

Veritas InfoScale™ Installation and Configuration Using Ansible - Windows

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Veritas Services and Operations Readiness Tools (SORT) is a website that provides information and tools to automate and simplify certain time-consuming administrative tasks. Depending on the product, SORT helps you prepare for installations and upgrades, identify risks in your datacenters, and improve operational efficiency. To see what services and tools SORT provides for your product, see the data sheet:

https://sort.veritas.com/data/support/SORT_Data_Sheet.pdf

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Preparing to use Ansible in InfoScale

This chapter includes the following topics:

- [Introduction to Ansible](#)
- [Downloading Ansible modules for InfoScale](#)
- [Before you begin](#)

Introduction to Ansible

Ansible is a popular configuration management tool that automates various configuration and deployment operations in your environment. Ansible playbooks are files written in the YAML format, which contains human-readable code. Ansible playbooks can be used to define operations in your environment.

Veritas now provides Ansible modules that can be used in Ansible playbooks to install Veritas InfoScale products, configure clusters, and configure the Veritas Volume Replicator (VVR) feature.

Table 1-1 Operations that can be performed by using Ansible

| Deployment-related operations | Feature-related operations |
|---------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| <ul style="list-style-type: none">■ Installation■ Licensing■ Cluster configuration■ Uninstallation | <ul style="list-style-type: none">■ Configuring VVR |

Supported platforms

You can use Ansible to deploy and configure Veritas InfoScale on all RHEL distributions supported by InfoScale.

Supported Ansible version

Veritas InfoScale products can be deployed and configured using Ansible version 1.9.2 or later.

Downloading Ansible modules for InfoScale

Refer to the following link to download the Ansible modules, playbook templates, and user guide for using Ansible in Veritas InfoScale.

- <https://sort.veritas.com/utility/ansible>

Download and save the Ansible modules to the following location on your Ansible server.

```
/usr/share/ansible/plugins/modules/
```

Before you begin

Ensure that the following prerequisite is met in your environment:

- Ansible requires native Windows Remote Management (WinRM) for communication to be established between the Ansible server and nodes to be managed by the Ansible server.

Installing using Ansible

This chapter includes the following topics:

- [Ansible modules for Installing InfoScale](#)
- [List of pre-defined keywords](#)

Ansible modules for Installing InfoScale

Use the following Ansible modules in your playbooks to perform installation-related operations in the InfoScale environment. Refer to the following table for a list of modules, along with a sample playbook, used for each of the operations:

Table 2-1 Installation-related operations

| Operation | Required modules | Sample playbook |
|--------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Installation | <ul style="list-style-type: none"> ■ site_factors ■ install | <pre> --- - hosts: win_clus2 gather_facts: False tasks: - name: Factors veritas_infosc const_win: module: site_factors register: facts - name: Deploy "{{ vtas_solution }}" veritas_infosc const_win: module: install setup_exe_path: "{{ vtas_setup_exe_path }}" prod_solution: "{{ vtas_solution }}" edge_server: "{{ vtas_edge_server }}" port: "{{ vtas_port }}" licensekey: "{{ vtas_licensekey }}" installdir: "{{ vtas_installdir }}" state: present factors: "{{ groups['all'] map('extract', hostvars, ['facts','infoscale_facts']) select() list }}" </pre> |
| Licensing | <ul style="list-style-type: none"> ■ site_factors ■ licensing | <pre> --- - hosts: win_clus2 gather_facts: False tasks: - name: Factors veritas_infosc const_win: module: site_factors register: facts - name: InfoScale Licensing veritas_infosc const_win: module: license product_version: 7.4.2 licensekey: <full path of the license key file> factors: "{{ groups['all'] map('extract', hostvars, ['facts','infoscale_facts']) select() list }}" state: present </pre> |

Table 2-1 Installation-related operations (*continued*)

| Operation | Required modules | Sample playbook |
|-----------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Uninstall | <ul style="list-style-type: none"> ■ site_factors ■ install | <pre> --- - hosts: win_clus2 gather_facts: False tasks: - name: Factors veritas_infosc const_win: module: site_factors register: facts - name: Deploy "{{ vtas_solution }}" veritas_infosc const_win: module: install setup_exe_path: "{{ vtas_setup_exe_path }}" prod_solution: "{{ vtas_solution }}" edge_server: "{{ vtas_edge_server }}" port: "{{ vtas_port }}" licensekey: "{{ vtas_licensekey }}" installdir: "{{ vtas_installdir }}" state: absent factors: "{{ groups['all'] map('extract', hostvars, ['facts','infoscale_facts']) select() list }}" </pre> |

List of pre-defined keywords

Refer to the following tables for a list of keywords that are used with each of the installation-related modules.

