



GlbpApp Service

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

Information About GlbpApp Service

The Gateway Load Balancing Protocol (GLBP) is a first-hop routing protocol that provides gateway redundancy and load balancing. GLBP provides redundancy with an active gateway and a standby gateway. Members of a GLBP group elect one gateway to be the active virtual gateway (AVG) for that group. Other members of a GLBP group may act as redundant GLBP devices that will become active if any existing gateway fails. The API categories are as follows:

- Query/Get APIs—Query data from the persistent database.
- Modify APIs—Modify existing GLBP group settings.
- Remove APIs—Disassociate GLBP group setting from one or more interfaces in the device.

addGlbpGroupSetting

Adds a GLBP group setting to one or more IpNetworkInterface.

ValidationException is thrown if any of the following situations 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 or
 1. virtualIpAddress or secondaryIpAddress of a GlbpGroupSetting conflicts with the following.
 - IpAddress of IpNetworkInterface.
 - virtualIpAddress of other GlbpGroupSetting.
 - secondaryIpAddress of other GlbpGroupSetting.
 - NetworkInterface is a Voice VLAN Enabled Interface.
 2. groupName of a GlbpGroupSetting conflicts with groupName of other GlbpGroupSettings in a device

IntegrityException is thrown if any of the following situations occurs:

- If ifInstanceIdCol contains more than one instanceNameIds of Interfaces present in a device and

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- virtualIpAddress is not null
- groupName is not null

PropertiesException is thrown if any of the following situations occurs:

- In the glbpGroupSettingCol collection, if any one of the GlbpGroupSetting attribute is not valid.

Example:

- glbpGroupName of a GlbpGroupSetting contains a space.

Parameters

opContext—Operational context

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

ifInstanceIdCol—List of InstanceNameId of one or more IpNetworkInterface

Return Value

List of InstanceNameId of GlbpGroupSetting

bindTrackingObjectsToGlbpGroupSetting

Binds an existing GlbpGroup to track a new object.

ValidationException is thrown if any of the following situations occurs:

- If glbpSettingInstanceIdCol is null or empty or it is not of type InstanceNameId.
- If glbpSettingInstanceIdCol is not a valid InstanceNameId of GlbpGroupSetting object.

Parameters

opContext—Operational context

objectTrackingSetting—ObjectTrackingSetting object.

glbpInstanceIdCol—List of InstanceNameId of GlbpGroupSetting

Return Value

void

createGlbpGroupSettings

Create a list of GlbpGroupSetting in different network elements.

Following associations are to be provided for the given GlbpGroupSetting:

- NetworkInterfaceReference corresponding to the specified group IpNetworkInterface reference

ValidationException is thrown if any of the following situations occurs:

- If glbpGroupSettingCol is null or empty or it is not of type GlbpGroupSetting.
- virtualIpAddress or secondaryIpAddress of a GlbpGroupSetting conflicts with the following.
- IpAddress of IpNetworkInterface.
- virtualIpAddress of other GlbpGroupSetting.

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- secondaryIpAddress of other GlbpGroupSetting.
- NetworkInterface is a Voice VLAN Enabled Interface.
- groupName of a GlbpGroupSetting conflicts with groupName of other GlbpGroupSettings in a device

PropertiesException is thrown if any of the following situations occurs:

- In the glbpGroupSettingCol collection, if any one of the GlbpGroupSetting attribute is not valid.

Example:

- glbpGroupName of a GlbpGroupSetting contains a space.

Parameters

opContext—Operational context

glbpGroupSettingCol—List of GlbpGroupSetting objects.

Return Value

List of InstanceNameId of GlbpGroupSetting

disableService

Disables GlbpService in the device. Given the instance name ID of one or more network elements, GLBP will be disabled on those elements. ValidationException is thrown if any of the following situations 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 GLBP disabled AbstractNetworkElement

Return Value

void

enableService

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

ValidationException is thrown if any of the following situations 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

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Return Value

void

getActiveTimers

Returns a list of ActiveTimers objects corresponding to one or more GLBP groups. Given a list of InstanceNameId corresponding to GlbpGroupSetting, API returns a list of ActiveTimers corresponding to the GLBP groups.

