Hitachi storage systems.

Module name

hv_snapshot

Description

This module allows for the creation, deletion, splitting, syncing, and restoring of snapshots on Hitachi VSP storage systems. It supports various snapshot operations based on the specified task level.

This module provides the following tasks



Note: Snapshot clone is not supported with direct connect.

- Create a snapshot pair
- Split a snapshot pair
- Resync a snapshot pair
- Create and auto-split a snapshot pair
- Restore a snapshot pair
- Create a snapshot pair using an existing consistency group
- Delete a snapshot pair

Create a snapshot pair



Note:

VSP One B20, VSP One B24, VSP One B26, and VSP One B28 only support Thin Image Advanced.

Synopsis

Creates a Normal Thin Image or Thin Image Advanced pair on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct

Parameter	Required	Value/Description
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

State info:

Parameter	Required	Value/Description
state	No	'present' Present state is sync state for new snapshot pair. If the P-VOL and S-VOL are a new Thin Image pair and state=split, create the new pair, then split the pair.

Spec info:

Parameter	Type	Required	Description
primary_volume_id	string	Yes	Primary volume ID. Capacity saving must not be disabled and <code>data_reduction_share</code> should be true for a volume that will be used as PVOL for Thin Image Advanced pair. For creating a new Thin Image Advanced pair, V-VOL will be automatically allocated for the new snapshot pair.
pool_id	integer	Yes	ID of the pool where the snapshot will be allocated. Mandatory for Create snapshot pair only. HTI pool ID for Thin Image pair.

Parameter	Type	Required	Description
			DP pool ID in which P-VOL is created for Thin Image Advanced pair.
allocate_new_consistency_group	boolean	No	Specify whether to create a pair in a consistency group. Default: False
is_data_reduction_force_copy	boolean	No	Default value = False. For a Thin Image Advanced pair, value must be True.
snapshot_group_name	string	Yes	Name of the snapshot group

**Note:**

Specify a decimal (base 10) number equal to or greater than 0. For the S-VOL, specify a virtual volume for Thin Image that was created beforehand.

If the pair specified by the object ID is a Thin Image Advanced pair, you must specify the LDEV number of a data reduction shared volume that belongs to the same pool as the volume specified for the pvolLdevId attribute.

Example

```
#####
# Task 1 : Create snapshot pair
#####
- name: Create snapshot pair
  hv_snapshot:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_present }}"
    spec:
      primary_volume_id: "{{ snapshot_pvol_1 }}"
      pool_id: "{{ snapshot_pool_id_1 }}"
      snapshot_group_name: "{{ snapshot_snapshot_group_name_1 }}"

register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_snapshot
```

Split a snapshot pair

Synopsis

Splits a snapshot pair on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'split'

Spec info:

Parameter	Type	Required	Description
primary_volume_id	string	Yes	ID of the primary volume
mirror_unit_id	integer	Yes	Mirror unit ID of the snapshot



Note: Split snapshot pair task will fail if the pair is in a consistency group.

Example

```
#####
# Task 2 : Split snapshot pair
#####
- name: Split snapshot pair
  hv_snapshot:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
      state: "{{ state_split }}"
    spec:
      primary_volume_id: "{{ snapshot_pvol_2 }}"
      mirror_unit_id: "{{ snapshot_mirror_unit_id_2 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_snapshot
```

Resync a snapshot pair

Synopsis

Resyncs a snapshot pair on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'sync'

Spec info:

Parameter	Type	Required	Description
primary_volume_id	string	Yes	Primary volume ID.
mirror_unit_id	integer	yes	Mirror unit ID of the snapshot

Example

```
#####
# Task 3 : Resync snapshot pair
#####
- name: Resync snapshot pair
  hv_snapshot:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_sync }}"
    spec:
      primary_volume_id: "{{ snapshot_pvol_3 }}"
      mirror_unit_id: "{{ snapshot_mirror_unit_id_3 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_snapshot
```

Create and auto-split a snapshot pair

Synopsis

Creates and auto-splits a snapshot pair on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'split'

Spec info:

Parameter	Type	Required	Description
primary_volume_id	string	Yes	Primary volume ID.
pool_id	integer	Yes	ID of the pool where the snapshot will be allocated. HTI pool ID for Thin Image pair. DP pool ID for Thin Image Advanced pair.

Parameter	Type	Required	Description
snapshot_group_name	string	Yes	Name of the snapshot group (required for direct and gateway connection types)

**Note:**

Specify a decimal (base 10) number equal to or greater than 0. For the S-VOL, specify a virtual volume for Thin Image that was created beforehand.

If the pair specified by the object ID is a Thin Image Advanced pair, you must specify the LDEV number of a data reduction shared volume that belongs to the same pool as the volume specified for the pvolldevId attribute.

Example

```
#####
# Task 4 : Create and Auto-Split snapshot pair
#####
- name: Create and Auto-Split snapshot pair
  hv_snapshot:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_split }}"
    spec:
      primary_volume_id: "{{ snapshot_pvol_4 }}"
      pool_id: "{{ snapshot_pool_id_4 }}"
      snapshot_group_name: "{{ snapshot_snapshot_group_name_4 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_snapshot
```

Restore a snapshot pair

Synopsis

Restores a snapshot pair on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'restore'

Spec info:

Parameter	Type	Required	Description
primary_volume_id	string	Yes	Primary volume ID.
mirror_unit_id	integer	yes	Mirror unit ID of the snapshot.

Example

```
#####
# Task 5 : Restore snapshot pair
#####
- name: Restore snapshot pair
  hv_snapshot:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_restore }}"
    spec:
      primary_volume_id: "{{ snapshot_pvol_5 }}"
```

```
mirror_unit_id: "{{ snapshot_mirror_unit_id_5 }}"
register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_snapshot
```

Create a snapshot pair using an existing consistency group

Synopsis

Creates a snapshot pair using an existing consistency group on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Storage system info:

Parameter	Required	Value/Description
serial	No	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'present' Present state is sync state for new snapshot pair. If the P-VOL and S-VOL are a new Thin Image pair and state=split, create the new pair, then split the pair.

Spec info:

Parameter	Type	Required	Description
primary_volume_id	string	Yes	Primary volume ID. for
pool_id	integer	Yes	ID of the pool where the snapshot will be allocated. HTI pool ID for Thin Image pair. DP pool ID for Thin Image Advanced pair.
snapshot_group_name	string	Yes	Name of the snapshot group that is part of an existing consistency group
is_data_reduction_force_copy	boolean	No	Required for a Thin Image Advanced pair only. Volume must have capacity saving value enabled.

**Note:**

Specify a decimal (base 10) number equal to or greater than 0. For the S-VOL, specify a virtual volume for Thin Image that was created beforehand.

If the pair specified by the object ID is a Thin Image Advanced pair, you must specify the LDEV number of a data reduction shared volume that belongs to the same pool as the volume specified for the pvolLdevId attribute.

Example

```
#####
# Task 6 : Create snapshot pair using existing consistency group
#####
- name: Create snapshot pair using existing consistency group
  hv_snapshot:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_present }}"
    spec:
      primary_volume_id: "{{ snapshot_pvol_6 }}"
      pool_id: "{{ snapshot_pool_id_6 }}"
      snapshot_group_name: "{{ snapshot_snapshot_group_name_6 }}"
      is_data_reduction_force_copy:
```

```
"{{ snapshot_is_data_reduction_force_copy_6 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_snapshot
```

Delete a snapshot pair

Synopsis

Deletes a snapshot pair on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Storage system info:

Parameter	Required	Value/Description
serial	No	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'absent'

Spec info:

Parameter	Type	Required	Description
primary_volume_id	string	Yes	Primary volume ID.
mirror_unit_id	integer	Yes	Mirror unit ID of the snapshot

Example

```
#####
# Task 7 : Delete snapshot pair
#####
- name: Delete snapshot pair
  hv_snapshot:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_absent }}"
    spec:
      primary_volume_id: "{{ snapshot_pvol_7 }}"
      mirror_unit_id: "{{ snapshot_mirror_unit_id_7 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_snapshot
```

Get snapshot pairs

Gather snapshot facts from a storage system.

Module name

hv_snapshot_facts

Description

This module gathers facts about snapshots from a specified storage system.

This module provides the following tasks

- Get all snapshot pairs
- Get snapshot pairs with the same P-VOL
- Get one snapshot pair

Get all snapshot pairs

Synopsis

Gets all snapshot pairs on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

Example

```
#####
# Task 1 : Get all snapshot pairs
#####
- name: Get all snapshot pairs
  hv_snapshot_facts:
    connection_info: "{{ connection_info }}"
```

```
storage_system_info:
  serial: "{{ storage_serial }}"
register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_snapshot_facts
```

Get snapshot pairs with the same P-VOL

Synopsis

Gets snapshot pairs with the same P-VOL on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
primary_volume_id	string	Yes	Primary volume ID

Example

```
#####
# Task 2 : Get snapshot pairs with same primary_volume_id
#####
- name: Get snapshot pairs with same primary_volume_id
  hv_snapshot_facts:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    spec:
      primary_volume_id: "{{ snapshot_facts_pvol_2 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_snapshot_facts
```

.

Get one snapshot pair

Synopsis

Gets one snapshot pair on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct

Parameter	Required	Value/Description
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
primary_volume_id	string	Yes	Primary volume ID
mirror_unit_id	string	Yes	The mirror unit identifier. If not provided, it will be omitted.

Example

```
#####
# Task 3 : Get one snapshot pair
#####
- name: Get one snapshot pair
  hv_snapshot_facts:
```

```

connection_info: "{{ connection_info }}"
storage_system_info:
  serial: "{{ storage_serial }}"
spec:
  primary_volume_id: "{{ snapshot_facts_pvol_3 }}"
  mirror_unit_id: "{{ snapshot_facts_mirror_unit_id_3 }}"
register: result

```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_snapshot_facts
```

.

Manage storage ports

Manages storage ports on Hitachi VSP storage systems.

Module name

hv_storage_port

Description

This module manages storage ports on Hitachi VSP storage systems.

This module provides the following tasks

- Change storage port security settings using port ID
- Change storage port mode settings using port ID

Change storage port security settings using port ID

Synopsis

Changes storage port security settings using the port ID on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address

Parameter	Required	Value/Description
username	Yes	Storage user name
password	Yes	Storage password

Storage system info:

Parameter	Required	Value/Description
serial	No	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
port	integer	yes	The port ID of the specific port to retrieve
enable_port_security	boolean	Yes	Specify whether to enable the LDEV security setting for the port. This attribute cannot be specified at the same time as the <code>port_mode</code> attribute.

Example

```
#####
# Task 1 : Change storage port security settings using port id
#####
- name: Change storage port security settings using port id
  hv_storage_port:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    spec:
```

```
port: "{{ storage_port_port_1 }}"
enable_port_security: "{{ storage_port_enable_port_security_1 }}"
register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_storage_port
```

Change storage port mode settings using port ID

Synopsis

Changes storage port mode settings using the port ID on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Storage system info:

Parameter	Required	Value/Description
serial	No	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
port	string	Yes	The port ID of the specific port to retrieve
port_mode	string	Yes	Specify the operating mode of the port. Default value = none. Case-insensitive. The specifiable values are as follows: - FC-NVMe:NVMe mode - SCSI:SCSI mode If the port mode is changed from scsi to nvme and there is already a host group/iSCSI target associated with the port, expect a meaningful error message.

Example

```
#####
# Task 2 : Change storage port mode settings using port id
#####
- name: Change storage port mode settings using port id
  hv_storage_port:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    spec:
      port: "{{ storage_port_port_2 }}"
      port_mode: "{{ storage_port_port_mode_2 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_storage_port
```

Get storage ports

Retrieves storage ports on Hitachi VSP storage systems.

Module name

`hv_storage_port_facts`

Description

This module retrieves storage ports on Hitachi VSP storage systems.

This module provides the following tasks

- Get all storage ports
- Get storage port details using port IDs

Get all storage ports

Synopsis

Retrieves all storage ports on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
<code>connection_type</code>	No	Default: direct
<code>address</code>	Yes	Storage management address
<code>username</code>	Yes	Storage user name
<code>password</code>	Yes	Storage password

Storage system info:

Parameter	Required	Value/Description
<code>serial</code>	No	Storage system serial number.

Example

```
#####
# Task 1 : Get all storage ports
```

```
#####
- name: Get all storage ports
  hv_storage_port_facts:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_storage_port_facts
```

Get storage port details using port IDs

Synopsis

Retrieves storage port details using port IDs on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Storage system info:

Parameter	Required	Value/Description
serial	No	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
ports	list	Yes	The IDs of the specific ports to retrieve Type: array of string. If not specified, return all storage ports. Return specified ports. If storage does not have the ports that matches the input values, return empty array. If empty array is specified, return empty array of storage port objects. Example: ['CL1-A', 'CL2-A']

Example

```
#####
# Task 2 : Get storage port details using port ids
#####
- name: Get storage port details using port ids
  hv_storage_port_facts:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    spec:
      ports: "{{ storage_port_facts_ports_2 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_storage_port_facts
```

Get storage pools

Provides information about the storage pool.

Module name

`hv_storagepool_facts`

Description

This module gathers facts about storage pools from a specified storage system.

This module provides the following tasks

- `Get all storage pools`
- `Get one storage pool`

Get all storage pools

Synopsis

Gets all storage pools on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
<code>connection_type</code>	Yes	direct
<code>address</code>	Yes	Storage management address
<code>username</code>	Yes	Storage user name
<code>password</code>	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
<code>connection_type</code>	Yes	gateway
<code>address</code>	Yes	UAI Gateway address
<code>api_token</code>	Yes	UAI Gateway API token
<code>subscriber_id</code>	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

Example

```
#####
# Task 1 : Get all storage pools
#####
- name: Get all storage pools
  hv_storagepool_facts:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_storagepool_facts
```

Get one storage pool

Synopsis

Gets one storage pool on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
pool_id	integer	Yes	The pool number of the specific pool to retrieve

Example

```
#####
# Task 2 : Get one storage pool
#####
- name: Get one storage pool
  hv_storagepool_facts:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    spec:
      pool_id: "{{ storagepool_facts_pool_id_2 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_storagepool_facts
```

Get storage systems

Provides information about a specific VSP/VSP One SDS block storage system description:

Module name

`hv_storagesystem_facts`

Description

This module gathers facts about a specific storage system.

This module provides the following tasks

- `Get storage system facts`
- `Get storage system facts using a query`

Get storage system facts

Synopsis

Gets storage system facts on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
<code>connection_type</code>	Yes	direct
<code>address</code>	Yes	Storage management address
<code>username</code>	Yes	Storage user name
<code>password</code>	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
<code>connection_type</code>	Yes	gateway
<code>address</code>	Yes	UAI Gateway address
<code>api_token</code>	Yes	UAI Gateway API token
<code>subscriber_id</code>	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

Example

```
#####
# Task 1 : Get storage system facts
#####
- name: Get storage system facts
  hv_storagesystem_facts:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_storagesystem_facts
```

Get storage system facts using a query

Synopsis

Gets storage system facts using a query on a Hitachi storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes for gateway. No for direct.	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
query	list of strings	Yes	Additional information to be gathered. Choices: ['ports', 'quorumdisks', 'journalPools', 'freeLogicalUnitList']

Example

