LoadMaster Ansible Reference Guide

Reference Guide

Copyright Notices

Table of Contents

1 Introduction

Ansible is an open source automation platform. It can help with configuration management, application deployment, and task automation. In Kemp, we use Ansible to configure LoadMasters by running playbook configurations that are pushed out to LoadMasters through Kemp 360 Central.

First you define your layout in the Ansible playbook. When you run the playbook it calls Application Program Interface (API) commands on Kemp 360 Central, which then configures the LoadMasters connected to Kemp 360 Central.

Kemp have developed the following modules to be used in Ansible playbooks:

- Virtual Service
- Sub Virtual Service (SubVS)
- Real Server
- Upload Certificate
- Add Header Rule
- Delete Header Rule
- Replace Body Rule
- Replace Header Rule
- Match Content Rule
- Modify URL Rule

Requesting the API Key

To get the API key for Ansible, execute the following API command using your Kemp 360 Central credentials:

Make a curl request against your installation of Kemp 360 Central in the following way:

```
curl "https://{CENTRAL}/api/v1/user/authenticate/" --data "
{""username"":""admin"",""password"":""{PASSWORD}""}"
```

You should see a response similar to below:

```
{
"apikey": "abc123",
"id": 1,
"success": true
}
```

2 Modify a Virtual Service on a LoadMaster

2.1 Synopsis

This module adds or modifies a Virtual Service on a LoadMaster. The minimum supported LoadMaster firmware version is 7.2.47.0.

2.2 Parameters

Parameter	Choices/ Defaults	Comments
allow_https_2 str	Choices: • Y: Enabled • N: Disabled	Enable HTTP/2 for this Virtual Service. SSL Acceleration must be enabled before HTTP/2 can be enabled. The **BestPractices** cipher set should be used when HTTP/2 is enabled.
central_address str/required		The IP address of the Kemp 360 Central that the LoadMaster is added to.
central_api_key str/required		Admin-level API Key to access API services on Kemp 360 Central.
central_username str/required		Username for Kemp 360 Central that is linked to the given API key.
cert_name str		Identifier (name) of a preexisting certificate on the LoadMaster to

		assign to the Virtual Service.
check_host str		The **check_use_11** parameter must be enabled to set the **check_host** value. When using HTTP/1.1 checking, the Real Servers require a Hostname be supplied in each request. If no value is set then this value is the IP address of the Virtual Service.
check_pattern str		When the **check_type** is set to http or https, this corresponds to the **Reply 200 Pattern** in the WUI. This parameter only applies when the HTTP Method is set to GET or POST. When the **check_type** is set to **bdata**: Specify the hexadecimal string that will be searched for in the response. Specify an empty value to unset **check_pattern**.
check_port int		The port to be checked. If a port is not specified, the Real Server port is used. Specify 0 to unset **check_port**.
check_post_data		This parameter is only relevant if the **HTTP**

str		**Method** is set to **POST**. When using the **POST** method, up to 2047 characters of POST data can be sent to the server.
check_type str	**Choices:** • icmp • https • http • tcp • smtp • nntp • ftp • telnet • pop3 • imap • rdp • bdata • ldap • none	Specify which protocol is to be used to check the health of the Real Server. The default value is dependent on the Virtual Service port.
check_url str		When the **check_type** is set to **http** or **https** - by default, the health checker tries to access the URL / to determine if the machine is available. A different URL can be set in the **check_url** parameter. When the **check_type** is set to **bdata**: Specify a hexadecimal string to send to the Real Server. The maximum character length for the **check_url** parameter value is 126 characters.

check_use_11 str	Choices: - N: Disabled - Y: Enabled	By default, the health checker uses HTTP/1.0 when checking the Real Server status. Enabling **check_use_11** means HTTP/1.1 is used (which is more efficient).
check_use_get int	Choices: - 0: HEAD - 1: GET - 2: POST	When accessing the health check URL - the system can use the HEAD, the GET, or the POST method.
cipher_set str	Choices: - Default - Default_NoRc4 - BestPractices - Intermediate_compatibility - Backward_compatibility - WUI - FIPS - Legacy - Null_Ciphers-<NameOfCustomCipherSet>	This parameter can be used to assign a cipher set to a Virtual Service. System-defined cipher sets and custom cipher sets can be assigned using this parameter.
ciphers str		Multiple ciphers can be assigned by inserting a colon between each cipher. When ciphers are assigned in this way, a Cipher Set called **Custom_<VirtualServiceID>** is created/updated. Note: The assigned ciphers list is overwritten when ciphers are added in this way. Ensure to include all ciphers to be assigned.

enable str/required	**Choices:** • N: Disabled • Y: Enabled←	Specify if the Virtual Service should be created in a live (enabled) state.
enhanced_health_checks int	**Choices:** • 0: Disabled • 1: Enabled	Enabling the **enhanced_health_checks** parameter provides an additional health check parameter - **rs_minimum**. If the **enhanced_health_checks** parameter is disabled, the Virtual Service is considered available if at least one Real Server is available. If the **enhanced_health_checks** parameter is enabled, you can specify the minimum number of Real Servers that should be available to consider the Virtual Service to be available.
ensure str/required	Present←	Value set to indicate to Kemp 360 Central that this Virtual Service should always exist. This is set automatically by the module.
force_l7 int	**Choices:** • 0: Disabled • 1: Enabled	Enabling **force_l7** means the Virtual Service runs at Layer 7 and not Layer 4. This

