



VdcApp Service

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

Information About VdcApp Service

A physical device can be configured to look like multiple virtual devices called virtual device contexts (VDCs). A Layer 2, Layer 3, or port channel device interface can be assigned to one and only one VDC. VDCs interact with each other by running protocols on interfaces on which they are interconnected. Each VDC performs all the functions of the physical device. The API categories are as follows:

- Query/Get APIs—Query data from the persistent database.
- Modify APIs—Modify existing VDCs and resource templates.
- Delete APIs—Delete VDCs or resource templates in the device.

bindPortsToVdcs

Binds a list of Ports to the specified VirtualNetworkElement

ValidationException is thrown if any of the following situations occurs:

- If networkInterfaceInstanceIdCol is null or empty or it is not of type InstanceNameId.
- If vdcInstanceId is null or empty or it is not of type InstanceNameId.
- Only existing VirtualNetworkElement/NetworkInterface (exist in database) can be modified.

Parameters

opContext—Operational context

vdcInstanceId—InstanceNameId of VDC to which the corresponding NetworkInterface objects has to be configured.

networkInterfaceInstanceIdCol—List of InstanceNameId of NetworkInterface which will be configured to the given VDC.

Return Value

List of modified NetworkInterface objects that are persisted in the database.

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bindVdcsWithResourceTemplate

Creates VdcResourceLimit from the specified ResourceTemplate and binds with the given VDCs.

ValidationException is thrown if any of the following situations occurs:

- If vdcInstanceNameIdCol is null or empty or it is not of type InstanceNameId.
- If resourceTemplateId is null or empty or it is not of type InstanceNameId.
- Only existing VirtualNetworkElement (exist in database) can be modified.

Parameters

opContext—Operational context

resourceTemplateId—InstanceNameId of resourceTemplate to be configured along with VDC.

vdcInstanceNameIdCol—List of InstanceNameId of VDCs which will be applied with the given resource template.

Return Value

List of that are persisted with the specified resource limits. The returned collection will contain only the following associations and the rest will be cleared:

- VdcResourceLimit corresponding to VirtualNetworkElement
- VirtualNetworkElementStatus corresponding to VirtualNetworkElement
- NetworkInterface present in the VirtualNetworkElement
- AbstractNetworkElementStatus present in the VirtualNetworkElement
- SshServerSetting corresponding to the VirtualNetworkElement

createResourceTemplates

Creates resource templates in the specified device.

ValidationException is thrown if any of the following situations occurs:

- If neInstanceNameId is null or it is not of type InstanceNameId.
- If resourceTemplateCol is null or empty or it is not of type ResourceTemplate.

FeatureException is thrown if any of the following situations occurs:

- if neInstanceNameId is not the InstanceNameId of default VDC.

Parameters

opContext—Operational context

neInstanceNameId—InstanceNameId of default VirtualNetworkElement

resourceTemplateCol—List of new ResourceTemplate Objects.

Return Value

List of InstanceNameIds of ResourceTemplates that are persisted in the database.

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createVdcs

Creates a VDC in the specified device.

FeatureException is thrown if any of the following situations occurs:

- if neInstanceId is not the InstanceNameId of default VDC.

ValidationException is thrown if any of the following situations occurs:

- If neInstanceId is null or it is not of type InstanceNameId.
- If neInstanceId is not a valid VirtualNetworkElement InstanceNameId.

Parameters

opContext—Operational context

neInstanceId—InstanceNameId of the default VirtualNetworkElement

vdcCol—List of VirtualNetworkElement to be created

Return Value

Collection of VirtualNetworkElement that are going to be persisted in the database. The returned collection will have the following associations and the rest will be cleared:

- VdcResourceLimit corresponding to VirtualNetworkElement
- VirtualNetworkElementStatus corresponding to VirtualNetworkElement
- NetworkInterface present in the VirtualNetworkElement
- AbstractNetworkElementStatus present in the VirtualNetworkElement
- SshServerSetting corresponding to the VirtualNetworkElement

createVdcsWithResourceTemplate

Creates VDCs along with the resource limits. Given an InstanceNameId of ResourceTemplate, corresponding VdcResourceLimit will be created along with VDC.

ValidationException is thrown if any of the following situations occurs:

- If resourceTemplateId is null or it is not of type InstanceNameId.
- Only existing ResourceTemplates (exist in database) can be used to create resourceLimits.
- If vdcCol is null or empty or it is not of type VirtualNetworkElement.

Parameters

opContext—Operational context

resourceTemplateId—InstanceNameId of resourceTemplate to be configured along with VDC.

vdcCol—List of VirtualNetworkElement to be created.

Return Value

List of InstanceNameId of VDCs that are persistent in the database.

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deleteResourceTemplates

Deletes one or more resource templates configured in the device.