ValidationException is thrown if any of the following situations occurs:

- If glbpSettingInstanceNameIdCol is null or empty or it is not of type InstanceNameId.
- If glbpSettingInstanceNameIdCol is not a valid InstanceNameId of GlbpGroupSetting object.

Parameters

opContext—Operational context

glbpSettingInstanceNameIdCol—List of InstanceNameId of GlbpGroupSetting

Return Value

List of ActiveTimers objects

getAllGlbpGroupSettings

Returns a list of GlbpGroupSetting corresponding to GLBP groups configured on all the managed network elements.

Parameters

opContext—Operational context

Return Value

List of GlbpGroupSetting 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 GlbpGroupSetting
- GLBP Gateway Status
- GLBP Forwarder Status

getAllGlbpGroupsInNetwork

Returns all GLBP groups configured in a network. Returns a list of GlbpGroup. GlbpGroup contains the GLBP group ID and a collection of GlbpGroupSetting corresponding the GLBP group members.

Parameters

opContext—Operational context

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Return Value

List of GlbpGroup. 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 GlbpGroupSetting
- GLBP Gateway Status
- GLBP Forwarder Status

getForwarderStatus

Returns a list of GlbpForwarderStatus for a specified GLBP group on a network element. Given the InstanceNameId of GlbpGroupSetting, returns a list of GlbpForwarderStatus.

ValidationException is thrown if any of the following situations occurs:

- If glbpSettingInstanceNameIdCol is null or empty or it is not of type InstanceNameId.
- If glbpSettingInstanceNameIdCol is not a valid InstanceNameId of GlbpGroupSetting object.

Parameters

opContext—Operational context

glbpSettingInstanceNameIdCol—List of InstanceNameId of GlbpGroupSetting

Return Value

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

- GLBP group setting corresponding to GlbpForwarderStatus

getGlbpAuthenticationSetting

Returns a list of GlbpAuthenticationSetting corresponding to one or more GLBP groups. Given a list of InstanceNameId corresponding to GlbpGroupSetting, API returns a list of GlbpAuthenticationSetting corresponding to the GLBP groups.

ValidationException is thrown if any of the following situations occurs:

- If glbpSettingInstanceNameIdCol is null or empty or it is not of type InstanceNameId.
- If glbpSettingInstanceNameIdCol is not a valid InstanceNameId of GlbpGroupSetting object.

Parameters

opContext—Operational context

glbpSettingInstanceNameIdCol—List of InstanceNameId of GlbpGroupSetting

Return Value

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

- GLBP group setting corresponding to GlbpAuthenticationSetting
- Key Chain

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getGlbGatewayStatus

Returns a list of GlbGatewayStatus corresponding to one or more GLBP groups. Given a list of InstanceNameId corresponding to GlbGroupSetting, API returns a list of GlbGatewayStatus corresponding to the GLBP groups.

ValidationException is thrown if any of the following situations occurs:

- If glbpSettingInstanceNameIdCol is null or empty or it is not of type InstanceNameId.
- If glbpSettingInstanceNameIdCol is not a valid InstanceNameId of GlbGroupSetting object.

Parameters

opContext—Operational context

glbpSettingInstanceNameIdCol—List of InstanceNameId of GlbGroupSetting

Return Value

List of GlbGatewayStatus.

getGlbGlobalSetting

Returns a list of GlbGlobalSetting objects.

Parameters

opContext—Operational context

neInstanceNameIdCol—InstanceNameId of the network element

Return Value

List of GlbGlobalSetting objects.

getGlbGroupIdsInNetworkInterface

Returns a list of groupIds of GlbGroupSetting configured in an IpNetworkInterface

Parameters

opContext—Operational context

ifInstanceNameIdCol—InstanceNameId of IpNetworkInterface

Return Value

List of Group Ids of GlbGroupSetting

getGlbGroupSetting

Returns a list of GlbGroupSetting objects corresponding to a list of InstanceNameId.