		may be needed for various reasons, including that only Layer 7 services can be non-transparent.
ip str/required		The IPv4 Address to assign to the Virtual Service.
ldap_endpoint str		Specify the name of an LDAP endpoint to use for the health checks. If LDAP is selected as the **check_type**, the server IP address (or addresses) and ports from the LDAP endpoint configuration are used instead of the Real Server IP address and port.
lm_address str/required		IP address and port of the LoadMaster that contains the Virtual Service or SubVS that the Real Server should be created or modified on. The format is 'ip:port'.
match_body_rules list		Names (Identifiers) of Match Body type Content Rules to assign to the Virtual Service. These content rules must exist on the LoadMaster before being assigned to a Virtual Service.
match_length		This parameter is only

int		relevant when the **check_type** is set to **bdata**. By setting this you can specify the number of bytes to find the **check_pattern** within.
need_host_name int	Choices: • 0: Disabled • 1: Enabled	When this parameter is enabled, the hostname is always required to be sent in the TLS client hello message. If it is not sent, the connection is dropped.
nickname str/required	Choices: • 0: Disabled • 1: Enabled	The nickname to assign to the Virtual Service. It must be unique.
ocsp_verify int	Choices: • 0: Disabled • 1: Enabled	Verify (using Online Certificate Status Protocol (OCSP)) that the client certificate is valid.
persist str	Choices: • ssl • cookie, • active-cookie • cookie-src • cookie-hash • cookie-hash-src • url • query-hash • hash • host • header • super • super-src • src	Specify the type of persistence (stickiness) to be used for this Virtual Service.

	- rdp - rdp-src - rdp-sb - rdp-sb-src - udpsip - none	
persist_timeout int		The length of time (in seconds) after the last connection that the LoadMaster remembers the persistence information. Timeout values are rounded down to an even number of minutes. Setting a value that is not a number of whole minutes results in the excess being ignored. Setting a value to less than 60 seconds results in a value of 0 being set, which disables persistency.
port int/required		The port on which the Virtual Service must be active. Can be any valid port number from 3 to 65530, or a wildcard `*`.
preprocess_rules list		Names (Identifiers) of Preprocess type Content Rules to assign to the Virtual Service. These content rules must exist on the LoadMaster before being assigned to a Virtual Service.

protocol str/required	Choices: • tcp: Use the TCP protocol • udp: Use the UDP protocol	The protocol type that this Virtual Service uses.
qos str	Choices: • Normal-Service • Minimize-Cost • Maximize-Reliability • Maximize-Throughput • Minimize-Delay	Quality of Service sets a type of service that deals with packets, which treats and prioritizes the traffic.
request_rules list		Names (Identifiers) of Request type Content Rules to assign to the Virtual Service. These content rules must exist on the LoadMaster before being assigned to a Virtual Service.
response_rules list		Names (Identifiers) of Response type Content Rules to assign to the Virtual Service. These content rules must exist on the LoadMaster before being assigned to a Virtual Service.
rs_minimum int		An integer that specifies how many Real Servers must be up for a Virtual Service or SubVS to be considered up. It is an integer from 0 to N, where N is the number of Real Servers on this particular service. In

		practice, this value is usually 1.
rs_rule_precedence int		This parameter should be used in conjunction with **rs_rule_ precedence_pos**. This parameter is used to specify the name of the existing rule whose position you want to change.
rs_rule_precedence_pos str		This parameter, in conjunction with the **rs_rule_precedence** parameter, is used to change the position of the rule in a sequence of rules. For example, a position of 2 means the rule will be checked second.
schedule str	Choices: • Round-Robin • Weighted-Round-Robin • Least-Connection • Weighted-Least-Connection • Fixed-Weighting • Adaptive-Resource-Based • Source-IP-Hash • Weighted-Response-Time • SDN-Adaptive • URL-Hash	Specify the type of scheduling of new connections to Real Servers that is to be performed.
ssl_acceleration int	Choices: • 0: Disabled • 1: Enabled	Enable SSL handling services for the Virtual Service.
ssl_reencrypt int	Choices • 0: Disabled • 1: Enabled	When this option is enabled, the SSL data stream is re-encrypted

		before sending to the Real Server. This parameter is only valid if SSL Acceleration is enabled.
ssl_rewrite str	Choices • None • http • https	When the Real Server rejects a request with a HTTP redirect, the requesting Location URL may need to be converted to specify HTTPS instead of HTTP (the opposite also applies).
tls_type list	Choices • SSLv3 • TLS1.0 • TLS1.1 • TLS1.2 • TLS1.3	Specify which of the following protocols to support; SSLv3, TLS1.0, TLS1.1, TLS1.2, or TLS1.3.
transparent int	Choices • 0: Disabled • 1: Enabled	(Layer 7 only) When transparency is enabled, connections at the Real Server appear to originate at the client. With transparency disabled, connections originate at the LoadMaster.
use_for_snat int	Choices • 0: Disabled • 1: Enabled	By default, when the LoadMaster is being used to NAT Real Servers, the source IP address used on the internet is that of the LoadMaster. Enabling this option allows the Real Servers configured

		to use the Virtual Service as the source IP address instead. If the Real Servers are configured on more than one Virtual Service which has this option set, only connections to destination port 80 will use this Virtual Service as the source IP address.
vs_type str/required	Choices • gen • http • http/2 • log • ts • tls	This specifies the type of service being load balanced.