Install

The install module is used to install or uninstall InfoScale products using yum. Use the following keywords while referencing the module in your playbook.

Table 2-2 install module keywords

| Name | Description | Mandatory/optional |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| setup_exe_path | Path to the <code>setup.exe</code> file in the InfoScale DVD location. Example: <pre>\\<IP of server storing InfoScale DVD contents> \re\release_train\win\7.4.1 \WxRT-7.4.1-GA\InfoScale-7.4.1\setup.exe</pre> | Mandatory |
| prod_solution | It one of the solutions provided by the InfoScale. Below are the choices: <ul style="list-style-type: none"> ■ foundation ■ availability ■ storage ■ enterprise | Mandatory |
| edge_server | Hostname or IP address of the edge server. | Mandatory |
| port | Port number on which the edge server is configured. | Mandatory |
| licensekey | Path to the license key file. If no value is provided for this attribute, a keyless license will be applied by default. | Optional |
| installdir | If no value is provided for this attribute, the default installation path is considered. Alternatively, you can create a custom installation directory, by entering a custom path for installation. | Optional |
| state | Specifies whether you want to install or uninstall the product. The value present indicates installation, while absent indicates uninstallation. | Mandatory |

license

The licensing module is used to apply licenses in InfoScale. Use the following keywords while referencing the module in your playbook.

Table 2-3 license module keywords

| Name | Description | Mandatory/optional |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| state | Specifies what state the package should be after the task is completed. The value for this keyword can be either present or absent . | Mandatory |
| product_version | Specifies the version of the product on which the license is applied. Example: 7.4.2 | Mandatory |

Table 2-3 license module keywords (*continued*)

| Name | Description | Mandatory/optional |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| license | <p>Specifies the path to the slf license file to be registered on the system. Ensure that the license file is accessible to the installer. The license file must be stored on the same server as the installer.</p> <p>Example:</p> <pre data-bbox="346 470 744 522">/license_key/Windows/perpetual/ xxxxxxxxxxxxxxxxxxxxx.slf</pre> | Mandatory |

Configuring InfoScale product components

This chapter includes the following topics:

- [Ansible modules for configuring InfoScale](#)
- [List of pre-defined keywords](#)

Ansible modules for configuring InfoScale

Use the following Ansible modules in your playbooks to configure Veritas InfoScale product components. Refer to the following table for a list of modules , along with a sample playbook, used for each of the configuration-related operations:

Table 3-1 Component configuration-related operations

| Operation | Required modules | Sample playbook |
|-----------------------|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cluster configuration | <ul style="list-style-type: none"> ■ site_factors ■ vcs_config | <pre> --- - hosts: win_clus2 gather_facts: False tasks: - name: Factors veritas_infosc const_win: module: site_factors register: facts - name: Configure cluster veritas_infosc const_win: module: Vcs_config domain_name: winvm.com system_info: - system: system1 LLTlinks: - name: 'Ethernet1' lowpri: 0 mac: 'xx-xx-xx-xx-xx-xx' - name: 'Ethernet2' mac: 'xx-xx-xx-xx-xx-xx' lowpri: 0 - system: system2 LLTlinks: - name: 'Ethernet1' mac: 'xx-xx-xx-xx-xx-xx' lowpri: 0 - name: 'Ethernet2' mac: 'xx-xx-xx-xx-xx-xx' lowpri: 0 cluster_name: testing cluster_id: 12345 single_node_cluster: 0 secured_cluster_info: Security_Type: Non-Secured Admin_User: Administrator Password: iXpvmS hadhelper_info: User: Administrator Password: xxxxxx state: present seednode: "{{ vtas_seednode }}" factors: "{{ groups['all'] select() list }}" </pre> |

List of pre-defined keywords

Refer to the following tables for a list of the keywords that are used with each of the configuration-related modules.

vcs_config

The vcs_config module is used to configure VCS in InfoScale. Use the following keywords while referencing the module in your playbook.