```
#####
# Task 2 : Get storage system facts using query
#####
- name: Get storage system facts using query
  hv_storagesystem_facts:
    connection_info: "{{ connection_info }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    spec:
      query: "{{ storagesystem_facts_query_2 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_storagesystem_facts
```

Chapter 7: SDS Block modules

Here is a list of all Hitachi Vantara VSP One SDS Block modules and the tasks they can execute:

Module	Task
Manage CHAP user	Create a CHAP user
	Update a CHAP user name
	Update a CHAP user secret
	Delete a CHAP user
Get CHAP users	Get all CHAP users
	Get one CHAP user by ID
	Get one CHAP user by name
Manage SDS block compute node	Create a compute node
	Update a compute node name
	Add IQN initiators to a compute node
	Add NQN initiators to a compute node
	Remove IQN initiators from a compute node
	Remove NQN initiators from a compute node
	Attach volumes to a compute node
	Detach volumes from a compute node
	Delete a compute node by name
	Delete a compute node by ID
Get compute nodes	Get all compute nodes
	Get compute nodes by names

Module	Task
	Get compute nodes by HBA name
Get compute ports	Get all compute ports
	Get a compute port by name
	Get a compute port by nickname
Manage port authentication	Set port authentication mode
Get storage systems	Get storage system facts
Update VPS volume ADR setting	Update VPS volume ADR setting by ID
	Update VPS volume ADR setting by name
Manage SDS block volume	Create a volume
	Create a volume with QoS parameters
	Update a volume
	Update a volume QoS parameters
	Expand a volume by name
	Expand a volume by ID
	Add a volume to compute nodes
	Remove a volume from compute nodes
	Delete a volume by name
	Delete a volume by ID
Get volumes	Get volumes by default count
	Get volumes by count
	Get volumes by names
	Get volumes by nicknames
	Get volumes by other filters

Manage CHAP user

Manages Hitachi SDS block storage system CHAP users.

Module name

`hv_sds_block_chap_user`

Description

This module allows for the creation, deletion and updation of CHAP users. It supports various CHAP user operations based on the specified task level.

This module provides the following tasks

- Create a CHAP user
- Update a CHAP user name
- Update CHAP user name and secret
- Delete a CHAP user

Create a CHAP user

Synopsis

Creates a CHAP user on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
<code>connection_type</code>	No	Default: direct
<code>address</code>	Yes	Storage management address
<code>username</code>	Yes	Storage user name
<code>password</code>	Yes	Storage password

State info:

Parameter	Required	Value/Description
<code>state</code>	No	'present'

Spec info

Parameter	Type	Required	Description
target_chap_user_name	string	Yes	Target CHAP user name.
target_chap_secret	string	Yes	Target CHAP user secret
initiator_chap_user_name	string	No	Initiator CHAP user name
initiator_chap_secret	string	No	Initiator CHAP user secret

Example

```
#####
# Task 1 : Create chap user
#####
- name: Create chap user
  hv_sds_block_chap_user:
    connection_info: "{{ connection_info }}"
    state: "{{ state_present }}"
    spec:
      target_chap_user_name: "{{ chap_user_target_chap_user_name_1 }}"
      target_chap_secret: "{{ chap_user_target_chap_secret_1 }}"
      initiator_chap_user_name: "{{ chap_user_initiator_chap_user_name_1 }}"
      initiator_chap_secret: "{{ chap_user_initiator_chap_secret_1 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_chap_user
```

Update a CHAP user name

Synopsis

Updates an initiator CHAP user name or target CHAP user name on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
id	string	Yes	ID of the CHAP user
target_chap_user_name	string	No	Target CHAP user name.
initiator_chap_user_name	string	No	Initiator CHAP user name

Example

```
#####
# Task 2 : Update chap user name
#####
- name: Update chap user name
  hv_sds_block_chap_user:
    connection_info: "{{ connection_info }}"
    state: "{{ state_present }}"
    spec:
      id: "{{ chap_user_id_2 }}"
      target_chap_user_name: "{{ chap_user_target_chap_user_name_2 }}"
  register: result
```


Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_chap_user
```

Update a CHAP user name and secret

Synopsis

Updates a CHAP user name and secret on a VSP One SDS Block storage system.



Note: If you want to update only the secret, you must provide only the CHAP user ID and the new secret.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
id	string	Yes	ID of the CHAP user
target_chap_user_name	string	Yes	Target CHAP user name.
target_chap_secret	string	Yes	Target CHAP user secret

Example

```
#####
# Task 3 : Update chap user name and secret
#####
- name: Update chap user secret
  hv_sds_block_chap_user:
    connection_info: "{{ connection_info }}"
    state: "{{ state_present }}"
    spec:
      id: "{{ chap_user_id_3 }}"
      target_chap_user_name: "{{ chap_user_target_chap_user_name_3 }}"
      target_chap_secret: "{{ chap_user_target_chap_secret_3 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_chap_user
```

Delete a CHAP user**Synopsis**

Deletes a CHAP user on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

State info:

Parameter	Required	Value/Description
state	Yes	'absent'

Spec info:

Parameter	Type	Required	Description
id	string	Yes	ID of the CHAP user

Example

```
#####
# Task 4 : Delete chap user
#####
- name: Delete chap user
  hv_sds_block_chap_user:
    connection_info: "{{ connection_info }}"
    state: "{{ state_absent }}"
    spec:
      id: "{{ chap_user_id_4 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_chap_user
```

Get CHAP users

Retrieves information about Hitachi SDS block storage system CHAP users.

Module name

hv_sds_block_chap_user

Description

This module retrieves information about CHAP users. It provides details about a CHAP user such as initiator CHAP user name, target CHAP user name, and ID.

This module provides the following tasks

- Get all CHAP users
- Get one CHAP user by ID
- Get one CHAP user by name

Get all CHAP users

Synopsis

Gets all CHAP users on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Example

```
#####
# Task 1 : Get all chap users
#####
- name: Get all chap users
  hv_sds_block_chap_user_facts:
    connection_info: "{{ connection_info }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_chap_user_facts
```

Get one CHAP user by ID

Synopsis

Gets one CHAP user by ID on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Spec info:

Parameter	Type	Required	Description
id	string	Yes	ID of the CHAP user to retrieve information for.

Example

```
#####
# Task 2 : Get one chap user by id
#####
- name: Get one chap user by id
  hv_sds_block_chap_user_facts:
    connection_info: "{{ connection_info }}"
    spec:
      id: "{{ chap_user_facts_chap_user_id_2 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_chap_user_facts
```

Get one CHAP user by name

Synopsis

Gets one CHAP user by name on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Spec info:

Parameter	Type	Required	Description
target_chap_user_name	string	Yes	Target CHAP user name to retrieve information for.

Example

```
#####
# Task 3 : Get one chap user by name
#####
- name: Get one chap user by name
  hv_sds_block_chap_user_facts:
    connection_info: "{{ connection_info }}"
    spec:
      target_chap_user_name: "{{ chap_user_facts_target_chap_user_name_3 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_chap_user_facts
```

Manage SDS block compute node

Manage Hitachi SDS block storage system compute nodes.

Module name

hv_sds_block_compute_node

Description

This module allows for the creation, update, and deletion of a compute node.

This module provides the following tasks

- Create a compute node
- Update a compute node name
- Add IQN initiators to a compute node
- Add NQN initiators to a compute node
- Remove IQN initiators from a compute node
- Remove NQN initiators from a compute node
- Attach volumes to a compute node
- Detach volumes from a compute node
- Delete a compute node by name
- Delete a compute node by ID

Create a compute node**Synopsis**

Creates a compute node on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
os_type	string	Yes	The OS type of the compute node. Valid values: Linux, VMware, Windows
name	string	Yes	The name of the compute node

Example

```
#####
# Task 1 : Create compute node
#####
- name: Create compute node
  hv_sds_block_compute_node:
    connection_info: "{{ connection_info }}"
    state: "{{ state_present }}"
    spec:
      name: "{{ compute_node_name_1 }}"
      os_type: "{{ compute_node_os_type_1 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_compute_node
```

Update a compute node name

Synopsis

Updates a compute node name on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address

Parameter	Required	Value/Description
username	Yes	Storage user name
password	Yes	Storage password

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
id	string	Yes	ID of the compute node
os_type	string	No	The OS type of the compute node. Valid values: Linux, VMware, Windows
name	string	No	Name of the compute node

Example

```
#####
# Task 2 : Update compute node name
#####
- name: Update compute node name
  hv_sds_block_compute_node:
    connection_info: "{{ connection_info }}"
    state: "{{ state_present }}"
    spec:
      id: "{{ compute_node_id_2 }}"
      name: "{{ compute_node_name_2 }}"
      os_type: "{{ compute_node_os_type_2 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_compute_node
```

Add IQN initiators to a compute node**Synopsis**

Adds IQN initiators to a compute node on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
state	string	Yes	'add_iscsi_initiator'
iscsi_initiators	list	Yes	The array of iSCSI IQN initiators
name	string	Yes	Name of the compute node

Example

```
#####
# Task 3 : Add ign initiators to compute node
#####
- name: Add ign initiators to compute node
  hv_sds_block_compute_node:
    connection_info: "{{ connection_info }}"
    state: "{{ state_present }}"
    spec:
      state: "{{ substate_add_iscsi_initiator }}"
      name: "{{ compute_node_name_3 }}"
      iscsi_initiators: "{{ compute_node_iscsi_initiators_3 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_compute_node
```

Add NQN initiators to compute node**Synopsis**

Adds NQN initiators to a compute node on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
state	string	Yes	'add_host_nqn'
name	string	Yes	Name of the compute node
host_nqns	array of NQN initiators	Yes	Each object is one host NQN with array of storage ports. Example: <pre>-host_nqns - nqn.1994-04.jp.co.comp any:nvme:sds-xxx-1 -000-iSCSI-001 -000-iSCSI-002 - nqn.1994-04.jp.co.comp any:nvme:sds-xxx-2 -000-iSCSI-001 -000-iSCSI-002</pre> If host_nqns does not support connection to specified storage port(s), support mash connection instead, similar to iSCSI Target. Example of mash connection: <pre>-host_nqns - nqn.1994-04.jp.co.comp any:nvme:sds-xxx-1 - nqn.1994-04.jp.co.comp any:nvme:sds-xxx-2</pre>

Example

```
#####
# Task 4 : Add nqn initiators to compute node
#####
- name: Add nqn initiators to compute node
  hv_sds_block_compute_node:
    connection_info: "{{ connection_info }}"
    state: "{{ state_present }}"
    spec:
      state: "{{ substate_add_host_nqn }}"
      name: "{{ compute_node_name_4 }}"
      host_nqns: "{{ compute_node_host_nqns_4 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_compute_node
```

Remove IQN initiators from a compute node

Synopsis

Removes IQN initiators from a compute node on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
state	string	Yes	'remove_iscsi_initiator'
iscsi_initiators	list	Yes	The array of iSCSI initiators
name	string	Yes	Name of the compute node

Example

```
#####
# Task 5 : Remove ign initiators from compute node
#####
- name: Remove ign initiators from compute node
  hv_sds_block_compute_node:
    connection_info: "{{ connection_info }}"
    state: "{{ state_present }}"
    spec:
      state: "{{ substate_remove_iscsi_initiator }}"
      name: "{{ compute_node_name_5 }}"
      iscsi_initiators: "{{ compute_node_iscsi_initiators_5 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_compute_node
```

Remove NQN initiators from compute node

Synopsis

Removes NQN initiators from a compute node on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct

Parameter	Required	Value/Description
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
state	string	Yes	'remove_host_nqn'
host_nqns	array of complex objects	Yes	Array of (host NQN per array of storage ports) Each object is one host NQN with array of storage ports. Example: <pre>-host_nqns - nqn.1994-04.jp.co.comp any:nvme:sds-xxx-1 -000-iSCSI-001 -000-iSCSI-002 - nqn.1994-04.jp.co.comp any:nvme:sds-xxx-2 -000-iSCSI-001 -000-iSCSI-002</pre> If host_nqns does not support connection to specified storage port(s), support mash

Parameter	Type	Required	Description
			connection instead, similar to iSCSI target. Example of mash connection: -host_nqns - nqn.1994-04.jp.co.comp any:nvme:sds-xxx-1 - nqn.1994-04.jp.co.comp any:nvme:sds-xxx-2
name	string	Yes	Name of the compute node

Example

```
#####
# Task 6 : Remove nqn initiators from compute node
#####
- name: Remove nqn initiators from compute node
  hv_sds_block_compute_node:
    connection_info: "{{ connection_info }}"
    state: "{{ state_present }}"
    spec:
      state: "{{ substate_remove_host_nqn }}"
      name: "{{ compute_node_name_6 }}"
      host_nqns: compute_node_host_nqns_6
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_compute_node
```

Attach volumes to a compute node

Synopsis

Attach volumes to a compute node on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
state	string	Yes	'attach_volume'
volumes	array of strings	Yes	The array of names of volumes
name	string	Yes	Name of the compute node

Example

```
#####
# Task 7 : Attach volumes to compute node
#####
- name: Attach volumes to compute node
  hv_sds_block_compute_node:
    connection_info: "{{ connection_info }}"
    state: "{{ state_present }}"
    spec:
      state: "{{ substate_attach_volume }}"
      name: "{{ compute_node_name_7 }}"
      volumes: "{{ compute_node_volumes_7 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_compute_node
```

Detach volumes from a compute node**Synopsis**

Detach volumes from a compute node on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
state	string	Yes	'detach_volume'.
volumes	list	Yes	The array of names of volumes
name	string	Yes	Name of the compute node

Example

```
#####
# Task 8 : Detach volumes from compute node
#####
- name: Detach volumes from compute node
  hv_sds_block_compute_node:
    connection_info: "{{ connection_info }}"
    state: "{{ state_present }}"
    spec:
      state: "{{ substate_detach_volume }}"
      name: "{{ compute_node_name_8 }}"
      volumes: "{{ compute_node_volumes_8 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_compute_node
```

Delete a compute node by name**Synopsis**

Deletes a compute node by name on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

State info:

Parameter	Required	Value/Description
state	Yes	'absent'

Spec info:

Parameter	Type	Required	Description
should_delete_all_volumes	boolean	No	If the value is true and task state = absent, destroy the volumes that are no longer attached to any other compute node after the volumes are removed from the current compute node.
name	string	Yes	Name of the compute node

Example

```
#####
# Task 9 : Delete compute node by name
#####
- name: Delete compute node by name
  hv_sds_block_compute_node:
    connection_info: "{{ connection_info }}"
    state: "{{ state_absent }}"
    spec:
      name: "{{ compute_node_name_9 }}"
      should_delete_all_volumes: "{{ compute_node_should_delete_all_volumes_9 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_compute_node
```

Delete a compute node by ID

Synopsis

Deletes a compute node by ID on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

State info:

Parameter	Required	Value/Description
state	Yes	'absent'

Spec info:

Parameter	Type	Required	Description
id	string	Yes	ID of the compute node

Example

```
#####
# Task 10 : Delete compute node by id
#####
- name: Delete compute node by id
  hv_sds_block_compute_node:
    connection_info: "{{ connection_info }}"
    state: "{{ state_absent }}"
    spec:
      id: "{{ compute_node_id_10 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_compute_node
```

Get compute nodes

Retrieves information about Hitachi SDS block storage system compute nodes.

Module name

`hv_sds_block_compute_node_facts`

Description

This module retrieves information about compute nodes. It provides details about a compute node such as ID, volume, and other details.