2.3 Examples

```
- name: Create a Virtual Service
hosts: localhost
vars:
    central_address: '10.35.23.180'
    central_username: 'admin'
    central_api_key: '4ef39d110474a18639bab'
    lm_address: '10.35.23.2:443'
    ip: '10.35.23.156'
    port: 443
    prot: 'tcp'
tasks:
    - name: Create Virtual Service Pathos on LM
    virtual_service:
        central_address: '{{ central_address }}'
        central_username: '{{ central_username }}'
```

```
central_api_key: '{{ central_api_key }}'
lm_address: '{{ lm_address }}'
enable: 'Y'
nickname: 'Pathos'
ip: '{{ ip }}'
port: '{{ port }}'
protocol: '{{ prot }}'
vs_type: 'http'
ssl_acceleration: 1
check_type: 'icmp'
qos: 'Maximize-Reliability'
transparent: 1
```

2.4 Return Values

The following are the fields unique to this module:

Key	Returned	Description
message str	always	The message response indicating whether the task created or modified the Virtual Service. **Sample:** VS Updated
changed bool	always	A Boolean to indicate whether changes were made during the task **Sample:** true
dataChanged str	when changed is true	The parameters that were changed during the task. **Sample:** {"check_type": "icmp","NickName": "Pathos","SSLAcceleration": "Y", "TlsType": "3", "Transparent": "Y"}
msg str	when task failed	The error message related to why the task failed. **Sample:** The minimum supported LoadMaster firmware version is 7.2.47.0.

2.5 Status

This module is maintained by Kemp Technologies.

3 Modify a SubVS on a LoadMaster

3.1 Synopsis

This module configures a SubVS on a LoadMaster. The minimum supported LoadMaster firmware version is 7.2.47.0. To configure a SubVS on a Virtual Service, the Virtual Service must be defined in your playbook before the SubVS.

3.2 Parameters

Parameter	Choices/ Defaults	Comments
add_via int	Choices: • 0 • 1 • 2 • 3 • 4 • 5 • 6	Corresponds to the add http headers in LM
central_username str/required		The Kemp 360 Central username.
central_api_key str/required		The API key for the user of the Kemp 360 Central machine.
central_address str/required		The IP address of the Kemp 360 Central that the LoadMaster is added to.
enable str	Choices: • Y	Enable the SubVS.

	• N	
lm_address str/required		IP address and port of the LoadMaster that contains the Virtual Service or SubVS that the Real Server should be created or modified on. The format is 'ip:port'.
vs str/required		The IP address of the parent Virtual Service on the LoadMaster.
port int/required		The port of the parent Virtual Service on the LoadMaster value between 3 and 65530.
limit int		The maximum number of open connections that can be sent to a Real Server before it is taken out of rotation; values 0-100000.
nickname str/required		Nickname of a SubVS.
qos int	**Choices** • 0 • 1 • 2 • 4 • 8	Quality of Service sets a type of service that deals with how packets treat and prioritize the traffic.
subnet_originating int	**Choices:** • 0 • 1	When transparency is not enabled, the source IP address of connections to the Real Servers is that of the Virtual Service. When transparency is enabled, the source IP address is the IP address that is initiating connection to the Virtual Service. If the Real Server is on a subnet, and the Subnet Originating Requests option is enabled, then the subnet address of the LoadMaster is used as the

		source IP address.
vs_type str	Choices: • gen • http • http/2 • tls • log	This specifies the type of service being load balanced.
critical int	Choices: • 0 • 1	Enabling this parameter indicates that the Real Server is required for the Virtual Service to be considered available. The Virtual Service is marked as down if the Real Server has failed or is disabled.
check_type str	Choices: • icmp • http • https • tcp • smtp • nntp • ftp • telnet • pop3 • imap • rdp • bdara • ldap • none	Specify which protocol is to be used to check the health of the Real Server.
check_codes str		A space-separated list of HTTP status codes that should be treated as successful when received from the Real Server.
check_port int		The port to be checked. If a port is not specified, the Real Server port is used. Specify 0 to unset check_port.
weight		When using weighted round

int		robin scheduling, the weight of a Real Server is used to indicate what relative proportion of traffic should be sent to the server. Servers with higher values receive more traffic. The weight of a SubVS can also be updated using the **modrs** command - set the Real Server to the number that appears in the Id column for the relevant SubVS in the parent Virtual Service modify screen; values 1-65535.
check_host str		The **check_use_11** parameter must be enabled to set the **check_host** value. When using HTTP/1.1 checking, the Real Servers require a Hostname be supplied in each request. If no value is set, then this value is the IP address of the Virtual Service.
check_pattern str		When the **check_type** is set to **http** or **https** - this corresponds to the **Reply 200 Pattern** in the WUI. This parameter only applies when the **HTTP Method** is set to **GET** or **POST**. When the **check_type** is set to **bdata**: Specify the hexadecimal string, which is searched for in the response. Specify an empty value to unset **check_pattern**.
check_headers str		Specify up to four additional headers/fields that will be sent with each health check request. Separate the pairs with a pipe, for example; **Host:xyc|UserAgent:prq**.

