



CHAPTER 15

HsrpApp Service

This chapter describes the DCNM web services' API methods for the HsrpApp service.

Information About HsrpApp Service

The Hot Standby Router Protocol (HSRP) allows a transparent failover at the first-hop IP router. The protocol allows hosts to appear to use a single router and to maintain connectivity even if the actual first-hop router fails. HSRP enables two or more devices to work together in a group to provide an illusive virtual router service by sharing a virtual IP address and virtual MAC address. Through election (based on priority), one router (having the highest priority) in the HSRP group is elected as active and another router is elected as standby. Remaining routers will be in listening mode.

APIs are defined with the following categories:

1. Query/Get APIs—Used to query data from the persisted database.
2. Modify APIs—Used to modify existing HSRP group settings.
3. Remove APIs—Used to disassociate HSRP group settings from one or more interfaces in the device.

addHsrpGroupSetting

Adds a HSRP group setting to one or more IpNetworkInterface.

ValidationException is thrown if any of the following situation occurs:

- If ifInstanceIdCol is null or empty or it is not of type InstanceNameId.
- If ifInstanceIdCol is not a valid InstanceNameId of IpNetworkInterface object.
- If setting is null
- If virtualIpAddress or secondaryIpAddress of a HsrpGroupSetting conflicts with the following.
 - IpAddress of IpNetworkInterface.
 - virtualIpAddress of other HsrpGroupSetting.
 - secondaryIpAddress of other HsrpGroupSetting.
- If groupName of a HsrpGroupSetting conflicts with groupName of other HsrpGroupSettings in a device

IntegrityException is thrown if any of the following situation occurs:

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- If `ifInstanceNameIdCol` contains more than one `instanceNameIds` of Interfaces present in a device and
 1. `virtualIpAddress` is not null
 2. `groupName` is not null

`PropertiesException` is thrown if any of the following situation occurs:

- In the `hsrpGroupSetting` object, if any one of the `HsrpGroupSetting` attribute is not valid.

Example:

1. `hsrpGroupName` of a `HsrpGroupSetting` contains a space.

Parameters

`opContext`—Operational context

`setting`—`HsrpGroupSetting` with the parameters that needs to applied to one or more `IpNetworkInterface`

`hni`—`HsrpNetworkInterfaceSetting` with the parameters that needs to applied to one or more `IpNetworkInterface`

`ifInstanceNameIdCol`—List of `InstanceNameId` of one or more `IpNetworkInterface`

Return Value

List of `HsrpGroupSetting`

bindTrackingObjectToHsrpGroupSetting

Binds an existing `HsrpGroup` to track a new object.

`ValidationException` is thrown if any of the following situation occurs:

- If `hsrpInstanceNameId` is null or empty or it is not of type `InstanceNameId`.
- If `objectTrackingInstanceNameId` is not a valid `InstanceNameId` of `ObjectTrackingSetting` object.

Parameters

`opContext`—Operational context

`hsrpInstanceNameIdCol`—List of `InstanceNameId` of `HsrpGroupSetting`

`objectTrackingInstanceNameIdCol`—List of `InstanceNameId` of `ObjectTrackingSetting` object.

`decrementValue`—Decrement Value

Return Value

void

disableHsrpService

Disables `HsrpService` in the device. Given the instance name ID of one or more network elements, `hsrp` will be disabled on those elements. `ValidationException` is thrown if any of the following situation occurs:

- If `neInstanceNameIdCol` is null or empty or it is not of type `InstanceNameId`.

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- If neInstanceNameIdCol does not a valid AbstractNetworkElement InstanceNameId.

Parameters

opContext—Operational context

neInstanceNameIdCol—List of InstanceNameId of hsrp disabled AbstractNetworkElement

Return Value

void

enableHsrpService

Enables HsrpService in the device. Given the instance name ID of one or more network elements, hsrp will be enabled on those elements. This API is to enable "hsrp service" option globally in the device.

ValidationException is thrown if any of the following situation occurs:

- If neInstanceNameIdCol is null or empty or it is not of type InstanceNameId.
- If neInstanceNameIdCol does not a valid AbstractNetworkElement InstanceNameId.

Parameters

opContext—Operational context

neInstanceNameIdCol—List of InstanceNameId of AbstractNetworkElement

Return Value

void

getHsrpAuthenticationSetting

Returns a list of HsrpAuthenticationSetting corresponding to one or more HSRP groups. Given a list of InstanceNameId corresponding to HsrpGroupSetting, API returns a list of HsrpAuthenticationSetting corresponding to the HSRP groups.