This module provides the following tasks

- `Get all compute nodes`
- `Get compute nodes by names`
- `Get compute nodes by HBA name`

Get all compute nodes

Synopsis

Gets all compute nodes on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
<code>connection_type</code>	No	Default: direct
<code>address</code>	Yes	Storage management address
<code>username</code>	Yes	Storage user name
<code>password</code>	Yes	Storage password

Example

```
#####
# Task 1 : Get all compute nodes
#####
- name: Get all compute nodes
  hv_sds_block_compute_node_facts:
```

```
connection_info: "{{ connection_info }}"
register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_compute_node_facts
```

Get compute nodes by names

Synopsis

Gets compute nodes by names on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Spec info:

Parameter	Type	Required	Description
names	list	Yes	The names of the compute nodes

Example

```
#####
# Task 2 : Get compute nodes by names
#####
- name: Get compute nodes by names
  hv_sds_block_compute_node_facts:
    connection_info: "{{ connection_info }}"
    spec:
```

```
names: "{{ compute_node_facts_names_2 }}"
register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_compute_node_facts
```

Get compute nodes by HBA name

Synopsis

Gets compute nodes by HBA name on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Spec info:

Parameter	Type	Required	Description
hba_name	string	Yes	A WWN or an iSCSI name

Example

```
#####
# Task 3 : Get compute nodes by hba_name
#####
- name: Get compute nodes by hba_name
  hv_sds_block_compute_node_facts:
    connection_info: "{{ connection_info }}"
  spec:
```



```
hba_name: "{{ compute_node_facts_hba_name_3 }}"
register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_compute_node_facts
```

Get compute ports

Retrieves information about Hitachi SDS block storage system compute ports.

Module name

hv_sds_block_port_facts

Description

This module retrieves information about compute ports. It provides details about a compute port, such as ID, volumes, and other details.

This module provides the following tasks

- Get all compute ports
- Get a compute port by name
- Get a compute port by nickname

Get all compute ports

Synopsis

Gets all compute ports on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Example

```
#####
# Task 1 : Get all compute ports
#####
- name: Get all compute ports
  hv_sds_block_port_facts:
    connection_info: "{{ connection_info }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_port_facts
```

Get a compute port by name**Synopsis**

Gets a compute port by name on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Spec info:

Parameter	Type	Required	Description
names	list	Yes	A WWN or an iSCSI name

Example

```
#####
```

```
# Task 2 : Get compute nodes by names
#####
- name: Get compute port by name
  hv_sds_block_port_facts:
    connection_info: "{{ connection_info }}"
    spec:
      name: "{{ compute_port_facts_name_2 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_port_facts
```

Get a compute port by nickname

Synopsis

Gets a compute port by nickname on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Spec info:

Parameter	Type	Required	Description
nicknames	list	Yes	The names of the compute nodes

Example

```
#####
# Task 3 : Get compute port by nicknames
#####
```

```
- name: Get compute port by nicknames
  hv_sds_block_port_facts:
    connection_info: "{{ connection_info }}"
    spec:
      nicknames: "{{ compute_port_facts_nicknames_3 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_port_facts
```

Manage port authentication

Sets the Hitachi SDS Block storage system compute port authentication mode.

Module name

```
hv_sds_block_compute_port_authentication
```

Description

This module allows for setting the compute port authentication mode.

This module provided the following task

- Set port authentication mode

Set port authentication mode

Synopsis

Sets the port authentication mode on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
port_name	string	Yes	Port name
authentication_mode	string	Yes	Authentication mode. Choices are 'CHAP', 'CHAP_complying_with_initiator_setting', 'None'.
target_chap_users	list	Yes	List of target CHAP user names.

Example

```
#####
# Task 1 : Set port authentication mode
#####
- name: Set port authentication mode
  hv_sds_block_compute_port_authentication:
    connection_info: "{{ connection_info }}"
    state: "{{ state_present }}"
    spec:
      port_name: "{{ port_auth_port_name_1 }}"
      authentication_mode: "{{ port_auth_authentication_mode_1 }}"
      target_chap_users: "{{ port_auth_target_chap_users_1 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc
hitachivantara.vspone_block.sds_block.hv_sds_block_compute_port_authentication
```

Get storage systems

This module provides information about a specific Hitachi SDS Block storage system.

Module name

hv_sds_block_storage_system_fact

Description

This module gathers facts about a specific storage system.

This module provides the following task

- Get storage system facts

Get storage system facts

Synopsis

Gets storage system facts on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Example

```
#####
# Task 1 : Get storage system facts
#####
- name: Get storage system facts
  hv_sds_block_storage_system_fact:
    connection_info: "{{ connection_info }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_storage_system_fact
```

Update VPS volume ADR setting

Updates the VPS volume ADR setting on a Hitachi SDS block storage system.

Module name

`hv_sds_block_vps`

Description

This module updates the VPS volume ADR setting on a Hitachi SDS block storage system.

This module provides the following task

- Update VSP volume ADR setting by ID
- Update VSP volume ADR setting by name

Update VPS volume ADR setting by ID

Synopsis

Updates the VPS volume ADR setting by ID on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
<code>connection_type</code>	No	Default: direct
<code>address</code>	Yes	Storage management address
<code>username</code>	Yes	Storage user name
<code>password</code>	Yes	Storage password

Spec info:

Parameter	Type	Required	Description
<code>id</code>	string	Yes	ID of the VPS
<code>capacity_saving</code>	string	Yes	Capacity saving for the VPS volumes. Choices: ['Disabled', 'Compression'] default: ['Disabled']

Example

```
#####
# Task 1 : Update VPS Volume ADR setting by id
#####
- name: Update VPS Volume ADR setting by id
  hv_sds_block_vps:
    connection_info: "{{ connection_info }}"
    spec:
      id: "{{ update_vps_volume_adr_setting_id_1 }}"
      capacity_saving: "{{ update_vps_volume_adr_setting_capacity_saving_1 }}"

  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_vps
```

Update VPS volume ADR setting by name

Synopsis

Updates the VPS volume ADR setting by name on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Spec info:

Parameter	Type	Required	Description
name	string	Yes	VPS name

Parameter	Type	Required	Description
capacity_saving	string	Yes	Capacity saving. Choices: ['Disabled', 'Compression'] Default: ['Disabled']

Example

```
#####
# Task 2 : Update VPS Volume ADR setting by name
#####
- name: Update VPS Volume ADR setting by name
  hv_sds_block_vps:
    connection_info: "{{ connection_info }}"
    spec:
      name: "{{ update_vps_volume_adr_setting_name_2 }}"
      capacity_saving: "{{ update_vps_volume_adr_setting_capacity_saving_2 }}"

  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_vps
```

Manage SDS block volume

Manage Hitachi SDS Block storage system volumes.

Module name

hv_sds_block_volume

Description

This module allows the creation, updating, and deletion of volume, adding and removing compute code. It supports various volume operations based on the specified state.

This module provides the following tasks

- Create a volume
- Create volume with QoS parameters
- Update a volume
- Update volume QoS parameters

- Expand a volume by name
- Expand a volume by ID
- Add a volume to compute nodes
- Remove a volume from compute nodes
- Delete a volume by name
- Delete a volume by ID

Create a volume

Synopsis

Creates a volume on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
name	string	Yes	The name of the volume
capacity	string	Yes	The capacity of the volume
pool_name	string	Yes	The name of the storage pool where the volume is created.

Parameter	Type	Required	Description
capacity_saving	string	No	Settings of the data reduction function. Disabled or Compression
compute_nodes	list	No	The array of names of the compute nodes to which the volume is attached

Example

```
#####
# Task 1 : Create volume
#####
- name: Create volume
  hv_sds_block_volume:
    connection_info: "{{ connection_info }}"
    state: "{{ state_present }}"
    spec:
      name: "{{ volume_name_1 }}"
      capacity: "{{ volume_capacity_1 }}"
      pool_name: "{{ volume_pool_name_1 }}"
      capacity_saving: "{{ volume_capacity_saving_1 }}"
      compute_nodes: "{{ volume_compute_nodes_1 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_volume
```

Create volume with QoS parameters

Synopsis

Creates a volume with QoS parameters on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
capacity	string	Yes	The capacity of the volume
pool_name	string	Yes	The name of the storage pool where the volume is created.
name	string	Yes	The name of the volume
upper_limit_for_iops	integer	Yes	The upper limit for IOPS. Default value = -1. Valid value: -1 Valid value: $-1 \leq x \leq 2147483647$ Invalid value: 0 to 99, > 2147483647 The upper limit of volume performance (in IOPS). To set the upper limit of volume performance (in IOPS), specify a value in the range from 100 to 2147483647. To set no upper limit, specify -1.

Parameter	Type	Required	Description
			If you specify values from 0 to 99, jobs will be unsuccessful. If you make both of the <code>upper_limit_for_ios</code> and <code>upper_limit_for_transfer_rate_in_mb_per_sec</code> settings unavailable, the setting of <code>upper_alert_allowable_time_in_sec</code> is also made unavailable. If this property is omitted, the following value is specified. If the volume belongs to a virtual private storage (VPS): Default value set for the VPS If the volume does not belong to a VPS: -1
<code>upper_limit_for_transfer_rate_in_mb_per_sec</code>	integer	Yes	The upper limit for transfer rate (MB per Sec) Default value = -1 Valid value: $-1 \leq x \leq 2097151$ Invalid value: 0, > 2097151 The upper limit of volume performance (in MiB/s). To set the upper limit of volume performance (in MiB/s), specify a value in the range from 1 to 2097151.

Parameter	Type	Required	Description
			To set no upper limit, specify -1. If you specify 0, jobs will be unsuccessful. If you make both of the <code>upper_limit_for_ios</code> and <code>upper_limit_for_transfer_rate_in_mbps</code> settings unavailable, the setting of <code>upper_alert_allowable_time_in_sec</code> is also made unavailable. If this property is omitted, the following value is specified. If the volume belongs to a virtual private storage (VPS): Default value set for the VPS If the volume does not belong to a VPS: -1 If the volume belongs to a virtual private storage (VPS): Default value set for the VPS If the volume does not belong to a VPS: -1
<code>upper_alert_allowable_time_in_sec</code>	integer	Yes	The upper alert allowable time (in seconds). Default value = -1 Valid value: $-1 \leq x \leq 600$ Invalid value: 0, > 600 The upper limit of volume performance (in MiB/s).

Parameter	Type	Required	Description
			To set the upper limit of volume performance (in MiB/s), specify a value in the range from 1 to 2097151. To set no upper limit, specify -1. If you specify 0, jobs will be unsuccessful. If you make both of the <code>upper_limit_for_iops</code> and <code>upper_limit_for_transfer_rate_in_mb_per_sec</code> settings unavailable, the setting of <code>upper_alert_allowable_time_in_sec</code> is also made unavailable. If this property is omitted, the following value is specified. If the volume belongs to a virtual private storage (VPS): Default value set for the VPS If the volume does not belong to a VPS: -1 If the volume belongs to a virtual private storage (VPS): Default value set for the VPS If the volume does not belong to a VPS: -1
<code>compute_nodes</code>	list	No	The array of names of the compute nodes to which the volume is attached

Example

```
#####
```

```
# Task 2 : Create volume with QoS parameters
#####
- name: Create volume with QoS parameters
  hv_sds_block_volume:
    state: "{{ state_present }}"
    connection_info: "{{ connection_info }}"
    spec:
      pool_name: "{{ volume_pool_name_2 }}"
      name: "{{ volume_name_2 }}"
      capacity: "{{ volume_capacity_2 }}"
      qos_param:
        upper_limit_for_iops: "{{ volume_qos_param_upper_limit_for_iops_2 }}"
        upper_limit_for_transfer_rate_mb_per_sec:
          "{{ volume_qos_param_upper_limit_for_transfer_rate_mb_per_sec_2 }}"
        upper_alert_allowable_time_in_sec:
          "{{ volume_qos_param_upper_alert_allowable_time_in_sec_2 }}"
        compute_nodes: "{{ volume_compute_nodes_2 }}"
      register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_volume
```

Update a volume

Synopsis

Updates a volume on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
id	string	Yes	The ID of the volume
name	string	No	The name of the volume
capacity_saving	string	Yes	Settings of the data reduction function. Disabled or Compression.

Example

```
#####
# Task 3 : Update volume
#####
- name: Update volume
  hv_sds_block_volume:
    connection_info: "{{ connection_info }}"
    state: "{{ state_present }}"
    spec:
      id: "{{ volume_id_3 }}"
      name: "{{ volume_name_3 }}"
      capacity_saving: "{{ volume_capacity_saving_3 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_volume
```

Update volume QoS parameters

Synopsis

Updates a volume's QoS parameters on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
name	string	Yes	The name of the volume
upper_limit_for_iops	integer	Yes	The upper limit for IOPS. Default value = -1. Valid value: -1 Valid value: $-1 \leq x \leq 2147483647$ Invalid value: 0 to 99, > 2147483647 The upper limit of volume performance (in IOPS). To set the upper limit of volume performance (in IOPS), specify a value in the range from 100 to 2147483647. To set no upper limit, specify -1. If you specify values from 0 to 99, jobs will be unsuccessful.

Parameter	Type	Required	Description
			If you make both of the <code>upper_limit_for_iops</code> and <code>upper_limit_for_transfer_rate_in_mb_per_sec</code> settings unavailable, the setting of <code>upper_alert_allowable_time_in_sec</code> is also made unavailable. If this property is omitted, the following value is specified. If the volume belongs to a virtual private storage (VPS): Default value set for the VPS If the volume does not belong to a VPS: -1
<code>upper_limit_for_transfer_rate_in_mb_per_sec</code>	integer	Yes	The upper limit for transfer rate (MB per Sec) Default value = -1 Valid value: $-1 \leq x \leq 2097151$ Invalid value: 0, > 2097151 The upper limit of volume performance (in MiB/s). To set the upper limit of volume performance (in MiB/s), specify a value in the range from 1 to 2097151. To set no upper limit, specify -1. If you specify 0, jobs will be unsuccessful.

Parameter	Type	Required	Description
			If you make both of the <code>upper_limit_for_iops</code> and <code>upper_limit_for_transfer_rate_in_mbps</code> settings unavailable, the setting of <code>upper_alert_allowable_time_in_sec</code> is also made unavailable. If this property is omitted, the following value is specified. If the volume belongs to a virtual private storage (VPS): Default value set for the VPS If the volume does not belong to a VPS: -1 If the volume belongs to a virtual private storage (VPS): Default value set for the VPS If the volume does not belong to a VPS: -1
<code>upper_alert_allowable_time_in_sec</code>	integer	Yes	The upper alert allowable time (in seconds). Default value = -1 Valid value: $-1 \leq x \leq 600$ Invalid value: 0, > 600 The upper limit of volume performance (in MiB/s). To set the upper limit of volume performance (in MiB/s), specify a value in the range from 1 to 2097151.