ValidationException is thrown if any of the following situations occurs:

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- If glbpSettingInstanceNameIdCol is null or empty or it is not of type InstanceNameId.
- If glbpSettingInstanceNameIdCol is not a valid InstanceNameId of GlbpGroupSetting object.

Parameters

opContext—Operational context

glbpSettingInstanceNameIdCol—List of InstanceNameId corresponding to GlbpGroupSetting

Return Value

List of GlbpGroupSetting 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 GlbpGroupSetting
- GLBP Gateway Status
- GLBP Forwarder Status

getGlbpGroupSettingsInNetworkElement

Returns a list of GlbpGroupSetting corresponding to GLBP groups configured on a network element.

ValidationException is thrown if any of the following situations occurs:

- If neInstanceNameId is null or it is not a valid InstanceNameId of a network element.

Parameters

opContext—Operational context

neInstanceNameId—InstanceNameId of the network element

Return Value

List of GlbpGroupSetting 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 GlbpGroupSetting
- GLBP Gateway Status
- GLBP Forwarder Status

getGlbpGroupSettingsInNetworkInterface

Returns a list of groupIds of GlbpGroupSetting configured in an IpNetworkInterface

Parameters

opContext—Operational context

ifInstanceNameIdCol—InstanceNameId of IpNetworkInterface

Return Value

List of GroupSettings configured in the interfaces

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getGlbTimers

Returns a list of GlbTimers objects corresponding to one or more GLBP groups. Given a list of InstanceNameId corresponding to GlbGroupSetting, API returns a list of GlbTimers corresponding to the GLBP groups.

ValidationException is thrown if any of the following situations occurs:

- If glbpSettingInstanceNameIdCol is null or empty or it is not of type InstanceNameId.
- If glbpSettingInstanceNameIdCol is not a valid InstanceNameId of GlbGroupSetting object.

Parameters

opContext—Operational context

glbpSettingInstanceNameIdCol—List of InstanceNameId of GlbGroupSetting

Return Value

List of GlbTimers objects

getGlbVirtualForwarderSetting

Returns a list GlbForwarderSetting for a GLBP group on a network element. Given the InstanceNameId of GlbGroupSetting, returns a list of GlbForwarderSetting corresponding to the group.

ValidationException is thrown if any of the following situations occurs:

- If glbpSettingInstanceNameIdCol is null or empty or it is not of type InstanceNameId.
- If glbpSettingInstanceNameIdCol is not a valid InstanceNameId of GlbGroupSetting object.

Note:

- Forwarder Id , Forwarder Priority and ForwarderMacAddress cannot be configured in Cat-6k

Parameters

opContext—Operational context

glbpSettingInstanceNameIdCol—List of InstanceNameId of GlbGroupSetting

Return Value

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

- GLBP group setting corresponding to GlbForwarderSetting

getGlbWeightingSetting

Returns a list of GlbWeightingSetting corresponding to one or more GLBP groups. Given a list of InstanceNameId corresponding to GlbGroupSetting, API returns a list of GlbWeightingSetting corresponding to the GLBP groups.

ValidationException is thrown if any of the following situations occurs:

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

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- If glbpSettingInstanceIdCol is not a valid InstanceNameId of GlbpGroupSetting object.

Parameters

opContext—Operational context

glbpSettingInstanceIdCol—List of InstanceNameId of GlbpGroupSetting

Return Value

List of GlbpWeightingSetting objects.

getTrackedObjects

Returns a list of objects tracked by a GLBP group. Given the InstanceNameId corresponding to GlbpGroupSetting, returns a list of GlbpGroupTracksNetworkInterface.

ValidationException is thrown if any of the following situations occurs:

- If glbpSettingInstanceIdCol is null or empty or it is not of type InstanceNameId.
- If glbpSettingInstanceIdCol is not a valid InstanceNameId of GlbpGroupSetting object.