kemp.ax   24

check_use_11 str	Choices: • 0 • 1	By default, the health checker uses HTTP/1.0 when checking the Real Server status. Enabling **check_use_11** means HTTP/1.1 is used (which is more efficient).
enhanced_health_checks int	Choices • 0 • 1	Enabling the **enhanced_health_checks** parameter provides an additional health check parameter - **rs_minimum**. If the **enhanced_health_checks** parameter is disabled, the Virtual Service is considered available if at least one Real Server is available. If the **enhanced_health_checks** parameter is enabled, you can specify the minimum number of Real Servers that should be available to consider the Virtual Service to be available.
rs_minimum int		An integer that specifies how many Real Servers must be up for a Virtual Service or SubVS to be considered up. It is an integer from 0 to *N*, where *N* is the number of Real Servers on this particular service. In practice, this value is usually 1.
extra_header_key str		Specify the key for the extra header to be inserted into every request sent to the Real Servers.
extra_header_value str		Specify the value for the extra header to be inserted into every request sent to the Real Servers.
error_code int		If no Real Servers are available, the LoadMaster can terminate the connection with a HTTP error code. Specify the error code number in this parameter. To

		unset the error code, set the parameter to an empty string.
error_url str		When no Real Servers are available and an error response is sent back to the client, a redirect URL can also be specified.
ldap_endpoint str		Specify the name of an LDAP endpoint to use for the health checks. If LDAP is selected as the **check_type**, the server IP address (or addresses) and ports from the LDAP endpoint configuration are used instead of the Real Server IP address and port.
copy_header_from str		This is the name of the source header field to copy into the new header field before the request is sent to the Real Servers.
copy_header_to str		Used in conjunction with the **copy_header_from** parameter. The name of the header field into which the source header is to be copied.
transparent int	Choices: • 0 • 1	When using Layer 7, when this is enabled - the connection arriving at the Real Server appears to come directly from the client. Alternatively, the connection can be non-transparent, which means that the connections at the Real Server appear to come from the LoadMaster. If a Virtual Service (with or without a SubVS) has SSL re-encrypt enabled, the transparency flag of the Virtual Service has no meaning (re-encryption forces transparency to be off). The

		transparency setting can still be modified by the API and is honored when re-encrypt is disabled on the Virtual Service.
multi_connect int	Choices: • 0 • 1	Enabling this option permits the LoadMaster to manage connection handling between the LoadMaster and the Real Servers. Requests from multiple clients are sent over the same TCP connection. Multiplexing only works for simple HTTP GET operations. This parameter cannot be enabled in certain situations, for example if WAF, ESP, or SSL Acceleration is enabled.
non_local int	Choices: • 0 • 1	By default only Real Servers on local networks can be assigned to a Virtual Service. Enabling this option allows a non-local Real Server to be assigned to the Virtual Service. This option is only available if a non local Real Server is enabled and the Transparent option is disabled on the relevant Virtual Service.
check_url str		When the **check_type** is set to http or https - by default, the health checker tries to access the URL / to determine if the machine is available. A different URL can be set in the **check_url** parameter. When the **check_type** is set to **bdata**: Specify a hexadecimal string to send to the Real Server. The maximum character length for the **check_url** parameter value is 126

		characters.
check_post_data str		This parameter is only relevant if the HTTP Method is set to POST. When using the POST method, up to 2047 characters of POST data can be sent to the server.
check_use_get int	Choices: • 0 • 1 • 2	When accessing the health check URL - the system can use the HEAD, the GET, or the POST method.
persist str	Choices: • ssl • cookie • active-cookie • cookie-src • cookie-hash • cookie-hash-src • url • query-hash • hash • host • header • super • super-src src • rdp • rdp-src • rdp-sb • rdp-sb-src • udpsip • none	Specify the type of persistence (stickiness) to be used for this Virtual Service.
persist_timeout int		The length of time (in seconds) after the last connection that the LoadMaster remembers the persistence information. Timeout values are rounded down to an even number of minutes. Setting a value that is not a number of whole minutes results in the excess being ignored. Setting a

		value to less than 60 seconds results in a value of 0 being set, which disables persistency.
match_len int		This parameter is only relevant when the **check_type** is set to **bdata**. Specify the number of bytes to find the **check_pattern** within; values 0-8000.
stand_by_addr str		Specify the IP address of the 'Sorry' server that is to be used when no other Real Servers are available. This server will not be health checked and is assumed to be always available.
stand_by_port int		Specify the port of the 'Sorry' server.
schedule str	**Choices:** ● Round-Robin ● Weighted-Round-Robin ● Least-Connection ● Weighted-Least-Connection ● Fixed-Weighting ● Adaptive-Resource-Based ● Source-IP-Hash ● Weighted-Response-Time ● SDN-Adaptive ● URL-Hash	Specify the type of scheduling of new connections to Real Servers that is to be performed.
rs_rule_precedence str		This parameter should be used in conjunction with **rs_rule_precedence_pos**. This parameter is used to specify the name of the existing rule whose position you want to change.
rs_rule_precedence_pos int		This parameter, in conjunction with the **rs_rule_precedence** parameter, is used to change the position of the rule in a sequence

		of rules. For example, a position of 2 means the rule is checked second.
selection_rules str		Specify a list of selection rules to add to the SubVS.
request_header_rules str		Add a list of request rules to a SubVS.
response_header_rules str		Add a list of response rules to a SubVS.

3.3 Examples

```
- name: Create a Sub VS
hosts: localhost
vars:
    central_address: '10.35.23.180'
    central_username: 'admin'
    central_api_key: '4ef39d1104767e18639bab'
    lm_address: '10.35.23.2:443'
tasks:
- name: Create SubVS
sub_virtual_service:
    central_address: '{{ central_address }}'
    central_api_key: '{{ central_api_key }}'
    central_username: '{{ central_username }}'
    lm_address: '{{ lm_address }}'
    vs: '10.35.23.100'
    port: 80
    prot: 'tcp'
    nickname: 'Beta'
    vs_type: 'http'
    enable: 'Y'
    enhanced_health_checks: 1
    schedule: 'Round-Robin'
    content_rules: ['matchRedHeader']
```

3.4 Return Values

The following are the fields unique to this module:

Key	Returned	Description
message str	always	The message response indicating whether the task created or modified the SubVS. **Sample:** SubVS Updated
changed bool	always	A Boolean to indicate whether changes were made during the task true
dataChanged str	when changed is true	The parameters that were changed during the task. **Sample:** {"Transparent": "N", "UseforSnat": "N", "VSPort": "0", "VStype": "http", "NickName": "Epsilon"}
msg str	when task failed	The error message related to why the task failed. **Sample:** The minimum supported LoadMaster firmware version is 7.2.47.0.