Parameter	Type	Required	Description
			To set no upper limit, specify -1. If you specify 0, jobs will be unsuccessful. If you make both of the <code>upper_limit_for_iops</code> and <code>upper_limit_for_transfer_rate_in_mbps_per_sec</code> settings unavailable, the setting of <code>upper_alert_allowable_time_in_sec</code> is also made unavailable. If this property is omitted, the following value is specified. If the volume belongs to a virtual private storage (VPS): Default value set for the VPS If the volume does not belong to a VPS: -1 If the volume belongs to a virtual private storage (VPS): Default value set for the VPS If the volume does not belong to a VPS: -1

Example

```
#####
# Task 4 : Update volume QoS parameters
#####
- name: Update volume QoS parameters
  hv_sds_block_volume:
    state: "{{ state_present }}"
    connection_info: "{{ connection_info }}"
    spec:
      name: "{{ volume_name_4 }}"
      qos_param:
        upper_limit_for_iops: "{{ volume_qos_param_upper_limit_for_iops_4 }}"
```

```

        upper_limit_for_transfer_rate_mb_per_sec:
"{{ volume_qos_param_upper_limit_for_transfer_rate_mb_per_sec_4 }}"
        upper_alert_allowable_time_in_sec:
"{{ volume_qos_param_upper_alert_allowable_time_in_sec_4 }}"
    register: result

```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_volume
```

Expand a volume by name

Synopsis

Expands a volume by name on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
name	string	Yes	The name of the volume
capacity	string	Yes	The capacity of the volume

Example

```
#####
# Task 5 : Expand volume by name
#####
- name: Expand volume by name
  hv_sds_block_volume:
    connection_info: "{{ connection_info }}"
    state: "{{ state_present }}"
    spec:
      name: "{{ volume_name_5 }}"
      capacity: "{{ volume_capacity_5 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_volume
```

Expand a volume by ID

Synopsis

Expands a volume by ID on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
id	string	Yes	The ID of the volume
capacity	string	Yes	The capacity of the volume

Example

```
#####
# Task 6 : Expand volume by id
#####
- name: Expand volume by id
  hv_sds_block_volume:
    connection_info: "{{ connection_info }}"
    state: "{{ state_present }}"
    spec:
      id: "{{ volume_id_6 }}"
      capacity: "{{ volume_capacity_6 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_volume
```

Add a volume to compute nodes

Synopsis

Adds a volume to compute nodes on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
state	string	Yes	'add_compute_node'
name	string	Yes	The name of the volume
compute_nodes	list	Yes	The array of names of the compute nodes to which the volume is attached

Example

```
#####
# Task 7 : Add volume to compute nodes
#####
- name: Add volume to compute nodes
  hv_sds_block_volume:
    connection_info: "{{ connection_info }}"
    state: "{{ state_present }}"
    spec:
      state: "{{ substate_add_compute_node }}"
      name: "{{ volume_name_7 }}"
      compute_nodes: "{{ volume_compute_nodes_7 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_volume
```

Remove a volume from compute nodes

Synopsis

Removes a volume from compute nodes on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info

Parameter	Type	Required	Description
state	string	Yes	'remove_compute_node'
name	string	Yes	The name of the volume
compute_nodes	list	Yes	The array of names of the compute nodes to which the volume is attached

Example

```
#####
# Task 8 : Remove volume from compute nodes
#####
- name: Remove volume from compute nodes
  hv_sds_block_volume:
    connection_info: "{{ connection_info }}"
    state: "{{ state_present }}"
    spec:
      state: "{{ substate_remove_compute_node }}"
      name: "{{ volume_name_8 }}"
```

```
compute_nodes: "{{ volume_compute_nodes_8 }}"
register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_volume
```

Delete a volume by name

Synopsis

Deletes a volume by name on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

State info:

Parameter	Required	Value/Description
state	Yes	'absent'

Spec info:

Parameter	Type	Required	Description
name	string	Yes	The name of the volume

Example

```
#####
# Task 9 : Delete volume by name
```

```
#####
- name: Delete volume by name
  hv_sds_block_volume:
    connection_info: "{{ connection_info }}"
    state: "{{ state_absent }}"
    spec:
      name: "{{ volume_name_9 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_volume
```

Delete a volume by ID

Synopsis

Deletes a volume by ID on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

State info:

Parameter	Required	Value/Description
state	Yes	'absent'

Spec info:

Parameter	Type	Required	Description
id	string	Yes	The ID of the volume

Example

```
#####
# Task 10 : Delete volume by id
#####
- name: Delete volume by id
  hv_sds_block_volume:
    connection_info: "{{ connection_info }}"
    state: "{{ state_absent }}"
    spec:
      id: "{{ volume_id_10 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_volume
```

Get volumes

Retrieve information about Hitachi SDS Block storage system volumes.

Module name

hv_sds_block_volume_facts

Description

This module retrieves information about storage volumes. It provides details about a storage volume such as name, type, and other details.

This module provides the following tasks

- Get volumes by default count
- Get volumes by count
- Get volumes by names
- Get volumes by nicknames
- Get volumes by other filters

Get volumes by default count

Synopsis

Gets volumes by default count on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Example

```
#####
# Task 1 : Get volumes by default count
#####
- name: Get volumes by default count
  hv_sds_block_volume_facts:
    connection_info: "{{ connection_info }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_volume_facts
```

Get volumes by count

Synopsis

Gets volumes by count on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct
address	Yes	Storage management address
username	Yes	Storage user name

Parameter	Required	Value/Description
password	Yes	Storage password

Spec info:

Parameter	Type	Required	Description
count	integer	Yes	The maximum number of obtained volume information items. Default is 500.

Example

```
#####
# Task 2 : Get volumes by count
#####
- name: Get volumes by count
  hv_sds_block_volume_facts:
    connection_info: "{{ connection_info }}"
    spec:
      count: "{{ volume_facts_count_2 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_volume_facts
```

Get volumes by names

Synopsis

Gets volumes by names on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	Yes	direct

Parameter	Required	Value/Description
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Spec info:

Parameter	Type	Required	Description
names	list	Yes	The names of the volumes.

Example

```
#####
# Task 3 : Get volumes by names
#####
- name: Get volumes by names
  hv_sds_block_volume_facts:
    connection_info: "{{ connection_info }}"
    spec:
      names: "{{ volume_facts_names_3 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_volume_facts
```

Get volumes by nicknames

Synopsis

Gets volumes by nicknames on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Spec info:

Parameter	Type	Required	Description
nicknames	list	Yes	The nickname of the volume

Example

```
#####
# Task 4 : Get volumes by nicknames
#####
- name: Get volumes by nicknames
  hv_sds_block_volume_facts:
    connection_info: "{{ connection_info }}"
    spec:
      nicknames: "{{ volume_facts_nicknames_4 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_volume_facts
```

Get volumes by other filters

Synopsis

Gets volumes by other filters on a VSP One SDS Block storage system.

Parameters

Connection Info for a direct connection:

Parameter	Required	Value/Description
connection_type	No	Default: direct
address	Yes	Storage management address
username	Yes	Storage user name
password	Yes	Storage password

Spec info:

Parameter	Type	Required	Description
count	integer	Yes	The maximum number of obtained volume information items. Default is 500.
capacity_saving	string	Yes	Settings of the data reduction function for volumes. Choices are 'Disabled', 'Compression'.

Example

```
#####
# Task 5 : Get volumes by other filters
#####
- name: Get volumes by other filters
  hv_sds_block_volume_facts:
    connection_info: "{{ connection_info }}"
    spec:
      count: "{{ volume_facts_count_5 }}"
      capacity_saving: "{{ volume_facts_capacity_saving_5 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.sds_block.hv_sds_block_volume_facts
```

Chapter 8: Additional UAI gateway modules

Get gateway token

Synopsis

Gets a gateway token on a UAI gateway.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
username	Yes	User name for UAI gateway
password	Yes	api-assword for UAI gateway

Example

```
#####
# Task 0 : Get UAI gateway token
#####
- name: Get UAI gateway token
  hv_uai_token_fact:
    connection_info:
      address: "{{ uai_gateway_address }}"
      username: "{{ vault_gateway_username }}"
      password: "{{ vault_gateway_secret }}"
    register: result_token
    ignore_errors: False
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_uai_token_fact
```

Manage UAI gateway admin user password

Updates the api-password of the admin user on the Hitachi UAI gateway.

Module name

`hv_gateway_admin_password`

Description

This module updates the api-password of the admin user on the UAI gateway.

This module provides the following tasks

- `Update UAI Gateway admin user password`

Update UAI Gateway admin user password

Synopsis

Updates an admin api-password on the UAI gateway.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
<code>uai_gateway_address</code>	Yes	UAI Gateway address
<code>api_token</code>	Yes	UAI Gateway API token. Note: <code>api_token</code> lasts 10 hours after it is generated.

Spec info:

Parameter	Type	Required	Description
<code>password</code>	string	Yes	The new api-password to be updated.

Example

```
#####
# Task 1 : Update UAI Gateway admin user password
#####
- name: Update UAI Gateway admin user password
```

```

hv_gateway_admin_password:
  connection_info:
    uai_gateway_address: "{{ uai_gateway_address }}"
    api_token: "{{ result_token.api_token.token }}"
  spec:
    password: "{{ admin_password_password_1 }}"
  register: result

```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_gateway_admin_password
```

.

Manage storage systems

Manages Hitachi storage system.

Module name

hv_storagesystem

Description

This module manages Hitachi storage systems.

This module provides the following tasks

- Add a storage system
- Add a storage system with a remote gateway address
- Delete a storage system

Add a storage system

Synopsis

Adds a storage system on a Hitachi storage system.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway

Parameter	Required	Value/Description
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Type	Required	Description
serial	string	Yes	Serial number of the storage system.
address	string	Yes	Storage address
username	string	Yes	Storage user name
password	string	Yes	Storage password

State info:

Parameter	Required	Value/Description
state	No	'present'

Example

```
#####
# Task 1 : Add storage system
#####
- name: Add storage system
  hv_storagesystem:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
      address: "{{ storage_address }}"
      username: "{{ vault_storage_username }}"
```

```
password: "{{ vault_storage_secret }}"
state: "{{ state_present }}"
register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_storagesystem
```

Add a storage system with a remote gateway address

Synopsis

Adds a storage system with a remote gateway address on a Hitachi storage system.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Type	Required	Description
serial	string	Yes	Serial number of the storage system.
address	string	Yes	IP address or hostname of the storage system
username	string	Yes	Storage user name
password	string	Yes	Storage password
remote_gateway_address	string	Yes	Remote UAI gateway address

State info:

Parameter	Required	Value/Description
state	No	'present'

Example

```
#####
# Task 2 : Add storage system with remote gateway address
#####
- name: Add storage system with remote gateway address
  hv_storagesystem:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
      address: "{{ storage_address }}"
      username: "{{ vault_storage_username }}"
      password: "{{ vault_storage_secret }}"
      remote_gateway_address: "{{ storagesystem_remote_gateway_address_2 }}"
      state: "{{ state_present }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_storagesystem
```

Delete a storage system

Synopsis

Deletes a storage system on a Hitachi storage system.



Note: If any resource in the storage system is mapped to any subscriber, the Delete a storage system task will fail. The storage system can be removed after all resources are untagged from the subscriber.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'absent'

Example

```
#####
# Task 3 : Delete storage system
#####
- name: Delete storage system
  hv_storagesystem:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
      state: "{{ state_absent }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_storagesystem
```

.

Manage snapshot pairs

Manages snapshot pairs on a UAI gateway.

Module name

hv_snapshot

Description

This module manages snapshot pairs on the UAI gateway.

This module provides the following tasks

- Create snapshot advanced cascade pair
- Create snapshot advanced clone pair
- Create clone volume using snapshot advanced clone pair
- Create snapshot pair
- Split snapshot pair
- Resync snapshot pair
- Create and auto-split snapshot pair
- Restore snapshot pair
- Create snapshot pair using existing consistency group
- Delete snapshot pair

Create snapshot pair

Synopsis

Creates a snapshot pair on a UAI gateway connection.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'present'

Spec info:

Parameter	Type	Required	Description
primary_volume_id	string	Yes	The ID of the primary volume
pool_id	integer	Yes	ID of the pool where the snapshot will be allocated.
snapshot_group_name	string	Yes	The name of the snapshot group for which the snapshot pair is to be created.

Example

```
#####
# Task 1 : Create snapshot pair
```

```
#####
- name: Create snapshot pair
  hv_snapshot:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_present }}"
    spec:
      primary_volume_id: "{{ snapshot_pvol_1 }}"
      pool_id: "{{ snapshot_pool_id_1 }}"
      snapshot_group_name: "{{ snapshot_snapshot_group_name_1 }}"

  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_snapshot
```

Split snapshot pair

Synopsis

Splits a snapshot pair on a UAI gateway connection.



Note: Split snapshot pair will fail if the pair is in a consistency group.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.

Parameter	Required	Value/Description
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'split'

Spec info:

Parameter	Type	Required	Description
primary_volume_id	integer	yes	ID of the primary volume
mirror_unit_id	integer	Yes	Mirror unit ID

Example

```
#####
# Task 2 : Split snapshot pair
#####
- name: Split snapshot pair
  hv_snapshot:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_split }}"
    spec:
      primary_volume_id: "{{ snapshot_pvol_2 }}"
```

```
mirror_unit_id: "{{ snapshot_mirror_unit_id_2 }}"
register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_snapshot
```

.

Resync snapshot pair

Synopsis

Resyncs a snapshot pair on a UAI gateway connection.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'resync'

Spec info:

Parameter	Type	Required	Description
primary_volume_id	string	Yes	ID of the primary volume
mirror_unit_id	integer	Yes	Mirror unit ID

Example

```
#####
# Task 3 : Resync snapshot pair
#####
- name: Resync snapshot pair
  hv_snapshot:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
      state: "{{ state_sync }}"
    spec:
      primary_volume_id: "{{ snapshot_pvol_3 }}"
      mirror_unit_id: "{{ snapshot_mirror_unit_id_3 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_snapshot
```

.

Create and auto-split snapshot pair

Synopsis

Creates and auto-splits a snapshot pair on a UAI gateway connection.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'split'

Spec info:

Parameter	Type	Required	Description
primary_volume_id	integer	Yes	ID of the primary volume
pool_id	integer	Yes	The ID of the pool in which snapshot data is to be created.
snapshot_group_name	string	Yes	The name of the snapshot group for which the snapshot pair is to be created.