ValidationException is thrown if any of the following situation occurs:

- If hsrpSettingInstanceNameIdCol is null or empty or it is not of type InstanceNameId.
- If hsrpSettingInstanceNameIdCol is not a valid InstanceNameId of HsrpGroupSetting object.

Parameters

opContext—Operational context

hsrpSettingInstanceNameIdCol—List of InstanceNameId of HsrpGroupSetting

Return Value

List of HsrpAuthenticationSetting objects. In the returned list of objects, only the following associations will be present, and all other associations will be cleared.

- HSRP group setting corresponding to HsrpAuthenticationSetting
- Key Chain

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getHsrpGlobalSetting

Returns a list of ([@link HsrpGlobalSetting](#)) objects. Each ([@link HsrpGlobalSetting](#)) object will have a Boolean attribute `hsrpServiceEnable` populated which indicates whether HSRP service is enabled/disabled on this device.

Parameters

`opContext`—Operational context

`neInstanceIdCol`—

Return Value

List of `HsrpGlobalSetting` objects.

getHsrpGroupSetting

Returns a list of `HsrpGroupSetting` objects corresponding to a list of `InstanceId`.

`ValidationException` is thrown if any of the following situation occurs:

- If `hsrpSettingInstanceIdCol` is null or empty or it is not of type `InstanceId`.
- If `hsrpSettingInstanceIdCol` is not a valid `InstanceId` of `HsrpGroupSetting` object.

Parameters

`opContext`—Operational context

`hsrpSettingInstanceIdCol`—List of `InstanceId` corresponding to `HsrpGroupSetting`

Return Value

List of `HsrpGroupSetting` objects with all the associations populated.

getHsrpGroupSettingsInNetworkElement

Returns a list of `HsrpGroupSetting` corresponding to HSRP groups configured on a network element.

`ValidationException` is thrown if any of the following situation occurs:

- If `neInstanceId` is null or it is not a valid `InstanceId` of a network element.

Parameters

`opContext`—Operational context

`neInstanceId`—`InstanceId` of the network element

Return Value

List of `HsrpGroupSetting` objects. In the returned list of objects, only the following associations will be present, and all other associations will be cleared.

- IP network interface corresponding to `HsrpGroupSetting`
- HSRP Router Status

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getHsrpRouterStatus

Returns a list of HsrpRouterStatus corresponding to one or more HSRP groups. Given a list of InstanceNameId corresponding to HsrpGroupSetting, API returns a list of HsrpRouterStatus corresponding to the HSRP groups.

ValidationException is thrown if any of the following situation occurs:

- If hsrpSettingInstanceNameIdCol is null or empty or it is not of type InstanceNameId.
- If hsrpSettingInstanceNameIdCol is not a valid InstanceNameId of HsrpGroupSetting object.

Parameters

opContext—Operational context

hsrpSettingInstanceNameIdCol—List of InstanceNameId of HsrpGroupSetting

Return Value

List of HsrpRouterStatus.

getHsrpTimers

Returns a list of HsrpTimersSetting objects corresponding to one or more HSRP groups. Given a list of InstanceNameId corresponding to HsrpGroupSetting, API returns a list of HsrpTimersSetting corresponding to the HSRP groups.

ValidationException is thrown if any of the following situation occurs:

- If hsrpSettingInstanceNameIdCol is null or empty or it is not of type InstanceNameId.
- If hsrpSettingInstanceNameIdCol is not a valid InstanceNameId of HsrpGroupSetting object.

Parameters

opContext—Operational context

hsrpSettingInstanceNameIdCol—List of InstanceNameId of HsrpGroupSetting

Return Value

List of HsrpTimersSetting objects

getIpInterfaceWithHsrpSettings

Returns a list of IpNetworkInterface. Given a list of InstanceNameId corresponding to IpNetworkInterface, API returns a list of IpNetworkInterface with HsrpNetworkInterfaceSetting populated.

ValidationException is thrown if any of the following situation occurs:

- If ipInstanceNameIdCol is null or empty or it is not of type InstanceNameId.
- If ipInstanceNameIdCol is not a valid InstanceNameId of IpNetworkInterface object.

Parameters

opContext—Operational context

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ipInstanceNameIdCol—List of InstanceNameId of IpNetworkInterface

Return Value

List of IpNetworkInterface.

getTrackingObject

Returns a list of HsrpGroupTracksObject corresponding to one or more HSRP groups. Given a list of InstanceNameId corresponding to HsrpGroupSetting, API returns a list of HsrpGroupTracksObject corresponding to the HSRP groups.

ValidationException is thrown if any of the following situation occurs:

- If hsrpSettingInstanceNameIdCol is null or empty or it is not of type InstanceNameId.
- If hsrpSettingInstanceNameIdCol is not a valid InstanceNameId of HsrpGroupSetting object.