ValidationException is thrown if any of the following situations occurs:

- If resourceTemplateCol is null or empty or it is not of type InstanceNameId.
- Only existing ResourceTemplates (exist in database) can be modified.

Parameters

opContext—Operational context

resourceTemplateCol—InstanceNameId of ResourceTemplates that are to be deleted.

Return Value

void

deleteVdcs

Deletes one or more VDCs from the device.

ValidationException is thrown if any of the following situations occurs:

- If vdcInstanceNameIdCol is null or empty or it is not of type InstanceNameId.
- Only existing VirtualNetworkElement(exist in database) can be deleted.

Parameters

opContext—Operational context

vdcInstanceNameIdCol—List of InstanceNameId of VirtualNetworkElement that are to be deleted.

Return Value

void

getAllVdcsWithChassis

Gets the list of virtual network elements for the list of specified chassis.

Parameters

opContext—Operational context

InstanceNameId—List of chassis ids

Return Value

List of VirtualNetworkElement

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getResourceTemplatesInNetworkElement

Returns ResourceTemplates configured in the chassis. Given the instanceNameId of the default VDC. The API returns the collection of resource templates configured in the device.

FeatureException is thrown if any of the following situations occurs:

- if neInstanceNameId is not the InstanceNameId of default VDC.

ValidationException is thrown if any of the following situations occurs:

- If neInstanceNameId is null or it is not of type InstanceNameId.
- If neInstanceNameId is not a valid VirtualNetworkElement neInstanceNameId.

Parameters

opContext—Operational context

neInstanceNameId—InstanceNameId of the default VirtualNetworkElement

Return Value

List of ResourceTemplate configured in the default VDC. The returned Collection will contain the following associations and the rest will be cleared:

- TemplateResourceLimit corresponding to ResourceTemplate
- VirtualNetworkElement corresponding to ResourceTemplate
- ResourceTemplate present in the TemplateResourceLimit

getVdcs

Returns VDC's corresponding to their instanceNameId's.

ValidationException is thrown if any of the following situations occurs:

- If vdcInstanceNameIdCol is null or empty or it is not of type InstanceNameId.
- If vdcInstanceNameIdCol is not a valid InstanceNameId of AbstractNetworkElement object.

Parameters

opContext—Operational context

vdcInstanceNameIdCol—InstanceNameId's of VirtualNetworkElement

Return Value

List of VirtualNetworkElement. The returned collection will have the following associations and the rest will be cleared.

- VdcResourceLimit corresponding to VirtualNetworkElement
- VirtualNetworkElementStatus corresponding to VirtualNetworkElement
- NetworkInterface present in the VirtualNetworkElement
- AbstractNetworkElementStatus present in the VirtualNetworkElement
- SshServerSetting corresponding to the VirtualNetworkElement

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getVdcsInChassis

Returns the collection of VirtualNetworkElement for the given chassis.

ValidationException is thrown if any of the following situations occurs:

- If chassisId is null or it is not of type InstanceNameId.
- If chassisId is not a valid Chassis InstanceNameId.

Parameters

opContext—Operational context

neInstanceNameId—InstanceNameId of Chassis.

Return Value

List of VirtualNetworkElement. The returned collection will have the following associations and the rest will be cleared.

- VdcResourceLimit corresponding to VirtualNetworkElement
- VirtualNetworkElementStatus corresponding to VirtualNetworkElement
- NetworkInterface present in the VirtualNetworkElement
- AbstractNetworkElementStatus present in the VirtualNetworkElement
- SshServerSetting corresponding to the VirtualNetworkElement

modifyResourceTemplates

Modifies Resource Templates that are configured in the device.

ValidationException is thrown if any of the following situations occurs:

- If resourceTemplateCol is null or empty or it is not of type ResourceTemplate.
- Only existing ResourceTemplate (exist in database) can be modified.

Parameters

opContext—Operational context

resourceTemplateCol—List of modified ResourceTemplate objects.

Return Value

void

modifyVdcs

Modifies a list of configured VDC's.

ValidationException is thrown if any of the following situations occurs:

- If vneCol is null or empty or it is not of type VirtualNetworkElement.
- Only existing VirtualNetworkElement(exist in database) can be modified.

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Parameters

opContext—Operational context

vneCol—List of Modified VirtualNetworkElement objects

Return Value

void

unbindVdcsWithResourceTemplate

Removes a specified VdcResourceLimit from the VirtualNetworkElement.

ValidationException is thrown if any of the following situations occurs:

- If vneId is null or empty or it is not of type InstanceNameId.
- If vdcResourceId is null or empty or it is not of type InstanceNameId.
- Only existing VdcResourceLimit (exist in database) can be removed.

Parameters

opContext—Operational context

vdcResourceId—InstanceNameId of VdcResourceLimit to be configured along with VDC.

vneId—InstanceNameId of VDC from which the corresponding VdcResourceLimit has to be removed.

Return Value

void

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