

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

Contents

Chapter 1	Preparing to use Ansible for InfoScale	5
	Introduction to Ansible	5
	Downloading Ansible modules for InfoScale	6
	Before you begin	6
Chapter 2	Installing InfoScale using Ansible	7
	Ansible modules for Installing InfoScale	7
	List of pre-defined keywords	9
Chapter 3	Configuring InfoScale components using Ansible	
	12
	Ansible modules for configuring InfoScale	12
	List of pre-defined keywords	14
Chapter 4	Configuring InfoScale features using Ansible	16
	Ansible modules for configuring features in InfoScale	16
	List of pre-defined keywords	19

Preparing to use Ansible for 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 InfoScale 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_infoscalse_win: module: site_factors register: facts - name: Deploy "{{ vtas_solution }}" veritas_infoscalse_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_infoscalse_win: module: site_factors register: facts - name: InfoScale Licensing veritas_infoscalse_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_infoscalse_win: module: site_factors register: facts - name: Deploy "{{ vtas_solution }}" veritas_infoscalse_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: <code>\\<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</code>	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 components using Ansible

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 using Ansible

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