Parameters

opContext—Operational context

hsrpSettingInstanceNameIdCol—List of InstanceNameId of HsrpGroupSetting

Return Value

List of HsrpGroupTracksObject.

modifyAuthenticationSetting

Modifies HsrpAuthenticationSetting for one or more HsrpGroupSetting. KeyChain associations can also be built with HsrpAuthenticationSetting.

ValidationException is thrown if any of the following situation occurs:

- If hsrpInstanceNameIdCol is null or empty or it is not of type InstanceNameId.
- If hsrpInstanceNameIdCol is not a valid InstanceNameId of HsrpGroupSetting object.
- If setting is null.

Parameters

opContext—Operational context

hsrpInstanceNameIdCol—list of InstanceNameId of HsrpGroupSetting

setting—HSRP authentication setting to be applied to HSRP groups.

Return Value

void

modifyHsrpGroupSetting

Modifies HsrpGroupSetting on one or more network elements.

ValidationException is thrown if any of the following situation occurs:

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- If hsrpGroupSettingCol is null or empty or it is not of type HsrpGroupSetting.
- Only existing HsrpGroupSetting (exist in database) can be modified.
- virtualIpAddress or secondaryIpAddress of a HsrpGroupSetting conflicts with the following.
 1. IpAddress of IpNetworkInterface.
 2. virtualIpAddress of other HsrpGroupSetting.
 3. secondaryIpAddress of other HsrpGroupSetting.
- groupName of a HsrpGroupSetting conflicts with groupName of other HsrpGroupSettings in a device

PropertiesException is thrown if any of the following situation occurs:

- In the hsrpGroupSettingCol collection, if any one of the HsrpGroupSetting attribute is not valid.

Example:

1. hsrpGroupName of a HsrpGroupSetting contains a space.

Parameters

opContext—Operational context

hsrpGroupSettingCol—List of modified HsrpGroupSetting objects.

Return Value

List of HsrpGroupSetting

modifyHsrpTimers

Modifies HsrpTimersSetting for one or more HsrpGroupSetting.

ValidationException is thrown if any of the following situation occurs:

- If hsrpInstanceIdCol is null or empty or it is not of type InstanceNameId.
- If hsrpInstanceIdCol is not a valid InstanceNameId of HsrpGroupSetting object.
- If hsrpTimers is null.

Parameters

opContext—Operational context

hsrpInstanceIdCol—List of InstanceNameId of HsrpGroupSetting

hsrpTimers—HSRP timer setting to be applied to HSRP groups.

Return Value

List of updated HsrpTimersSetting objects

modifyIpInterfaceWithHsrpSettings

Given a list of InstanceNameId corresponding to IpNetworkInterface and a HsrpNetworkInterfaceSetting object, API modifies the HsrpNetworkInterfaceSetting associated with a IpNetworkInterface. ValidationException is thrown if any of the following situation occurs:

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- If ipInstanceNameIdCol is null or empty or it is not of type InstanceNameId.
- If ipInstanceNameIdCol is not a valid InstanceNameId of IpNetworkInterface object.

Parameters

opContext—Operational context

ipInstanceNameIdCol—List of InstanceNameId of IpNetworkInterface

hni—HsrpNetworkInterfaceSetting with the parameters that needs to applied to one or more IpNetworkInterface

Return Value

void

removeHsrpGroupSetting

Removes a list of Hsrp Groups HsrppGroupSetting for a IpNetworkInterface.

ValidationException is thrown if any of the following situation occurs:

- If hsrpGroupIdCol is null or empty or it is not of type InstanceNameId.
- If neInstanceNameId is not a valid IpNetworkInterface object.

Parameters

opContext—Operational context

hsrpGroupIdCol—List of InstanceNameId of HsrpGroupSetting

ifInstanceNameId—InstanceNameId of the IpNetworkInterface object

Return Value

void

unbindTrackingObjectFromHsrpGroupSetting

Unbinds a HSRP group from the specified tracked objects so that the status of the group is no longer influenced by the status of the tracked objects.

ValidationException is thrown if any of the following situation occurs:

- If hsrpInstanceNameId is not a valid InstanceNameId of HsrpGroupSetting.
- If objectTrackingInstanceNameId is not a valid InstanceNameId of ObjectTrackingSetting object.

Parameters

opContext—

hsrpInstanceNameIdCol—List of InstanceNameId of HsrpGroupSetting

objectTrackingInstanceNameIdCol—List of InstanceNameId of ObjectTrackingSetting

Return Value

void