Example

```
#####
# Task 4 : Create and Auto-Split snapshot pair
#####
```



```

- name: Create and Auto-Split snapshot pair
  hv_snapshot:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_split }}"
    spec:
      primary_volume_id: "{{ snapshot_pvol_4 }}"
      pool_id: "{{ snapshot_pool_id_4 }}"
      snapshot_group_name: "{{ snapshot_snapshot_group_name_4 }}"
  register: result

```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_snapshot
```

.

Restore snapshot pair

Synopsis

Restores a snapshot pair on a UAI gateway connection.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'restore'

Spec info:

Parameter	Type	Required	Description
primary_volume_id	string	Yes	ID of the primary volume
mirror_unit_id	integer	Yes	Mirror unit ID

Example

```
#####
# Task 5 : Restore snapshot pair
#####
- name: Restore snapshot pair
  hv_snapshot:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
      state: "{{ state_restore }}"
    spec:
      primary_volume_id: "{{ snapshot_pvol_5 }}"
      mirror_unit_id: "{{ snapshot_mirror_unit_id_5 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_snapshot
```

Create snapshot pair using existing consistency group

Synopsis

Creates a snapshot pair using an existing consistency group on a UAI gateway connection.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'present'

Spec info:

Parameter	Type	Required	Description
primary_volume_id	string	Yes	ID of the primary volume
pool_id	integer	Yes	ID of the pool where the snapshot will be allocated

Parameter	Type	Required	Description
snapshot_group_name	string	Yes	The name of the snapshot group that is in a consistency group
is_data_reduction_force_copy	boolean	No	Required for Thin Image Advanced pair only. The volume must have capacity saving value enabled.

Example

```
#####
# Task 6 : Create snapshot pair using existing consistency group
#####
- name: Create snapshot pair using existing consistency group
  hv_snapshot:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
      state: "{{ state_present }}"
    spec:
      primary_volume_id: "{{ snapshot_pvol_6 }}"
      pool_id: "{{ snapshot_pool_id_6 }}"
      snapshot_group_name: "{{ snapshot_snapshot_group_name_6 }}"
      is_data_reduction_force_copy:
        "{{ snapshot_is_data_reduction_force_copy_6 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_snapshot
```

.

Create snapshot advanced cascade pair

Synopsis

Creates a snapshot advanced cascade pair on a UAI gateway connection.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'present'

Spec info:

Parameter	Type	Required	Description
primary_volume_id	string	Yes	ID of the primary volume
pool_id	integer	Yes	The ID of the pool where the P-VOL is created
snapshot_group_name	string	Yes	The name of the snapshot group
is_data_reduction_force_copy	boolean	Yes	Required for Thin Image Advanced pair only. The volume must have capacity saving value enabled.

Parameter	Type	Required	Description
can_cascade	boolean	Yes	Value: True

Example

```
#####
# Task 7 : Create snapshot advanced cascade pair
#####
- name: Create snapshot advanced cascade pair
  hv_snapshot:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
      state: "{{ state_present }}"
    spec:
      primary_volume_id: "{{ snapshot_pvol_7 }}"
      pool_id: "{{ snapshot_pool_id_7 }}"
      snapshot_group_name: "{{ snapshot_snapshot_group_name_7 }}"
      is_data_reduction_force_copy:
        "{{ snapshot_is_data_reduction_force_copy_7 }}"
      can_cascade: "{{ snapshot_can_cascade_7 }}"

  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_snapshot
```

.

Create snapshot advanced clone pair

Synopsis

Creates a snapshot advanced clone pair on a UAI gateway connection.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'present'

Spec info:

Parameter	Type	Required	Description
primary_volume_id	integer	Yes	ID of the primary volume
pool_id	integer	Yes	The ID of the pool in which snapshot data is to be created.
snapshot_group_name	string	Yes	The name of the snapshot group for which the snapshot pair is to be created.
is_data_reduction_force_copy	boolean	Yes	Required for Thin Image Advanced pair only. The volume must have capacity saving value enabled.

Parameter	Type	Required	Description
is_clone	boolean	Yes	Value: True

Example

```
#####
# Task 8 : Create snapshot advanced clone pair
#####
- name: Create snapshot advanced clone pair
  hv_snapshot:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
      state: "{{ state_present }}"
    spec:
      primary_volume_id: "{{ snapshot_pvol_8 }}"
      pool_id: "{{ snapshot_pool_id_8 }}"
      snapshot_group_name: "{{ snapshot_snapshot_group_name_8 }}"
      is_data_reduction_force_copy:
        "{{ snapshot_is_data_reduction_force_copy_8 }}"
      is_clone: "{{ snapshot_is_clone_8 }}"

  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_snapshot
```

.

Create clone volume using snapshot advanced clone pair

Synopsis

Creates a clone volume using a snapshot advanced clone pair on a UAI gateway connection.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'clone'

Spec info:

Parameter	Type	Required	Description
primary_volume_id	string	Yes	ID of the primary volume
mirror_unit_id	integer	Yes	Mirror unit ID

Example

```
#####
# Task 9 : Create clone volume using snapshot advanced clone pair
#####
- name: Create clone volume using snapshot advanced clone pair
  hv_snapshot:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
```

```

storage_system_info:
  serial: "{{ storage_serial }}"
  state: clone
  spec:
    primary_volume_id: "{{ snapshot_pvol_9 }}"
    mirror_unit_id: "{{ snapshot_mirror_unit_id_9 }}"
  register: result

```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_snapshot
```

.

Delete snapshot pair

Synopsis

Deletes a snapshot pair on a UAI gateway connection.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'absent'

Spec info:

Parameter	Type	Required	Description
primary_volume_id	string	Yes	ID of the primary volume
mirror_unit_id	integer	Yes	Mirror unit ID

Example

```
#####
# Task 10 : Delete snapshot pair
#####
- name: Delete snapshot pair
  hv_snapshot:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
      state: "{{ state_absent }}"
    spec:
      primary_volume_id: "{{ snapshot_pvol_10 }}"
      mirror_unit_id: "{{ snapshot_mirror_unit_id_10 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_snapshot
```

.

Manage storage pools

Manages storage pools on a UAI gateway.

Module name

```
hv_storagepool
```

Description

This module manages storage pools on the UAI gateway.

This module provides the following tasks

- Create a storage pool using required details
- Create a storage pool using other details
- Expand pool by pool name
- Expand pool by pool ID
- Delete pool by pool ID
- Delete pool by pool name

Create a storage pool using required details

Synopsis

Creates a storage pool using required details on a UAI gateway connection.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
name	string	Yes	Name of the storage pool
type	string	Yes	Type of the storage pool. Supported types are HDT, HDP, HRT, HTI.
parity_group_id	string	Yes	Parity group ID
capacity	string	Yes	Capacity

Example

```
#####
# Task 1 : Create a storage pool using required details
#####
- name: Create a storage pool using required details
  hv_storagepool:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
      state: "{{ state_present }}"
    spec:
      name: "{{ storagepool_name_1 }}"
      type: "{{ storagepool_type_1 }}"
      pool_volumes:
        - parity_group_id: "{{ storagepool_parity_group_id_1 }}"
          capacity: "{{ storagepool_capacity_1 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_storagepool
```

.

Create a storage pool using other details

Synopsis

Creates a storage pool using other details on a UAI gateway connection.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
name	string	Yes	Name of the storage pool
type	string	Yes	Type of the storage pool. Supported types are HDT, HDP, HRT, HTI.
parity_group_id	string	Yes	Parity group ID
capacity	string	Yes	Capacity
warning_threshold_rate	integer	Yes	Warning threshold rate
resource_group_id	integer	No	Resource group ID

Parameter	Type	Required	Description
should_enable_deduplication	boolean	No	Whether to enable deduplication
depletion_threshold_rate	integer	Yes	Depletion threshold rate

Example

```
#####
# Task 2 : Create a storage pool using more details
#####
- name: Create a storage pool using other details
  hv_storagepool:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
      state: "{{ state_present }}"
    spec:
      name: "{{ storagepool_name_2 }}"
      type: "{{ storagepool_type_2 }}"
      pool_volumes:
        - parity_group_id: "{{ storagepool_parity_group_id_2 }}"
          capacity: "{{ storagepool_capacity_2 }}"
          warning_threshold_rate: "{{ storagepool_warning_threshold_rate_2 }}"
          resource_group_id: "{{ storagepool_resource_group_id_2 }}"
          should_enable_deduplication:
            "{{ storagepool_should_enable_deduplication_2 }}"
          depletion_threshold_rate: "{{ storagepool_depletion_threshold_rate_2 }}"
      register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_storagepool
```

.

Expand pool by pool name

Synopsis

Expands a pool by pool name on a UAI gateway connection.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
name	string	Yes	Name of the storage pool
pool_volumes	list	Yes	Details about the volumes in the pool

Example

```
#####
# Task 3 : Expand pool by pool Name
#####
- name: Expand pool by pool Name
  hv_storagepool:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
```



```

state: "{{ state_present }}"
spec:
  name: "{{ storagepool_name_3 }}"
  pool_volumes: "{{ storagepool_pool_volumes_3 }}"
register: result

```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_storagepool
```

.

Expand pool by pool ID

Synopsis

Expands a pool by pool ID on a UAI gateway connection.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
id	integer	Yes	ID of the storage pool
pool_volumes	List	Yes	Details about the volumes in the pool

Example

```
#####
# Task 4 : Expand pool by pool ID
#####
- name: Expand pool by pool ID
  hv_storagepool:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
      state: "{{ state_present }}"
    spec:
      id: "{{ storagepool_id_4 }}"
      pool_volumes: "{{ storagepool_pool_volumes_4 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_storagepool
```

.

Delete pool by pool ID

Synopsis

Deletes a pool by pool ID on a UAI gateway connection.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'absent'

Spec info:

Parameter	Type	Required	Description
id	integer	Yes	ID of the storage pool

Example

```
#####
# Task 5 : Delete pool by pool ID
#####
- name: Delete pool by pool ID
  hv_storagepool:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
```

```

    serial: "{{ storage_serial }}"
    state: "{{ state_absent }}"
    spec:
        id: "{{ storagepool_id_5 }}"
    register: result

```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_storagepool
```

Delete pool by pool name

Synopsis

Deletes a pool by pool name on a UAI gateway connection.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'absent'

Spec info:

Parameter	Type	Required	Description
name	string	Yes	Name of the storage pool

Example

```
#####
# Task 6 : Delete pool by pool Name
#####
- name: Delete pool by pool Name
  hv_storagepool:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
      state: "{{ state_absent }}"
    spec:
      name: "{{ hv_storagepool_name6 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_storagepool
```

.

Manage subscribers

Manages subscribers of a partner on Hitachi VSP storage systems.

Module name

hv_gateway_subscriber

Description

This module allows for the creation, updating and deletion of subscribers. It supports various subscriber operations based on the specified task level.

This module provides the following tasks

- Create a subscriber
- Update a subscriber
- Delete a subscriber

Create a subscriber**Synopsis**

Creates a subscriber on a UAI gateway.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
subscriber_id	string	Yes	ID of the subscriber to be created. The subscriber ID can be 1 to 15 characters long and must include numbers from 0 to 9.

Parameter	Type	Required	Description
name	string	Yes	Name of the subscriber. The name must be 3 to 255 characters long, contain alphanumeric letters, and can include the following symbols: underscore (_), backslash (\), period (.), at mark (@), or a hyphen (-).
soft_limit	string	No	Soft Limit Threshold (%) Enter a value for the soft limit threshold in percentage. A warning message is displayed to the subscriber when the volume threshold level is reached.
hard_limit	string	No	Enter a value for the hard limit threshold in percentage. A critical warning message is displayed to the subscriber, and the subscriber will not be allowed to perform any operations.
quota_limit	string	Yes	Enter the storage volume quota in GB that you want to allocate to the subscriber.

Example

```
#####
# Task 1 : Create subscriber
#####
- name: Create subscriber
  hv_gateway_subscriber:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
```

```

state: "{{ state_present }}"
spec:
  subscriber_id: "{{ subscriber_subscriber_id_1 }}"
  name: "{{ subscriber_name_1 }}"
  soft_limit: "{{ subscriber_soft_limit_1 }}"
  hard_limit: "{{ subscriber_hard_limit_1 }}"
  quota_limit: "{{ subscriber_quota_limit_1 }}"
register: result

```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_gateway_subscriber
```

Update a subscriber

Synopsis

Updates a subscriber on a UAI gateway.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
subscriber_id	string	Yes	ID of the subscriber to be created. The subscriber ID can be 1 to 15 characters long and must include numbers from 0 to 9.
name	string	No	Name of the subscriber. The name must be 3 to 255 characters long, contain alphanumeric letters, and can include the following symbols: underscore (_), backslash (\), period (.), at mark (@), or a hyphen (-).
soft_limit	string	No	Soft Limit Threshold (%) Enter a value for the soft limit threshold in percentage. A warning message is displayed to the subscriber when the volume threshold level is reached.
hard_limit	string	No	Enter a value for the hard limit threshold in percentage. A critical warning message is displayed to the subscriber, and the subscriber will not be allowed to perform any operations.
quota_limit	string	Yes	Enter the storage volume quota in GB that you want to allocate to the subscriber.

Example

```
#####
# Task 2 : Update subscriber
```

```
#####
- name: Update subscriber
  hv_gateway_subscriber:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      state: "{{ state_present }}"
    spec:
      subscriber_id: "{{ subscriber_subscriber_id_2 }}"
      name: "{{ subscriber_name_2 }}"
      soft_limit: "{{ subscriber_soft_limit_2 }}"
      hard_limit: "{{ subscriber_hard_limit_2 }}"
      quota_limit: "{{ subscriber_quota_limit_2 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_gateway_subscriber
```

Delete a subscriber

Synopsis

Deletes a subscriber on a UAI gateway.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.

State info:

Parameter	Required	Value/Description
state	Yes	'absent'

Spec info:

Parameter	Type	Required	Description
subscriber_id	string	Yes	ID of the subscriber to be deleted.

Example

```
#####
# Task 3 : Delete subscriber
#####
- name: Delete subscriber
  hv_gateway_subscriber:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      state: "{{ state_absent }}"
    spec:
      subscriber_id: "{{ subscriber_subscriber_id_3 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_gateway_subscriber
```

How to tag an existing resource?

You can use a playbook for creating or updating objects for tagging an existing object to any new subscriber. Examples for tagging existing LDEV or host group to a new subscriber with ID 12345 are:

Example for tagging existing LDEV

```
#####
# Task 1 : Create ldev
#####
```

```
- name: Create ldev
  hv_ldev:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: 12345
    storage_system_info:
      serial: "{{ storage_serial }}"
      state: "{{ state_present }}"
    spec:
      ldev_id: 100
  register: result
```

Example for tagging existing host group

```
#####
# Task 2 : Create hostgroup
#####
- name: Create hostgroup
  hv_hg:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: 12345
    storage_system_info:
      serial: "{{ storage_serial }}"
      state: "{{ state_present }}"
    spec:
      name: "ansible-hg-100"
      port: "CL2-A"
  register: result
```



Note:

The task will fail if the object is already tagged to the other subscriber.
For GAD, TC, and HUR, you cannot tag existing pairs.

Get subscribers

Gets information about the subscriber on Hitachi VSP storage systems.

Module name

hv_gateway_subscriber_fact

Description

This module retrieves information about subscriber. It provides details about a subscriber such as name, ID, and other relevant information.

Tasks

- Get all subscribers
- Get one subscriber

Get all subscribers**Synopsis**

Gets all subscribers on a UAI gateway.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.

Example

```
#####
# Task 1 : Get all subscribers
#####
- name: Get all subscribers
  hv_gateway_subscriber_fact:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
    register: result

- debug:
  var: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_gateway_subscriber_fact
```

Get one subscriber**Synopsis**

Gets one subscriber on a UAI gateway.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.

Spec info:

Parameter	Type	Required	Description
subscriber_id	string	Yes	ID of the specific subscriber to retrieve information for (Works only for gateway connection type).

Example

```
#####
# Task 2 : Get one subscriber
#####
- name: Get one subscriber
  hv_gateway_subscriber_fact:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
    spec:
```

```
subscriber_id: '{{ subscriber_facts_subscriber_id_2 }}'
register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_gateway_subscriber_fact
```

Get subscriptions

Gets subscriptions on Hitachi VSP storage systems.

Module name

hv_gateway_subscription_facts

Description

This module retrieves subscriptions on Hitachi VSP storage systems.

Tasks

- Get all resources for the subscriber
- Get all resources for the subscriber for a specific storage

Get all resources for the subscriber

Synopsis

Gets all resources for the subscriber on a UAI gateway.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	ID of the subscriber

Example

```
#####
# Task 1 : Get all resources for the subscriber
#####
- name: Get all resources for the subscriber
  hv_gateway_subscription_facts:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_gateway_subscription_facts
```

Get all resources for the subscriber for a specific storage**Synopsis**

Gets all resources for the subscriber for a specific storage system on a UAI gateway.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	ID of the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

Example

```
#####
# Task 2 : Get all resources for the subscriber for a specific storage
#####
- name: Get all resources for the subscriber
  hv_gateway_subscription_facts:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_gateway_subscription_facts
```

Unsubscribe resources

Synopsis

Unsubscribes resources for the subscriber on a UAI gateway.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	ID of the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
resources	string	Yes	Resources to unsubscribe in form of type and values: - type: hostgroup, volume, port, iscsitarget, storagepool - values: Array of items based on given type.

Example