Table 3-2 vcs_config module keywords

| Name | Description | Mandatory/optional |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| domain_name | Specify the domain name of the system. | Mandatory |
| systeminfo | <p>Specify the list of the systems and their LLT configuration information, which includes name of the node, MAC address, and priority of LLT link (either 0 or 1).</p> <p>Example:</p> <pre> - system: system1 LLTlinks: - name: 'Ethernet1' lowpri: 0 mac: 'xx-xx-xx-xx-xx-xx' - name: 'Ethernet2' mac: 'xx-xx-xx-xx-xx-xx' lowpri: 0 - system: system2 LLTlinks: - name: 'Ethernet1' mac: 'xx-xx-xx-xx-xx-xx' lowpri: 0 - name: 'Ethernet2' mac: 'xx-xx-xx-xx-xx-xx' lowpri: 0 </pre> | Mandatory |
| cluster_name | <p>Define a name for the cluster that you want to deploy.</p> <p>Example: Cluster1</p> | Mandatory |
| cluster_id | Define a unique number to be assigned to the cluster. | Mandatory |
| single_node_cluster | <p>Specify either 0 or 1.</p> <p>0 creates a single node cluster of all the servers in the playbook run.</p> <p>1 creates a multi node cluster of all the servers in the playbook run.</p> | Mandatory |

Table 3-2 vcs_config module keywords (*continued*)

| Name | Description | Mandatory/optional |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| secured_cluster_info | Specify information about configuring cluster security. | Mandatory |
| security_type | Specify either Non-Secured or Secured . | Mandatory |
| Admin_User | Specify a user name for the cluster administrator. You can use this user name to log on to a cluster that uses Cluster Manager. | Mandatory |
| Password | Specify a password for the cluster administrator user. | Mandatory |
| hadhelper_info | Specify information about the HAD helper, which is required to configure VCS. | Mandatory |
| method | Specify the communication protocol that you want to deploy in the cluster. Example: <code>ethernet, udp, or rdma.</code> | Mandatory |
| state | Specify what state the package should be in after the task is completed. The value for this keyword can be either present or absent . | Mandatory |

Configuring InfoScale features

This chapter includes the following topics:

- [Ansible modules for configuring features in InfoScale](#)
- [List of pre-defined keywords](#)

Ansible modules for configuring features in InfoScale

Use the following Ansible modules in your playbooks to perform feature configuration-related operations. Refer to the following table for a list of modules, along with a sample playbook, used for each of the operations:

Table 4-1 Feature configuration-related keywords

| Operation | Required modules | Sample playbook |
|---------------------------------|-----------------------------------------------------------------------------------------|-----------------|
| Veritas Volume Replicator (VVR) | <ul style="list-style-type: none"> ■ site_factors ■ vvrresource | |

Table 4-1 Feature configuration-related keywords (*continued*)

| Operation | Required modules | Sample playbook |
|-----------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | <pre> --- - hosts: win_vvr_clus1 gather_facts: False tasks: - name: Facters veritas_infoscale_win: module: site_facters register: facts - name: Vvr Resource veritas_infoscale_win: module: vvrresource aws: 0 seednode:VVRW2K12R2-N1 primaryip: 10.217.56.108 secondaryip:10.209.119.59 dgname: DG1 datavolname: Volume1 srlvolname: srl rdsname: rds2 rvgname: rvg_vvrstest3 vxsasuser:'winvm\administrator' vxsaspassword: cvm agentinfo: clusterlist: - CampusCluster1 - CampusCluster2 mountpath: 'E:\' sharename: FS1 sharePathname: '\FS' lanman_virtualname: swv16vip5 operators: 'ADMINISTRATOR@WINVM' primary: primaryvip: xx.xxx.xx.xxx fileshare_vip: xx.xxx.xx.xxx nic: - xxxxxxxx-xx: 'xx-xx-xx-xx-xx-xx' - xxxxxxxx-xx: 'xx-xx-xx-xx-xx-xx' netmask: 255.255.252.0 secondary: secondaryvip: xx.xxx.xxx.xxx fileshare_vip: xx.xxx.xxx.xxx nic: </pre> |

Table 4-1 Feature configuration-related keywords (*continued*)

| Operation | Required modules | Sample playbook |
|-----------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | <pre> - xxxxxxxxxx-xx: 'xx-xx-xx-xx-xx-xx' - xxxxxxxxxx-xx: 'xx-xx-xx-xx-xx-xx' netmask: 255.255.252.0 state: present factors: "{{ groups['all'] map('extract', hostvars, ['facts','infoscale_facts']) select() list }}" </pre> |

List of pre-defined keywords

Refer to the following tables for a list of the keywords that are used with each of the feature configuration-related modules.

vvresource

The `vvresource` module is used to set up VVR and its resources under VCS. Use the following keywords while referencing the module in your playbook.