3.5 Status

This module is maintained by Kemp Technologies.

4 Modify a Real Server on a LoadMaster

4.1 Synopsis

This module adds or modifies a Real Server to Virtual Services and SubVS on a LoadMaster. The minimum supported LoadMaster firmware version is 7.2.47.0. To configure a Real Server on a Virtual Service, the Virtual Service must be defined in your playbook before the Real Server. To configure a Real Server on a SubVS, the SubVS must be defined in your playbook before the Real Server.

4.2 Parameters

Parameter	Choices/ Defaults	Comments
lm_address str/required		The IP address and port of the LoadMaster that contains the Virtual Service or SubVS that the Real Server should be created or modified on. The format is 'ip:port'.
central_address str/required		The IP address of the Kemp 360 Central that the LoadMaster is added to.
username str/required		The Kemp 360 Central username.
api_key str/required		The API key for the user of the Kemp 360 Central machine.
vs_ip str/required		The IP address of the Virtual Service on the provided LoadMaster.
vs_port int/required		The port of the Virtual Service on the provided LoadMaster. Values are between 3 and 65530.
vs_prot str/required	Choices • udp	The protocol of the Virtual Service on the provided LoadMaster.

	• tcp	
rs_ip str/required		The IP address of the Real Server that is being created or modified.
rs_port str/required		The port of the Real Server that is being created or modified. Values are between 3 and 65530.
rs_limit int		The maximum number of open connections that can be sent to a Real Server before it is taken out of rotation. Values are between 0 and 100000.
rs_weight int		When using weighted round robin scheduling, the weight of a Real Server is used to indicate what relative proportion of traffic should be sent to the server. Servers with higher values receive more traffic. The weight of a SubVS can also be updated using the **modrs** command; set the Real Server to the number that appears in the Id column for the relevant SubVS in the parent Virtual Service modify screen.
rs_fw_method str	**Choices** • nat • route	The type of forwarding method used. The default method is NAT. Direct server return can only be used with Layer 4 services.
rs_enable str	**Choices** • Y← • N	Enable or disable the Real Server.
rs_critical int	**Choices** • 0: Disabled • 1: Enabled	Enabling this parameter indicates that the Real Server is required for the Virtual Service to be considered available. The Virtual Service is marked as down if the Real Server has failed or is disabled.
sub_vs_nickname str		To create or modify a Real Server on a SubVS; the nickname of the SubVS must be provided.
addtoallsubvs int	**Choices** • 0: Disabled • 1: Enabled	Enable this option when adding a Real Server to all SubVSs of a Virtual Service; values are 0 or 1.

newport int		The port on the Real Server to be used. Values are between 3 and 65535.
follow int		Specify what Real Server the health check is based on by setting this parameter to the **RsIndex** of the Real Server to be followed. This can either be set to the **RsIndex** of the same Real Server to health check based on that particular Real Server status, or another Real Server can be specified. For example, if Real Server 1 is down, any Real Servers that have their health check based on Real Server 1 are also marked as down, regardless of their actual Real Server status.
content_rules list		A list of content rule names to be added to a Real Server. The names provided must be previously added to the LoadMaster and must be Content Matching rules.

4.3 Examples

```
- name: Create Real Server
hosts: localhost
vars:
      central_address: '10.35.39.21'
      lm_address: '10.35.39.20:443'
      username: 'admin'
      api_key: '699129a26ad34466a4cc'
tasks:
- name: Create Real Server
hosts: localhost
tasks:
- name: Create RS for VS 10.35.39.25:8010
real_server:
      lm_address: '{{ lm_address }}'
      central_address: '{{ central_address }}'
      username: '{{ username }}'
      api_key: '{{ api_key }}'
      vs_ip: '10.35.39.25'
```

```
        vs_port: 8010
        vs_prot: 'tcp'
        rs_ip: '10.35.39.6'
        rs_port: 4006
        rs_limit: 220
```

4.4 Return Values

The following are the fields unique to this module:

Key	Returned	Description
message str	always	The message response indicating whether the task created or modified the Real Server. **Sample:** Real Server 10.35.39.180:8010 created successfully
changed bool	always	A Boolean to indicate whether changes were made during the task **Sample:** true
dataChanged str	when changed is true	The parameters that were changed during the task. **Sample:** {"Addr": "10.35.39.180", "Critical": "N", "DnsName": null, "Enable": "Y", "Follow": "0", "Forward": "nat"}
msg str	when task failed	The error message related to why the task failed. **Sample:** The minimum supported LoadMaster firmware version is 7.2.47.0.

4.5 Status

This module is maintained by Kemp Technologies.

5 Upload a Certificate and Key on a LoadMaster

5.1 Synopsis

This module uploads a certificate and key to a LoadMaster. A certificate and key must be in the same file being uploaded. A certificate upload must be defined in your playbook before being assigned to a Virtual Service.