```
#####
# Task 1 : Unsubscribe resources for the specific subscriber
#####
- name: Unsubscribe resources for the specific subscriber
  hv_gateway_unsubscribe_resource:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: 12345
    storage_system_info:
      serial: "{{ storage_serial }}"
    spec:
      resources: "{{ unsubscribe_resource_resources_1 }}"

  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_gateway_unsubscribe_resource
```

Get systems

Provides system information on the specified Hitachi management system.

Module name

hv_systems_facts

Description

This module provides the system information on the specified Hitachi management system.

This module provides the following tasks

- Get storages
- Get all storages with hard refresh

Get all storages

Synopsis

Retrieves all storages on a UAI gateway.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.

Example

```
#####
# Task 1 : Get all storages
#####
- name: Get all storages
  hv_system_facts:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
```

```
api_token: "{{ result_token.api_token.token }}"
register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_system_facts
```

Get all storages with hard refresh

Synopsis

Retrieves all storages with hard refresh on a UAI gateway.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.

Spec info:

Parameter	Type	Required	Description
refresh	boolean	Yes	Force a refresh of the system information

Example

```
#####
# Task 2 : Get all storages with hard refresh
#####
- name: Get all storages with hard refresh
  hv_system_facts:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
```

```
spec:
  refresh: "{{ system_facts_refresh_2 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_system_facts
```

Manage TrueCopy pairs

Manages TrueCopy pairs on a UAI gateway.

Module name

hv_truecopy

Description

This module manages TrueCopy pairs on the UAI gateway.

This module provides the following tasks

- Create TrueCopy pairs
- Resync TrueCopy pairs
- Split TrueCopy pairs
- Delete TrueCopy pairs

Create TrueCopy pair

Synopsis

Creates a TrueCopy pair on a UAI gateway connection.



Note: Make sure that the secondary storage system is onboarded using the remote UAI gateway.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address

Parameter	Required	Value/Description
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	No	'present'

Spec info:

Parameter	Type	Required	Description
primary_volume_id	integer	Yes	Primary volume ID
consistency_group_id	integer	No	Consistency group ID, 0 to 255
fence_level	string	No	Specifies the primary volume fence level setting and determines if the host is denied access or continues to access the primary volume when the pair is suspended because of an error. Values: NEVER, DATA, STATUS. Default: NEVER

Parameter	Type	Required	Description
allocate_new_consistency_group	boolean	No	Allocate and assign new consistency group ID, cannot be true if consistency_group_id is specified. Either allocate_new_consistency_group or consistency_group_id must be specified.
secondary_storage_serial_number	integer	Yes	Secondary storage serial number, required for create.
secondary_pool_id	integer	No	ID of the dynamic pool where the secondary volume will be created.
secondary_hostgroup	string	Yes	Existing host group details of the secondary volume

Example

```
#####
# Task 1 : Create TrueCopy
#####
- name: Create TrueCopy
  hv_truecopy:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_present }}"
    spec:
      primary_volume_id: "{{ truecopy_primary_volume_id_1 }}"
      consistency_group_id: "{{ truecopy_consistency_group_id_1 }}"
      fence_level: "{{ truecopy_fence_level_1 }}"
      allocate_new_consistency_group:
        "{{ truecopy_allocate_new_consistency_group_1 }}"
      secondary_storage_serial_number:
        "{{ truecopy_secondary_storage_serial_number_1 }}"
```

```

secondary_pool_id: "{{ truecopy_secondary_pool_id_1 }}"
secondary_hostgroup: "{{ truecopy_secondary_hostgroup_1 }}"
register: result

```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_truecopy
```

Resync TrueCopy pair

Synopsis

Resyncs a TrueCopy pair on a UAI gateway connection.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'sync'

Spec info:

Parameter	Type	Required	Description
primary_volume_id	integer	Yes	Primary volume ID

Example

```
#####
# Task 2 : Resync TrueCopy
#####
- name: Resync TrueCopy
  hv_truecopy:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
      state: "{{ state_sync }}"
    spec:
      primary_volume_id: "{{ truecopy_primary_volume_id_2 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_truecopy
```

Split TrueCopy pair

Synopsis

Splits a TrueCopy pair on a UAI gateway connection.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address

Parameter	Required	Value/Description
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'split'

Spec info:

Parameter	Type	Required	Description
primary_volume_id	integer	Yes	Primary volume ID

Example

```
#####
# Task 3 : Split TrueCopy
#####
- name: Split TrueCopy
  hv_truecopy:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_split }}"
    spec:
      primary_volume_id: "{{ truecopy_primary_volume_id_3 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_truecopy
```

Delete TrueCopy pair

Synopsis

Deletes a TrueCopy pair on a UAI gateway connection.



Note: If the pair is attached to any subscriber, the Delete TrueCopy pair task will untag the secondary volume from the subscriber after the pair is deleted. If you want to delete the secondary volume, you need to tag the volume to the existing subscriber.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'absent'

Spec info:

Parameter	Type	Required	Description
primary_volume_id	integer	Yes	Primary volume ID

Example

```
#####
# Task 4 : Delete TrueCopy
#####
- name: Delete TrueCopy
  hv_truecopy:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      connection_type: "{{ connection_type }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
      state: "{{ state_absent }}"
    spec:
      primary_volume_id: "{{ truecopy_primary_volume_id_4 }}"
    register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_truecopy
```

.

Get TrueCopy facts

Gets TrueCopy facts on a UAI gateway.

Module name

```
hv_truecopy_facts
```

Description

This module retrieves TrueCopy facts on the UAI gateway.

This module provides the following tasks

- Get TrueCopy facts
- Get all True Copy pairs

Get all TrueCopy pairs

Synopsis

Retrieves TrueCopy pairs on a UAI gateway connection.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

Example

```
#####
# Task 1 : Get all TrueCopy pairs
#####
- name : Get all TrueCopy pairs
  hv_truecopy_facts:
    storage_system_info:
      serial: '{{ storage_serial }}'
    connection_info:
      address: "{{uai_gateway_address}}"
      api_token: "{{ result_token.api_token.token }}"
      connection_type: "{{connection_type}}"
```

```
subscriber_id: '{{ subscriber_id | default(omit) }}'
register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_truecopy_facts
```

Get TrueCopy pair by primary volume ID

Synopsis

Retrieves TrueCopy pair by primary volume ID on a UAI gateway connection.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
primary_volume_id	integer	Yes	ID of the primary volume to retrieve TrueCopy pair information for

Example

```
#####
# Task 2 : Get TrueCopy pair by primary volume ID
#####
- name : Get TrueCopy pair by primary volume ID
  hv_truecopy_facts:
    storage_system_info:
      serial: '{{ storage_serial }}'
    connection_info:
      address: "{{uai_gateway_address}}"
      api_token: "{{ result_token.api_token.token }}"
      connection_type: "{{connection_type}}"
      subscriber_id: '{{ subscriber_id | default(omit) }}'
    spec:
      primary_volume_id: "{{ truecopy_facts_primary_volume_id_2 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_truecopy_facts
```

.

Manage GAD pairs

Manages GAD pairs on a UAI gateway.

Module name

hv_gad

Description

This module manages GAD pairs on the UAI gateway.

For GAD single server, cluster, and crosspath configurations:

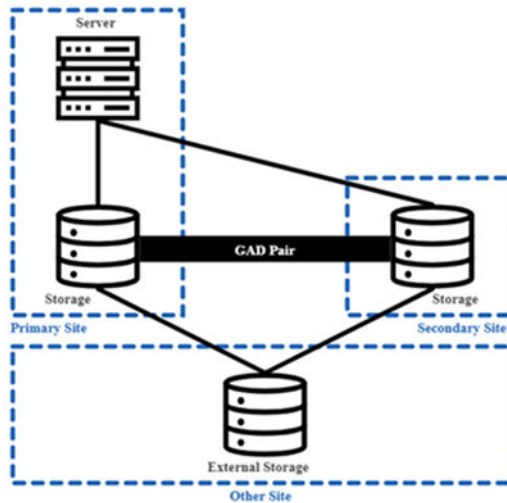
- After creating the secondary host group, the user must manually add it to the VSM resource group.
- In case of VSM to VSM, the user must manually add the primary volume and host group to the VSM resource group along with the secondary host group.
- The user is responsible for manually configuring the quorum disk as part of the GAD setup.
- The user must do all these operations as they are not part of Ansible.

This module provides the following tasks

- Create GAD pair with single server configuration
- Create GAD pair with server cluster configuration
- Create GAD pair with cross path server configuration
- Split GAD pair
- Resync GAD pair
- Delete GAD pair

Create GAD pair with single server configuration**Synopsis**

Creates a GAD pair with single server configuration on a UAI gateway connection.



Note: Make sure that the primary storage system and the secondary storage system are onboarded using the same UAI gateway.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.

Parameter	Required	Value/Description
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'present'

Spec info:

Parameter	Type	Required	Description
primary_storage_serial_number	string	Yes	The serial number of the primary storage device (required for create).
secondary_storage_serial_number	string	Yes	The serial number of the secondary storage device (required for create). Secondary storage should be added using the same UAI gateway as primary storage.
primary_volume_id	integer	Yes	Primary volume ID
secondary_pool_id	integer	Yes	Pool ID of secondary storage system (required for create).
secondary_hostgroups	string	Yes	Existing secondary host groups
primary_resource_group_name	string	No	The primary resource group name

Parameter	Type	Required	Description
quorum_disk_id	integer	Yes	The quorum disk ID. Required for create operation only
allocate_new_consistency_group	boolean	No	Specify whether to create a pair in a consistency group. Default is False.

Example

```
#####
# Task 1 : Create GAD pair with single server configuration
#####
- name: Create GAD pair with single server configuration
  hv_gad:
    storage_system_info:
      serial: '{{ storage_serial }}'
    connection_info:
      connection_type: '{{ connection_type }}'
      address: '{{ uai_gateway_address }}'
      api_token: '{{ result_token.api_token.token }}'
      subscriber_id: '{{ subscriber_id }}'
    spec:
      primary_storage_serial_number: '{{ gad_primary_storage_serial_number_1 }}'
      secondary_storage_serial_number:
        '{{ gad_secondary_storage_serial_number_1 }}'
      primary_volume_id: '{{ gad_primary_volume_id_1 }}'
      secondary_pool_id: '{{ gad_secondary_pool_id_1 }}'
      secondary_hostgroups: '{{ gad_secondary_hostgroups_1 }}'
      primary_resource_group_name: '{{ gad_primary_resource_group_name_1 }}'
      quorum_disk_id: '{{ gad_quorum_disk_id_1 }}'
      allocate_new_consistency_group: '{{ gad_allocate_new_consistency_group_1 }}'
  register: result
```

Return values

Returns the resource in JSON format. For details, run

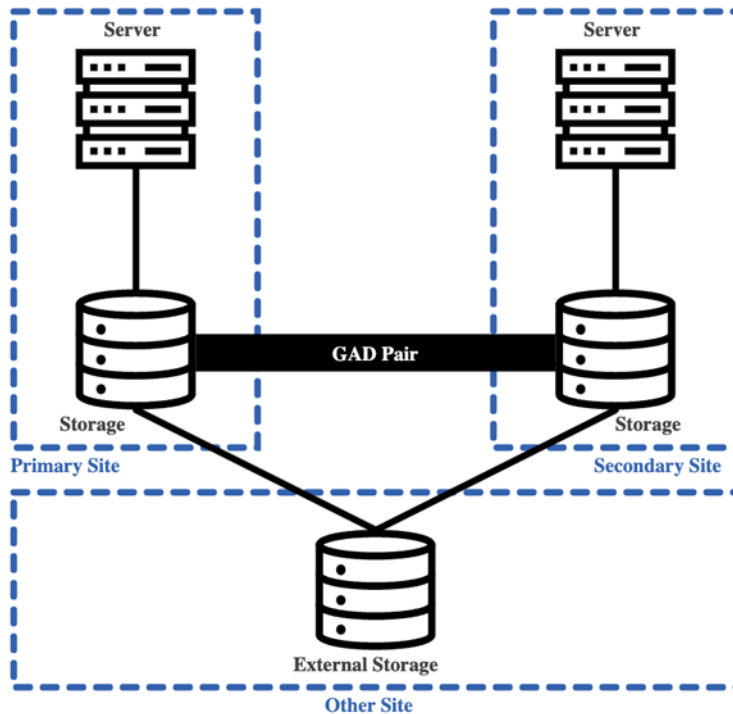
```
ansible-doc hitachivantara.vspone_block.vsp.hv_gad
```

Create GAD pair with server cluster configuration

Synopsis

Creates a GAD pair with server cluster configuration on a UAI gateway connection.

Server Cluster



Note: Make sure that the secondary storage system is onboarded using the remote UAI gateway.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
primary_storage_serial_number	string	Yes	The serial number of the primary storage device (required for create).
secondary_storage_serial_number	string	Yes	The serial number of the secondary storage device (required for create). Secondary storage should be added using a different UAI gateway than primary storage.
primary_volume_id	integer	Yes	Primary volume ID
secondary_pool_id	integer	Yes	Pool Id of secondary storage system (required for create).
secondary_hostgroups	string	Yes	Existing secondary host groups
primary_hostgroups	list	No	The list of host groups on the primary storage device where the primary volume is to be provisioned.
allocate_new_consistency_group	boolean	No	Specify whether to create a pair in a consistency group

Example

```
#####
# Task 2 : Create GAD pair with server cluster configuration
#####
- name: Create GAD pair with server cluster configuration
  hv_gad:
```

```

storage_system_info:
  serial: '{{ storage_serial }}'
connection_info:
  connection_type: "{{ connection_type }}"
  address: "{{ uai_gateway_address }}"
  api_token: "{{ result_token.api_token.token }}"
  subscriber_id: "{{ subscriber_id }}"
spec:
  primary_storage_serial_number: "{{ gad_primary_storage_serial_number_2 }}"
  secondary_storage_serial_number:
    "{{ gad_secondary_storage_serial_number_2 }}"
  primary_volume_id: "{{ gad_primary_volume_id_2 }}"
  secondary_pool_id: "{{ gad_secondary_pool_id_2 }}"
  secondary_hostgroups: "{{ gad_secondary_hostgroups_2 }}"
  primary_hostgroups: "{{ gad_primary_hostgroups_2 }}"
  allocate_new_consistency_group: "{{ gad_allocate_new_consistency_group_2 }}"
register: result