Parameters

opContext—Operational context

glbpSettingInstanceIdCol—List of InstanceNameId of GlbpGroupSetting

Return Value

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

- ObjectTrackingSetting can be obtained using GlbpGroupTracksNetworkInterface. The network interface being tracked can be obtained from the associated ObjectTrackingSetting

modifyAuthenticationSetting

Modifies GlbpAuthenticationSetting for one or more GlbpGroupSetting. KeyChain associations can also be built with GlbpAuthenticationSetting.

ValidationException is thrown if any of the following situations occurs:

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

Parameters

opContext—Operational context

glbpSettingInstanceIdCol—list of InstanceNameId of GlbpGroupSetting

glbpTimers—GLBP authentication setting to be applied to GLBP groups.

Return Value

void

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modifyGlbpGroupSetting

Modifies GlbpGroupSetting on one or more network elements.

ValidationException is thrown if any of the following situations occurs:

- If glbpGroupSettingCol is null or empty or it is not of type GlbpGroupSetting.
- Only existing GlbpGroupSetting (exist in database) can be modified.
- virtualIpAddress or secondaryIpAddress of a GlbpGroupSetting conflicts with the following.
 - IpAddress of IpNetworkInterface.
 - virtualIpAddress of other GlbpGroupSetting.
 - secondaryIpAddress of other GlbpGroupSetting.
- NetworkInterface is a Voice VLAN Enabled Interface.
- groupName of a GlbpGroupSetting conflicts with groupName of other GlbpGroupSettings in a device

PropertiesException is thrown if any of the following situations occurs:

- In the glbpGroupSettingCol collection, if any one of the GlbpGroupSetting attribute is not valid.

Example:

- glbpGroupName of a GlbpGroupSetting contains a space.

Parameters

opContext—Operational context

glbpGroupSettingCol—List of modified GlbpGroupSetting objects.

Return Value

void

modifyTimers

Modifies GlbpTimers for one or more GlbpGroupSetting.

ValidationException is thrown if any of the following situations occurs:

- If glbpSettingInstanceNameIdCol is null or empty or it is not of type InstanceNameId.
- If glbpSettingInstanceNameIdCol is not a valid InstanceNameId of GlbpGroupSetting object.
- If glbpTimers is null.

Parameters

opContext—Operational context

glbpSettingInstanceNameIdCol—List of InstanceNameId of GlbpGroupSetting

glbpTimers—GLBP timer setting to be applied to GLBP groups.

Return Value

void

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modifyWeightingSetting

Modifies GlbpWeightingSetting for one or more GlbpGroupSetting.

ValidationException is thrown if any of the following situations occurs:

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

Parameters

opContext—Operational context

glbpSettingInstanceIdCol—List of InstanceNameId of GlbpGroupSetting

setting—GLBP weighting setting to be applied to GLBP groups.

Return Value

void

removeGlbpGroupSetting

Removes all GlbpGroupSetting for one or more IpNetworkInterface.

ValidationException is thrown if any of the following situations occurs:

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

Parameters

opContext—Operational context

ifInstanceIdCol—List of InstanceNameId of IpNetworkInterface

Return Value

void

removeGlbpGroupSettingByGroupId

Removes GlbpGroupSetting for a GLBP group ID on one or more NetworkInterface.

ValidationException is thrown if any of the following situations occurs:

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

Parameters

opContext—Operational context

glbpGroupId—GLBP group ID

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ifInstanceNameIdCol—List of InstanceNameId of IpNetworkInterface from which the GLBP group setting has to be removed.

Return Value

void

unbindTrackingObjectsFromGlbpGroupSetting

Unbinds a GLBP 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:

- glbpInstanceNameId is not a valid InstanceNameId of GlbpGroupSetting.
- If objectTrackingInstanceNameIdCol is not a valid InstanceNameId of ObjectTrackingSetting object.

Parameters

opContext—Operational context

glbpInstanceNameId—InstanceNameId of GlbpGroupSetting

objectTrackingInstanceNameIdCol—List of InstanceNameId of ObjectTrackingSetting.

Return Value

void