5.2 Parameters

Parameter	Choices/ Defaults	Comments
api_key str/required		The API key for the user of the Kemp 360 Central machine.
central_ address str/required		The IP address of the Kemp 360 Central that the LoadMaster is added to.
cert_name str/required		The name of the identifier of the cert to upload or replace.
cert_file str/required		Path to the file where the key and cert are stored. This must have both key and cert in the same file.
replace int/required	Choices: • 0 • 1	A Boolean to upload the cert to replace the current cert.
username int/required		The Kemp 360 Central username.
intermediate int	Choices: • 0←	A Boolean to specify if the cert is an intermediate or not.

	• 1	

5.3 Example

```
- name: Upload a certificate to the LoadMaster
hosts: localhost
vars:
        central_address: '10.35.39.21'
        lm_address: '10.35.39.20:443'
    username: 'admin'
    api_key: '699129a26ace3fcd34466a4cc'
    tasks:
    - name: Upload a certificate to the LoadMaster
cert_management:
    lm_address: '{{ lm_address }}'
    central_address: '{{ central_address }}'
    cert_name: 'cert'
    cert_file: '/path/to/cert/test.pem'
    replace: 0
    username: '{{ username }}'
    api_key: '{{ api_key }}'
```

5.4 Return Values

Common return values are documented here; the following are the fields unique to this module:

Key	Returned	Description
message str	always	The message response indicating whether the certificate was uploaded. **Sample:** Certificate uploaded to LoadMaster
changed bool	always	A Boolean to indicate whether changes were made during the task true
msg str	when task failed	The error message related to why the task failed. **Sample:**

Could not add Certificate to LM - Command Failed: Certificate Identifier already exists

5.5 Status

This module is maintained by Kemp Technologies.

6 Add or Modify a Header Rule

6.1 Synopsis

This module adds or modifies addHeaderRules on a LoadMaster. The minimum supported LoadMaster firmware version is 7.2.47.0. Rules must be defined in your playbook before being assigned to Virtual Services, SubVSs, and Real Servers.

6.2 Parameters

Parameter	Choices/ Defaults	Comments
lm_address str/required		The IP address and port of the LoadMaster. The format is 'ip:port'.
central_address str/required		The IP address of the Kemp 360 Central that the LoadMaster is added to.
username str/required		The Kemp 360 Central username.
api_key str/required		The API key for the user of the Kemp 360 Central machine.
name str/required		The name of the AddHeaderRule.
header str/required		The name of the header field to be added.
replacement str/required		The replacement string. You can enter a maximum of 255 characters in this parameter.
only_on_flag int		Range: 1-9. Only try to execute this rule if the specified flag is set. Using the **only_on_flag** and **set_on_match** parameters, it is possible to make rules dependent on each other, that is, only execute a particular rule if another rule

	has been successfully matched.

6.3 Examples

```
- name: Create ReplaceHeaderRule
hosts: localhost
vars:
    central_address: '10.35.39.21'
    lm_address: '10.35.39.20:443'
    username: 'admin'
    api_key: '699129a26ace406fd65ee30a6983fcd34466a4cc'
tasks:
- name: Create ReplaceHeaderRule
replace_header_rule:
    lm_address: '{{ lm_address }}'
    central_address: '{{ central_address }}'
    username: '{{ username }}'
    api_key: '{{ api_key }}'
    name: 'replaceHeaderRule1'
    header: 'name'
    replacement: 'username'
    pattern: '^((http[s]?|ftl):\/)$'
```

6.4 Return Values

The following are the fields unique to this module:

Key	Returned	Description
message str	always	The message response indicating whether the task created or modified the rule. **Sample:** AddHeaderRule with name addHeaderRule1 was created successfully
changed bool	always	A Boolean to indicate whether changes were made during the task **Sample:**

		true
dataChanged str	when changed is true	The parameters that were changed during the task. **Sample:** {"Header": "name","HeaderValue": "username","Name": "addHeaderRule1"}
msg str	when task failed	The error message related to why the task failed. **Sample:** The minimum supported LoadMaster firmware version is 7.2.47.0.

6.5 Status

This module is maintained by Kemp Technologies.

7 Delete Header Rule

7.1 Synopsis

This module adds or modifies a deleteHeaderRule on a LoadMaster. The minimum supported LoadMaster firmware version is 7.2.47.0. Rules must be defined in your playbook before being assigned to Virtual Services, SubVS, and Real Servers.

7.2 Parameters

Parameter	Choices/ Defaults	Comments
lm_address str/required		The IP address and port of the LoadMaster. The format is 'ip:port'.
central_address str/required		The IP address of the Kemp 360 Central that the LoadMaster is added to.
username str/required		The Kemp 360 Central username.
api_key str/required		The API key for the user of the Kemp 360 Central machine.
name str/required		The name of the DeleteHeaderRule.
pattern str		The pattern to be matched.
only_on_flag int		Range: 1-9. Only try to execute this rule if the specified flag is set. Using the **only_on_flag** and **set_on_match** parameters, it is possible to make rules dependent on each other, that is, only execute a particular rule if another rule has been successfully matched.

7.3 Examples

```
- name: Create DeleteHeaderRule
hosts: localhost
```

```
vars:
        central_address: '10.35.39.21'
        lm_address: '10.35.39.20:443'
        username: 'admin'
        api_key: '699129a26ace983fcd34466a4cc'
    tasks:
        - name: Create DeleteHeaderRule
        delete_header_rule:
            lm_address: '{{ lm_address }}'
            central_address: '{{ central_address }}'
            username: '{{ username }}'
            api_key: '{{ api_key }}'
            name: 'deleteHeaderRule1'
            pattern: '^((http[s]?|ftl):\/)$'
```

7.4 Return Values

The following are the fields unique to this module:

Key	Returned	Description
message str	always	The message response indicating whether the task created or modified the rule. **Sample:** DeleteHeaderRule with name deleteHeaderRule1 was created successfully
changed bool	always	A Boolean to indicate whether changes were made during the task **Sample:** true
dataChanged str	when changed is true	The parameters that were changed during the task. **Sample:** {"Name": "deleteHeaderRule1", "Pattern": "^((http[s]?|ftl):\\/)$"}
msg str	when task failed	The error message related to why the task failed. **Sample:**

7.5 Status

This module is maintained by Kemp Technologies.