```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_gad
```

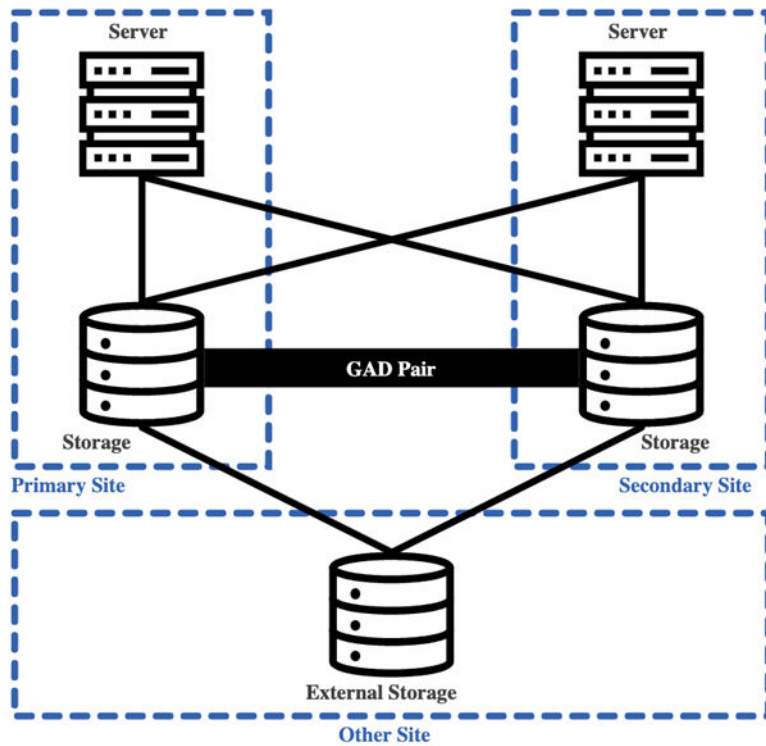
.

Create GAD pair with cross path server configuration

Synopsis

Creates a GAD pair with cross path server configuration on a UAI gateway connection.

Cross Path



Note: Make sure that the secondary storage system is onboarded using the remote UAI gateway

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
primary_storage_serial_number	string	Yes	The serial number of the primary storage device (required for create).
secondary_storage_serial_number	string	Yes	The serial number of the secondary storage device (required for create). Secondary storage should be added using a different UAI gateway than primary storage.
primary_volume_id	integer	Yes	Primary volume ID
secondary_pool_id	integer	Yes	Pool Id of secondary storage system (required for create).
secondary_hostgroups	string	Yes	Existing secondary host groups
primary_hostgroups	list	No	The list of host groups on the primary storage device if a preferred path must be enabled on the primary volume.
primary_resource_group_name	string	no	The primary resource group name
quorum_disk_id	integer	Yes	The quorum disk ID - Required for create operation only
set_alua_mode	boolean	No	Set the ALUA mode to True on the primary and secondary volumes.

Parameter	Type	Required	Description
allocate_new_consistency_group	boolean	No	Allocate and assign new consistency group ID, cannot be true if consistency_group_id is specified.

Example

```
#####
# Task 3 : Create GAD pair with cross path server configuration
#####
- name: Create GAD pair with cross path server configuration
  hv_gad:
    storage_system_info:
      serial: '{{ storage_serial }}'
    connection_info:
      connection_type: '{{ connection_type }}'
      address: '{{ uai_gateway_address }}'
      api_token: '{{ result_token.api_token.token }}'
      subscriber_id: '{{ subscriber_id }}'
    spec:
      primary_storage_serial_number: '{{ gad_primary_storage_serial_number_3 }}'
      secondary_storage_serial_number:
        '{{ gad_secondary_storage_serial_number_3 }}'
      primary_volume_id: '{{ gad_primary_volume_id_3 }}'
      secondary_pool_id: '{{ gad_secondary_pool_id_3 }}'
      secondary_hostgroups: '{{ gad_secondary_hostgroups_3 }}'
      primary_hostgroups: '{{ gad_primary_hostgroups_3 }}'
      primary_resource_group_name: '{{ gad_primary_resource_group_name_3 }}'
      quorum_disk_id: '{{ gad_quorum_disk_id_3 }}'
      set_alua_mode: '{{ gad_set_alua_mode_3 }}'
      allocate_new_consistency_group: '{{ gad_allocate_new_consistency_group_3 }}'
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_gad
```


Split GAD pair

Synopsis

Splits a GAD pair on a UAI gateway connection.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'split'

Spec info:

Parameter	Type	Required	Description
primary_volume_id	integer	Yes	Primary volume ID

Example

```
#####
# Task 4 : Split GAD pair
```

```
#####
- name: Split GAD pair
  hv_gad:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
      state: "{{ state_split }}"
    spec:
      primary_volume_id: "{{ gad_primary_volume_id_4 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_gad
```

.

Resync GAD pair

Synopsis

Resyncs a GAD pair on a UAI gateway connection.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'resync'

Spec info:

Parameter	Type	Required	Description
primary_volume_id	integer	Yes	Primary volume ID

Example

```
#####
# Task 5 : Resync GAD pair
#####
- name: Resync GAD pair
  hv_gad:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
      state: "{{ state_resync }}"
    spec:
      primary_volume_id: "{{ gad_primary_volume_id_5 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_gad
```

.

Delete GAD pair

Synopsis

Deletes a GAD pair on a UAI gateway connection.



Note: If the pair is attached to any subscriber, the Delete GAD pair task will untag the secondary volume from the subscriber after the pair is deleted. If you want to delete the secondary volume, you need to tag the volume to the existing subscriber.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
<code>connection_type</code>	Yes	gateway
<code>address</code>	Yes	UAI Gateway address
<code>api_token</code>	Yes	UAI Gateway API token. Note: <code>api_token</code> lasts 10 hours after it is generated.
<code>subscriber_id</code>	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
<code>serial</code>	Yes	Storage system serial number.

State info:

Parameter	Required	Value/Description
<code>state</code>	Yes	'absent'

Spec info:

Parameter	Type	Required	Description
<code>primary_volume_id</code>	integer	Yes	Primary volume ID

Example

```
#####
# Task 6 : Delete GAD pair
#####
- name: Delete GAD pair
  hv_gad:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
      state: "{{ state_absent }}"
    spec:
      primary_volume_id: "{{ gad_primary_volume_id_6 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_gad
```

.

Get GAD pairs

Gets GAD pairs on a UAI gateway.

Module name

hv_gad_fact

Description

This module retrieves GAD pairs on the UAI gateway.

This module provides the following tasks

- Get all GAD pairs
- Get GAD pair using primary volume ID

Get all GAD pairs

Synopsis

Retrieves all GAD pairs on a UAI gateway connection.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

Example

```
#####
# Task 1 : Get all GAD pairs
#####
- name: Get all GAD pairs
  hv_gad_fact:
    connection_info:
      address: "{{ management_address }}"
      api_token: "{{ result_token.api_token.token }}"
      connection_type: "{{ connection_type }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_gad_fact
```

.

Get GAD pair using primary volume ID**Synopsis**

Retrieves GAD pair using the primary volume ID on a UAI gateway connection.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
primary_volume_id	integer	Yes	Primary volume ID

Example

```
#####
# Task 2 : Get GAD pair using primary volume id
#####
- name: Get GAD pair using primary volume id
  hv_gad_fact:
    connection_info:
      address: "{{ management_address }}"
      api_token: "{{ result_token.api_token.token }}"
      connection_type: "{{ connection_type }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    spec:
      primary_volume_id: "{{ gad_pair_facts_primary_volume_id_2 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_gad_fact
```

.

Manage HUR pairs

Manages Hitachi Universal Replicator pairs on a Hitachi UAI gateway.

Module name

hv_hur

Description

This module manages Hitachi Universal Replicator pairs on a UAI gateway.

This module provides the following tasks

- Create HUR pair
- Split HUR pair
- Resync HUR pair
- Delete HUR pair

Create HUR pair

Synopsis

Creates a HUR pair on a UAI gateway connection.



Note: Make sure that the secondary storage system is onboarded using the remote UAI gateway.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.

Parameter	Required	Value/Description
serial	Yes	Storage system serial number
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
primary_volume_id	integer	Yes	Primary volume ID
primary_volume_journal_id	integer	Yes	Primary volume journal ID
secondary_volume_journal_id	integer	Yes	Secondary volume journal ID
secondary_pool_id	integer	Yes	Secondary pool ID
allocate_new_consistency_group	boolean	No	Allocate and assign new consistency group ID, cannot be true if consistency_group_id is specified.
consistency_group_id	integer	No	Specify whether to create a pair in an existing consistency group. Either allocate_new_consistency_group or consistency_group_id must be specified.

Parameter	Type	Required	Description
secondary_storage_serial_number	integer	Yes	Secondary storage serial number; required for create. Secondary storage should be added using a different UAI gateway than primary storage.
secondary_hostgroup	string	Yes	Existing host group details of the secondary volume

Example

```
#####
# Task 1 : Create HUR pair
#####
- name: Create HUR pair
  hv_hur:
    storage_system_info:
      serial: '{{ storage_serial }}'
    connection_info:
      connection_type: '{{ connection_type }}'
      address: '{{ uai_gateway_address }}'
      api_token: '{{ result_token.api_token.token }}'
      subscriber_id: '{{ subscriber_id }}'
    spec:
      primary_volume_id: '{{ hur_primary_volume_id_1 }}'
      primary_volume_journal_id: '{{ hur_primary_volume_journal_id_1 }}'
      secondary_volume_journal_id: '{{ hur_secondary_volume_journal_id_1 }}'
      secondary_pool_id: '{{ hur_secondary_pool_id_1 }}'
      allocate_new_consistency_group: '{{ hur_allocate_new_consistency_group_1 }}'
      secondary_storage_serial_number:
        '{{ hur_secondary_storage_serial_number_1 }}'
      secondary_hostgroup: '{{ hur_secondary_hostgroup_1 }}'

  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_hur
```

Split HUR pair

Synopsis

Splits a HUR pair on a UAI gateway connection.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'split'

Spec info:

Parameter	Type	Required	Description
primary_volume_id	integer	Yes	Primary volume ID
mirror_unit_id	integer	Yes	Mirror unit ID

Example

```
#####
```

```
# Task 2 : Split HUR pair
#####
- name: Split HUR pair
  hv_hur:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: split
    spec:
      primary_volume_id: "{{ hur_primary_volume_id_2 }}"
      mirror_unit_id: "{{ hur_mirror_unit_id_2 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_hur
```

.

Resync HUR pair

Synopsis

Resyncs a HUR pair on a UAI gateway connection.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

State info:

Parameter	Required	Value/Description
state	Yes	'resync'

Spec info:

Parameter	Type	Required	Description
primary_volume_id	integer	Yes	Primary volume ID
mirror_unit_id	integer	Yes	Mirror unit ID

Example

```
#####
# Task 3 : Resync HUR pair
#####
- name: Resync HUR pair
  hv_hur:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: resync
    spec:
      primary_volume_id: "{{ hur_primary_volume_id_3 }}"
      mirror_unit_id: "{{ hur_mirror_unit_id_3 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_hur
```

Delete HUR pair

Synopsis

Deletes a HUR pair on a UAI gateway connection.



Note: If the pair is attached to any subscriber, the Delete HUR pair task will untag the secondary volume from subscriber after the pair is deleted. If you want to delete the secondary volume, you need to tag the volume to the existing subscriber.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
<code>connection_type</code>	Yes	gateway
<code>address</code>	Yes	UAI Gateway address
<code>api_token</code>	Yes	UAI Gateway API token. Note: <code>api_token</code> lasts 10 hours after it is generated.
<code>subscriber_id</code>	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
<code>serial</code>	Yes	Storage system serial number.

State info:

Parameter	Required	Value/Description
<code>state</code>	Yes	'absent'

Spec info:

Parameter	Type	Required	Description
<code>primary_volume_id</code>	integer	Yes	Primary volume ID
<code>mirror_unit_id</code>	integer	Yes	Mirror unit ID

Example

```
#####
# Task 4 : Delete HUR pair
#####
- name: Delete HUR pair
  hv_hur:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    state: "{{ state_absent }}"
    spec:
      primary_volume_id: "{{ hur_primary_volume_id_4 }}"
      mirror_unit_id: "{{ hur_mirror_unit_id_4 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_hur
```

.

Get HUR pairs

Gets HUR pairs on a Hitachi UAI gateway.

Module name

```
hv_hur_facts
```

Description

This module gets HUR pairs on the UAI gateway.

This module provides the following tasks

- Get all HUR pairs
- Gather HUR facts with primary volume and mirror unit ID
- Gather HUR facts with only primary volume
- Gather HUR facts with only secondary volume
- Gather HUR facts without specific volume or mirror unit ID

Get all HUR pairs

Synopsis

Retrieves all HUR pairs on a UAI gateway connection.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

Example

```
#####
# Task 1 : Get all HUR pairs
#####
- name: Get all HUR pairs
  hv_hur_facts:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
  register: result
```


Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_hur_facts
```

Gather HUR facts with primary volume and mirror unit ID

Synopsis

Gathers HUR facts with primary volume and mirror unit ID on a UAI gateway connection.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
primary_volume_id	string	Yes	Primary volume ID
mirror_unit_id	string	Yes	Mirror unit ID

Example

```
#####
# Task 2 : Get HUR pair using primary volume Id and mirror unit Id
#####
- name: Get HUR pair using primary volume Id and mirror unit Id
  hv_hur_facts:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    spec:
      primary_volume_id: "{{ hur_facts_primary_volume_id_2 }}"
      mirror_unit_id: "{{ hur_facts_mirror_unit_id_2 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_hur_facts
```

.

Gather HUR facts with only primary volume**Synopsis**

Gathers HUR facts with only the primary volume on a UAI gateway connection.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
primary_volume_id	string	Yes	Primary volume ID

Example

```
#####
# Task 3 : Get HUR pair using primary volume Id
#####
- name: Get HUR pair using only primary volume Id
  hv_hur_facts:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    spec:
      primary_volume_id: "{{ hur_facts_primary_volume_id_3 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_hur_facts
```

Gather HUR facts with only secondary volume

Synopsis

Gathers HUR facts with only a secondary volume on a UAI gateway connection.

Parameters

Connection Info for a gateway connection:

Parameter	Required	Value/Description
connection_type	Yes	gateway
address	Yes	UAI Gateway address
api_token	Yes	UAI Gateway API token. Note: api_token lasts 10 hours after it is generated.
subscriber_id	No	Any unique value to identify the subscriber

Storage system info:

Parameter	Required	Value/Description
serial	Yes	Storage system serial number.

Spec info:

Parameter	Type	Required	Description
secondary_volume_id	string	Yes	Secondary volume ID

Example

```
#####
# Task 4 : Get HUR pair using secondary volume Id
#####
- name: Get HUR pair using secondary volume Id
  hv_hur_facts:
    connection_info:
      connection_type: "{{ connection_type }}"
      address: "{{ uai_gateway_address }}"
      api_token: "{{ result_token.api_token.token }}"
      subscriber_id: "{{ subscriber_id }}"
    storage_system_info:
      serial: "{{ storage_serial }}"
    spec:
      secondary_volume_id: "{{ hur_facts_secondary_volume_id_4 }}"
  register: result
```

Return values

Returns the resource in JSON format. For details, run

```
ansible-doc hitachivantara.vspone_block.vsp.hv_hur_facts
```

.

Chapter 9: Logging and Troubleshooting

Logging and troubleshooting

Logging

The log file is located at `$HOME/logs/hitachivantara/ansible/vspone_block_hv_vspone_block_modules.log`.

After the log file size reaches around 977 KB, the existing file is archived and new log file is created. A maximum of 20 archived files are stored and the oldest file is deleted when a new archive is generated.

Hitachi Ansible Storage Log Collection



Note: Set below environment variables to change the ansible log level, log directory and log file name - `HV_ANSIBLE_LOG_PATH`, `HV_ANSIBLE_LOG_LEVEL`, `HV_ANSIBLE_LOG_FILE`

In the Ansible Module installed VM, the playbooks are located at `$HOME/.ansible/collections/ansible_collections/hitachivantara/vspone_block/tools`. The name of the playbooks are:

- `logbundle_direct_connection.yml`
- `logbundle_gateway_connection.yml`

There are two log bundle generation procedures each for gateway connect and direct connect.