Table 4-2 `vvresource` module keywords

| Name | Description | Mandatory/Optional |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| <code>state</code> | Specifies what state the package should be in after the task is completed. Set this attribute to present to configure VVR. | Mandatory |
| <code>aws</code> | Specify 1 or 0 . 1: If setup is taking place on an AWS instance. 0: If setup is taking place on a non-AWS instance. | Mandatory |
| <code>dgname</code> | Name for the disk group where the Replicated Volume Group (RVG) is created. | Mandatory |
| <code>datavolname</code> | Name of the data volume of the VVR. | Mandatory |
| <code>srlvolname</code> | Name of the Storage Replicator Log (SRL) volume for VVR. | Mandatory |
| <code>rdsname</code> | Name of replicated data set to be created. | Mandatory |
| <code>rvgname</code> | Name of the Replicated Volume Group (RVG) to be created | Mandatory |
| <code>vxsasuser</code> | Specify the administrative account user name of the VxSAS service. | Optional |

Table 4-2 vvrresource module keywords (*continued*)

| Name | Description | Mandatory/Optional |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| vxsaspassword | Specify the password of the administrative account user of the VxSAS service. | Optional |
| seednode | Select any node from the cluster that will be used to run commands related to the operations of that cluster. Ensure that you enter the host name as provided in the in the <code>/etc/ansible/hosts</code> file. | Mandatory |
| primaryvip | Specify a virtual IP for setting up VVR on the primary site. | Mandatory |
| secondaryvip | Specify a virtual IP for setting up VVR on the secondary site. | Mandatory |
| agentinfo | <p>Specify the information required to create the VVR resource under VCS for site and cluster failover.</p> <p>Skip this attribute if you are not creating a VCS resource for site and cluster failover.</p> <p>Example:</p> <pre>agentinfo: clusterlist: - CampusCluster1 - CampusCluster2 mountpath: 'E:\' sharename: FS1 sharePathname: '\FS' lanman_virtualname: swv16vip5 operators: 'ADMINISTRATOR@WINVM' primary: primaryvip: xx.xxx.xx.xxx fileshare_vip: xx.xxx.xx.xxx nic: - xxxxxxxx-xx: 'xx-xx-xx-xx-xx-xx' - xxxxxxxx-xx: 'xx-xx-xx-xx-xx-xx' netmask: 255.255.252.0 secondary: secondaryvip: xx.xxx.xxx.xxx fileshare_vip: xx.xxx.xxx.xxx nic: - xxxxxxxx-xx: 'xx-xx-xx-xx-xx-xx' - xxxxxxxx-xx: 'xx-xx-xx-xx-xx-xx' netmask: 255.255.252.0</pre> | Optional |
| clusterlist | Specify a list containing the name of clusters having a GCO setup for cluster failover. | Mandatory |

Table 4-2 vvrresource module keywords (*continued*)

| Name | Description | Mandatory/Optional |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| mountpath | Specify the path where the volume is mounted. | Mandatory |
| sharename | Specify a name that is used to share the volume remotely. | Mandatory |
| lanman_virtualname | Specify the virtual host name needed for a lanman resource in VCS. | Mandatory |
| operators | Specify a user who has permissions to changes the settings of the VCS resource. | Mandatory |
| primary | Specify information about the resources in the primary site. The NICs, MACs, and VIPs are configured to the primary site. | Mandatory |
| secondary | Specify information about the resources in the primary site. The NICs, MACs, and VIPs are configured to the secondary site. | Mandatory |
| factors | <p>This attribute is used to collect system-related data from the cluster servers. Provide the following value to the attribute:</p> <pre> "{{ groups['all'] map('extract', hostvars, ['facts','infoscale_facts']) select() list }}" </pre> | Mandatory |