8 Replace Body Rule

8.1 Synopsis

This module adds or modifies a replaceBodyRule on a LoadMaster. The minimum supported LoadMaster firmware version is 7.2.47.0. Rules must be defined in your playbook before being assigned to Virtual Services, SubVS, and Real Servers.

8.2 Parameters

Parameter	Choices/ Defaults	Comments
lm_address str/required		The IP address and port of the LoadMaster. The format is 'ip:port'.
central_address str/required		The IP address of the Kemp 360 Central that the LoadMaster is added to.
username str/required		The Kemp 360 Central username.
api_key str/required		The API key for the user of the Kemp 360 Central machine.
name str/required		The name of the ReplaceBodyRule.
replacement str/required		The replacement string.
pattern str		The pattern to be matched.
only_on_flag int		Range: 1-9. Only try to execute this rule if the specified flag is set. Using the **only_on_flag** and **set_on_match** parameters, it is possible to make rules dependent on each other, that is, only execute a particular rule if

		another rule has been successfully matched.
case_independent int	Choices: • 0: Disabled • 1: Enabled	Enable this parameter to ignore the case of the strings when comparing.

8.3 Examples

```
- name: Create ReplaceBodyRule
hosts: localhost
vars:
    central_address: '10.35.39.21'
    lm_address: '10.35.39.20:443'
    username: 'admin'
    api_key: '699129a26acd34466a4cc'
tasks:
- name: Create ReplaceBodyRule
replace_body_rule:
    lm_address: '{{ lm_address }}'
    central_address: '{{ central_address }}'
    username: '{{ username }}'
    api_key: '{{ api_key }}'
    name: 'replaceBodyRule1'
    case_independent: 1
    replacement: 'username'
    pattern: '^((http[s]?|ftl):\/)$'
```

8.4 Return Values

The following are the fields unique to this module:

Key	Returned	Description
message str	always	The message response indicating whether the task created or modified the rule. **Sample:** ReplaceBodyRule with name replaceBodyRule1 was created successfully

changed bool	always	A Boolean to indicate whether changes were made during the task **Sample:** true
dataChanged str	when changed is true	The parameters that were changed during the task. **Sample:** {"CaseIndependent": "N","Name": "replaceBodyRule1","Pattern": "^((http[s]?|ftl):\\/)$","Replacement": "username"}
msg str	when task failed	The error message related to why the task failed. **Sample:** The minimum supported LoadMaster firmware version is 7.2.47.0.

8.5 Status

This module is maintained by Kemp Technologies.

9 Replace Header Rule

9.1 Synopsis

This module adds or modifies a replaceHeaderRule to a LoadMaster. The minimum supported LoadMaster firmware version is 7.2.47.0. Rules must be defined in your playbook before being assigned to Virtual Services, SubVS, and Real Servers.

9.2 Parameters

Parameter	Choices/ Defaults	Comments
lm_address str/required		The IP address and port of the LoadMaster. The format is 'ip:port'.
central_address str/required		The IP address of the Kemp 360 Central that the LoadMaster is added to.
username str/required		The Kemp 360 Central username.
api_key str/required		The API key for the user of the Kemp 360 Central machine.
name str/required		The name of the ReplaceHeaderRule.
header str		The header field name where the substitution should be performed.
replacement str/required		The replacement string.
pattern str		The pattern to be matched.
only_on_flag int		Range: 1-9. Only try to execute this rule if the specified flag is set. Using the **only_on_flag** and **set_on_match** parameters, it is possible to make rules dependent on each other, that is, only execute a particular rule if another rule has been successfully matched.

9.3 Examples

```
- name: Create ReplaceHeaderRule
hosts: localhost
vars:
      central_address: '10.35.39.21'
      lm_address: '10.35.39.20:443'
      username: 'admin'
      api_key: '699129a26ace406fd65ee30a6983fcd34466a4cc'
tasks:
- name: Create ReplaceHeaderRule
replace_header_rule:
      lm_address: '{{ lm_address }}'
      central_address: '{{ central_address }}'
      username: '{{ username }}'
      api_key: '{{ api_key }}'
      name: 'replaceHeaderRule1'
      header: 'name'
      replacement: 'username'
      pattern: '^((http[s]?|ftl):\/)$'
```

9.4 Return Values

The following are the fields unique to this module:

Key	Returned	Description
message str	always	The message response indicating whether the task created or modified the rule. **Sample:** ReplaceHeaderRule with name replaceHeaderRule1 was created successfully
changed bool	always	A Boolean to indicate whether changes were made during the task **Sample:** true
dataChanged	when changed	The parameters that were changed during the task.

str	is true	**Sample:** {"Header": "name","Name": "replaceHeaderRule1", "Pattern": "^((http[s]?|ftl):\\/)$",Replacement": "username"}
msg str	when task failed	The error message related to why the task failed. **Sample:** The minimum supported LoadMaster firmware version is 7.2.47.0.

9.5 Status

This module is maintained by Kemp Technologies.