Log bundle generation for direct connect storage:

```
[root@ol86-host tools]# ansible-playbook logbundle_direct_connection.yml
```

```
[root@hitachivantara-vspone-block tools]# cat logbundle_direct_connection.yml
- name: Support Log Bundle
  hosts: localhost
  gather_facts: false
  collections:
    - hitachivantara.vspone_block.vsp

  tasks:
    - name: Collect log bundle for direct only
      hv_troubleshooting_facts:
        register: result
        no_log: true
      - debug: var=result
```

```
[root@hitachivantara-vspone-block tools]# ansible-playbook logbundle_direct_connection.yml
[WARNING]: provided hosts list is empty, only localhost is available. Note that the implicit localhost does not match 'all'

PLAY [Support Log Bundle] *****

TASK [Collect log bundle for direct only] *****
ok: [localhost]

TASK [debug] *****
ok: [localhost] => {
  "result": {
    "changed": false,
    "comments": "LogBundle with direct connection logs",
    "failed": false,
    "filename": "/var/log/hitachivantara/ansible/vspone_block/log_bundles/ansible_log_bundle_2024_06_13_11_10_30.zip"
  }
}

PLAY RECAP *****
localhost                : ok=2    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
```



Note: Hitachi Vantara recommends using Ansible vault for encrypting sensitive data. If you are not encrypting your sensitive data, make sure to remove sensitive data before collecting the log bundle. Variable files are collected from these two directories:

- \$HOME/ansible/hitachivantara/vspone_block/playbooks
- \$HOME/.ansible/collections/ansible_collections/hitachivantara/vspone_block/playbooks

If your variable files are in some other directory, they will not be collected.

After executing the script, the resulting ZIP archive is named:

ansible_log_bundle_yyyy_mm_dd_hh_mm_ss.zip

This log bundle is created in the \$HOME/logs/hitachivantara/ansible/vspone_block/log_bundles directory.

The log bundle contains the following:

modules

A directory containing copies of all the Hitachi Storage Ansible module logs named hv_vspone_block_modules.log.

playbooks

A directory containing copies of all the playbooks.

Log bundle generation for gateway connect storage:

```
[root@ol86-host tools]# ansible-playbook logbundle_gateway_connection.yml
```

```
[root@hitachivantara.vspone-block tools]# cat logbundle_gateway_connection.yml
- name: Support Log Bundle
  hosts: localhost
  gather_facts: false
  collections:
    - hitachivantara.vspone_block.vsp

tasks:
  - name: Get gateway token
    hv_uai_token_fact:
      connection_info:
        connection type: "gateway"
        address: 172.25.20.58
        username: admin
        password: overrunsurveysroutewarnssent
        register: result_token
        ignore_errors: True

  - debug:
      var: result_token

  - name: Collect LogBundle including UAI gateway logs
    hv_troubleshooting_facts:
      uai_gateway_address: 172.25.20.58
      api_token: "{{ result_token.api_token.token | default(omit) }}"
      register: result

  - debug: var=result

[root@hitachivantara.vspone-block tools]# ansible-playbook logbundle_gateway_connection.yml
[WARNING]: provided hosts list is empty, only localhost is available. Note that the implicit localhost does not match 'all'

PLAY [Support Log Bundle] *****

TASK [Get gateway token] *****
ok: [localhost]

TASK [debug] *****
ok: [localhost] => {
  "result_token": {
    "api_token": {
      "token": "eyJhbGciOiJSUzI1NiIsInR5cCI6IkpzZWVudD0ERzdyIDa3A3Q290dzNmdldidXlqektkaTF4MTFrZXBXZVAtOWI3Yi00OTI4LWlyMmUtMTg5MDRhNmE2MDQxIiwiaXNzIjoiaHR0cHM6Ly9rZXljbg9hazo4MDgxL2FIdGgvcmVhbG1zL3VjchHN5c3RlbSI6ImF1ZC16InJlYWxtLWYiLCJ0eXAiOiJCWFYiLCJhenAiOiJlY3BhZHpc29yIiwic2Vzc2lvcml9zdGF0ZSI6ImNhMTQwMDY4LWQ2YjEtNDQ4OC1hZDkyLTmzMzIwMTM3WE0YiIsImFjcJjZV9hY2Nlc3MiOnsicmVhbG0tbWVuZCI6eyJyb2xlcyI6WyJjaWV3LWlkZW50aXRSLXBib3ZpZGVycyIsImhhbmFnZS1yZWZfbSIsImhhbmFnZS1pZGVudJpemF0aW9uIiwicClvntkndktXNlcnMiXX0sInVjcGfkdmlzb3I0nsicm9sZXMI01siDWnQWR2aXNvcKNSaWVudFJvbGUuX19LCjZy29wZItHZAzMjAxMzhYTRIIiwiaWxzfmVyaWZpZwQ1OmZhbnNlLCJwcmlmeiJzYWRfdXNlcm5hbWUiOiJhZGlpbjI9. yhsnQatNe8fgB8ki40hNbL6577FNYj068ReQTV1LHHLSDktKx9SWh9p86lqZvATS3qWnyUlUv0cILWLmYbLgbE9JoetTlt7sRzrGSaxsrvk02_6RNsRXZqJTBIxPrj9eE2a23cLi3SuZFUTRdGEu0qaBKRTUopxhDyZ3h-V3XKGdNoVL-8900CTbn2q-ZXuTu"
    }
  },
  "changed": false,
  "failed": false
}

TASK [Collect LogBundle including UAI gateway logs] *****
ok: [localhost]

TASK [debug] *****
ok: [localhost] => {
  "result": {
    "changed": false,
    "comments": "LogBundle with UAI gateway logs",
    "failed": false,
    "filename": "/var/log/hitachivantara/ansible/vspone_block/log_bundles/ansible_log_bundle_2024_06_13_11_14_05.zip"
  }
}

PLAY RECAP *****
localhost : ok=4 changed=0 unreachable=0 failed=0 skipped=0 rescued=0 ignored=0
```

After executing the script, the resulting ZIP archive is named:

ansible log bundle 2024 06 05 00 12 50.zip

This log bundle is created in the `$HOME/logs/hitachivantara/ansible/vspone block/log bundles` directory.

The log bundle contains the following:

gateway_service

A zip archive of all Unified API Infrastructure Gateway logs.

modules

A directory containing copies of all the Hitachi Storage Ansible module logs named `hv_storage_modules.log`.

playbooks

A directory containing copies of all the playbooks.



Note: A maximum of three log bundles are stored. The oldest one is deleted if any new log bundle is generated.

Bug-fixing versions

Bug fixing versions are available in the Ansible Galaxy Portal https://galaxy.ansible.com/ui/repo/published/hitachivantara/vspone_block/

Troubleshooting issues with journal ID

Use the following guidelines and suggested steps to help resolve issues with the Create HUR pair task.

Condition:

The customer observes the following error code:

```
Error Code: 1081661 Message:A CCI error occurred
```

What it Means:

The customer already has a HUR pair with the journal pool ID that was used.

Corrective Action:

Try with a different journal pool ID.

Troubleshooting issues with a UAI gateway reboot or if any task fails with "Storage is in FAILED state" error

Use the following guidelines and suggested steps to help resolve issues with a UAI gateway reboot or if any task fails with "Storage is in FAILED state" error.

Condition:

A UAI gateway reboot is occurring or any task fails with "Storage is in FAILED state" error.

What it Means:

The UAI gateway has been rebooted and the services take a few minutes to come up.

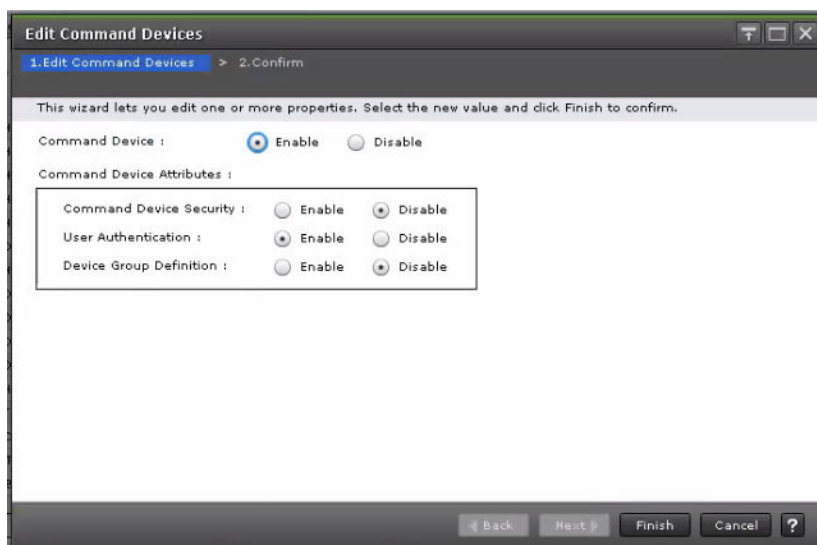
Corrective Action:

Execute the "Get all storages with hard refresh" task available in the `system_facts.yml` playbook and continue using the storage system.

Appendix A: Command device instructions

Provisioning a command device

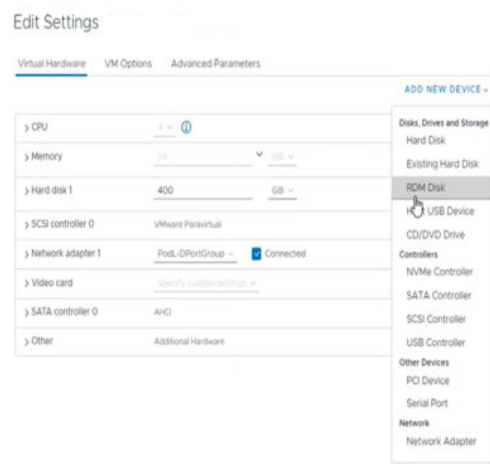
For your storage system, you must provision UAI Gateway with a command device. It must be created in the `meta_resource` resource group.



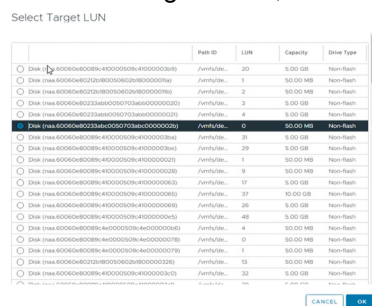
Use the following procedure to provision a new command device to the UAI Gateway on the management node.

Procedure

1. Log on to vCenter Server Appliance.
2. Right-click UAI Gateway, then select **Edit Settings**.
3. In **New device**, click **Select**.
4. Select **RDM Disk**, then click **Add**.



5. Select the target LDEV, then click **OK**.



6. Click **OK**. Continue with installation procedure.

Post-installation tasks

Post UAI gateway deployment, if you are attaching a command device, perform the following instructions.

Procedure

1. (Optional) Update the command devices if they were not attached to the UAI Gateway before installing UAI Gateway. Perform the following steps:
 - a. Using an SSH client, such as PuTTY, log on to the UAI Gateway VM as a `admin` user.
 - b. Navigate to the `installer` folder.
 - c. Run one of the following commands:

```
sudo ./installer -U -m <UAI Gateway VM IP address> -P [-c <command devices list>]
```

or

```
sudo ./installer -U -m <UAI Gateway VM IP address> -u admin -p <UAI gateway admin password>
```

where:

- -U: To update the command device
- -m: UAI Gateway VM IP address
- -P: Enter the node CLI username and password, UAI Gateway user name and password when prompted.
- -c: (Optional) Specify the Linux device names of the command devices that were provisioned. If not specified, all the command devices attached to the UAI gateway VM are used.
- -u: UAI gateway admin user
- -p: UAI gateway admin password

For example:

```
sudo ./installer -U -m 192.168.10.10 -P
```

or

```
sudo ./installer -U -m 192.168.10.10 -u admin -p <UAI gateway admin
password>
```

- d. Enter `y` to accept the EULA agreement.

The pre-check tasks are initiated. After a few minutes, you are prompted to proceed with the update.

- e. Enter `y` to continue.

After a successful installation, the following message is displayed:

```
"Congratulations, the upgrade was successful."
```

- f. Verify that the command devices were successfully added. In a web browser, enter the following URL:

```
https://<UAI Gateway-Address>:8444/services/cmd-devices
```

This lists all the command devices.

Sample output:

```
{ "cmdDevices" :
  [
    {
      "devicePath" : "/dev/sdd",
      "identity" :
        {
          "deviceClass" : "RAID",
          "deviceID" : 410117,
          "deviceModel" : "VSP_G400_G600",
          "deviceType" : "VSP_FX00",
          "logicalUnitId" : 9550,
          "naaId" : "naa.60060e80122785005040278500002S4e"
        },
      "isCommandDevice" : true,
      "isRemoteCommandDevice" : false,
      "productId" : "OPEN-V-CM",
      "vendorId" : "HITACHI"
    },
    {
      "devicePath" : "/dev/sde",
      "identity" :
        {
          "deviceClass" : "RAID",
          "deviceID" : 40001,
          "deviceModel" : "UNKNOWN",
          "deviceType" : "VSP_5X00H",
          "logicalUnitId" : 89,
          "naaId" : "naa.60060e80089c410000509c4100000059"
        },
      "isCommandDevice" : true,
      "isRemoteCommandDevice" : false,
      "productId" : "OPEN-V-CM",
      "vendorId" : "HITACHI"
    }
  ]
}
```

2. Continue with **Next steps** in installation procedure.

Appendix B: Host mode options

Host Mode Option	Definition
0	[RESERVED]
2	[VERITAS_DB_EDITION_ADV_CLUSTER]
6	[TPRLO]
7	[AUTO_LUN_RECOGNITION]
12	[NO_DISPLAY_FOR_GHOST_LUN]
13	[SIM_REPORT_AT_LINK_FAILURE]
14	[HP_TRUECLUSTER_WITH_TRUECOPY]
15	[RAID_HACMP]
22	[VERITAS_CLUSTER_SERVER]
23	[REC_COMMAND_SUPPORT]
33	[SET_REPORT_DEVICE_ID_ENABLE]
39	[CHANGE_NEXUS_SPECIFIED_IN_SCSI_TARGET_RESET]
40	[VVOL_EXPANSION]
41	[PRIORITIZED_DEVICE_RECOGNITION]
42	[PREVENT_OHUB_PCI_RETRY]
43	[QUEUE_FULL_RESPONSE]
48	[HAM_SVOL_READ]
49	[BB_CREDIT_SETUP_1]
50	[BB_CREDIT_SETUP_2]
51	[ROUND_TRIP_SETUP]
52	[HAM_AND_CLUSTER_SW_FOR_SCSI_2]
54	[EXTENDED_COPY]

Host Mode Option	Definition
57	[HAM_RESPONSE_CHANGE]
60	[LUN0_CHANGE_GUARD]
61	[EXPANDED_PERSISTENT_RESERVE_KEY]
63	[VSTORAGE_APIS_ON_T10_STANDARDS]
65	[ROUND_TRIP_EXTENDED_SETUP]
67	[CHANGE_OF_ED_TOV_VALUE]
68	[PAGE_RECLAMATION_LINUX]
69	[ONLINE_LUSE_EXPANSION]
71	[CHANGE_UNIT_ATTENTION_FOR_BLOCKED_POOL_VOLS]
72	[AIX_GPFS]
73	[WS2012]
78	[NON_PREFERRED_PATH]
95	[CHANGE_SCSI_LU_RESET_NEXUS_VSP_HUS_VM]
96	[CHANGE_SCSI_LU_RESET_NEXUS]
97	[PROPRIETARY_ANCHOR_COMMAND_SUPPORT]
100	[HITACHI_HBA_EMULATION_CONNECTION_OPTION]
102	[GAD_STANDARD_INQUIRY_EXPANSION_HCS]
105	[TASK_SET_FULL_RESPONSE_FOR_IO_OVERLOAD]
110	[ODX Support for WS2012]
113	[iSCSI CHAP Authentication Log]
114	[Auto Asynchronous Reclamation on ESXi 6.5+]

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