10 Match Content Rule

10.1 Synopsis

This module adds or modifies a matchContentRule on a LoadMaster. The minimum supported LoadMaster firmware version is 7.2.47.0. Rules must be defined in your playbook before being assigned to Virtual Services, SubVS, and Real Servers.

10.2 Parameters

Parameter	Choices/Defaults	Comments
lm_address str/required		The IP address and port of the LoadMaster. The format is 'ip:port'.
central_address str/required		The IP address of the Kemp 360 Central that the LoadMaster is added to.
username str/required		The Kemp 360 Central username.
api_key str/required		The API key for the user of the Kemp 360 Central machine.
name str/required		The name of the MatchContentRule.
match_type str/required	Choices: • regex • prefix • postfix	The name of the MatchContentRule.
include_host str		Prepend the hostname to request URI before performing the match.
ignore_case str		Ignore case when comparing the strings.
negate_match str		Ignore case when comparing the strings.
include_query		Append the query string to the URI

str		before performing a match.
header str/required		The header field name that should be matched. If no header field is set, the default is to match in the URL. Set this to body to match on the body of a request.
pattern str/required		The pattern to be matched.
set_on_match int		If the rule is successfully matched, set the specified flag. Accepted values: 0-9.
only_on_flag int		Range: 1-9. Only try to execute this rule if the specified flag is set. Using the **only_on_flag** and **set_on_match** parameters, it is possible to make rules dependent on each other, that is, only execute a particular rule if another rule has been successfully matched.
must_fail int	Choices: • 0: Disabled • 1: Enabled	If this rule is matched, then always fail to connect.

10.3 Examples

```
    - name: Create ModifyURLRule
  hosts: localhost
  vars:
      central_address: '10.35.39.21'
      lm_address: '10.35.39.20:443'
      username: 'admin'
      api_key: '699129a26acecd34466a4cc'
  tasks:
  - name: Create ModifyURLRule
  match_content_rule:
      lm_address: '{{ lm_address }}'
      central_address: '{{ central_address }}'
```

```
    username: '{{ username }}'
    api_key: '{{ api_key }}'
    name: 'matchContentRule1'
    match_type: 'regex'
    include_host: 'Y'
    ignore_case: 'Y'
    include_query: 'Y'
    header: 'username'
    pattern: '^((http[s]?|ftl):\/)$'
```

10.4 Return Values

The following are the fields unique to this module:

Key	Returned	Description
message str	always	The message response indicating whether the task created or modified the rule. **Sample:** MatchContentRule with name matchContentRule1 was created successfully changed
changed bool	always	A Boolean to indicate whether changes were made during the task **Sample:** true
dataChanged str	when changed is true	The parameters that were changed during the task. **Sample:** {"CaseIndependent": "Y","Header": "username","MatchType": "Regex","Name": "matchContentRule1","Pattern": "^((http[s]?|ftl):\\/)$"}
msg str	when task failed	The error message related to why the task failed. **Sample:** The minimum supported LoadMaster firmware version is 7.2.47.0.

10.5 Status

This module is maintained by Kemp Technologies.

11 Add or Modify a modifyURLRule on a LoadMaster

11.1 Synopsis

This module adds or modifies a modifyURLRule on a LoadMaster. The minimum supported LoadMaster firmware version is 7.2.47.0. Rules must be defined in your playbook before being assigned to Virtual Services, SubVS, and Real Servers.

11.2 Parameters

Parameter	Choices /Defaults	Comments
lm_address str/required		The IP address and port of the LoadMaster. The format is 'ip:port'.
central_address str/required		The IP address of the Kemp 360 Central that the LoadMaster is added to.
username str/required		The Kemp 360 Central username.
api_key str/required		The API key for the user of the Kemp 360 Central machine.
name str/required		The name of the ModifyURLRule.
replacement str/required		How the URL is to be modified.
pattern		The pattern to be matched.
only_on_flag int		Range: 1-9. Only try to execute this rule if the specified flag is set. Using the **only_on_flag** and **set_on_match** parameters, it is possible to make rules dependent on

	each other, that is, only execute a particular rule if another rule has been successfully matched.

11.3 Examples

```
- name: Create ModifyURLRulehosts: localhost
vars:
      central_address: '10.35.39.21'
      lm_address: '10.35.39.20:443'
      username: 'admin'
      api_key: '699129a26accd34466a4cc'
tasks:
      - name : Create ModifyURLRule
      modify_url_rule:
      lm_address: '{{ lm_address }}'
      central_address: '{{ central_address }}'
      username: '{{ username }}'
      api_key: '{{ api_key }}'
      name: 'ModifyURLRule1'
      replacement: 'username'
      pattern: '^((http[s]?|ftl):\/)$'
```

11.4 Return Values

The following are the fields unique to this module:

Key	Returned	Description
message str	always	The message response indicating whether the task created or modified the rule. **Sample:** ModifyURLRule with name ModifyURLRule1 was created successfully
changed bool	always	A Boolean to indicate whether changes were made during the task **Sample:**

		true
dataChanged str	when changed is true	The parameters that were changed during the task. **Sample:** {"Name": "ModifyURLRule1","Pattern": "^((http[s]?|ftl):\\/)$","Replacement": "username"}
msg str	when task failed	The error message related to why the task failed. **Sample:** The minimum supported LoadMaster firmware version is 7.2.47.0.

11.5 Status

This module is maintained by Kemp Technologies.

12 Appendix

To install Ansible, refer to the Ansible Quick Start Guide at
https://docs.ansible.com/ansible/latest/user_guide/quickstart.html.

Last Updated Date

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