



CHAPTER 29

VlanApp Service

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

Information About VlanApp Service

VLANs allow you to partition a LAN into smaller logical broadcast domains. Devices in a VLAN will not receive broadcasts packets from other VLANs even if they are connected to the same physical LAN segment.

The private VLAN feature allows you to segment a VLAN into smaller broadcast domains that share the same subnet. For example, you can partition a VLAN into a primary VLAN and one or more secondary VLANs.

addAllowedVlansOnTrunks

Add a range of VLAN as allowed VLAN on the given ports irrespective of port mode. If the specified VLAN does not exist, then an Incomplete Normal VLAN will be created and bound to the port.

ValidationException is thrown if any of the following situations occurs:

- If portNameIds is null or empty.
- If the elements in the portNameIds is not valid InstanceNameId of SwitchedNetworkInterface.
- If vlanRange is null or empty.
- If the IDs in the vlanRange are out of valid Range.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for InstanceNameIds in portNameIds does not exist.

Parameters

opContext—Operational context.

portNameIds—List of InstanceNameId of the port for which the allowed VLANs are to be added.

vlanRange—IntegerRange of VLAN IDs to be added as allowed VLANs for the given port(e.g. 1-10,20,35,50-120).

Return Value

void

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bindAccessPortsToVlan

Binds the given ports to the specified VLAN. If the specified VLAN does not, an incomplete Normal VLAN will be created.

Following associations will be updated between the Port and VLAN:

- SwitchedNetworkInterfaceBelongsToVlan with association type as access

ValidationException is thrown if any of the following situations occurs:

- If portNameIds is null or empty or the elements in the list are not of type InstanceNameId.
- If elements in portNameIds is not a valid InstanceNameId of SwitchedNetworkInterface object.
- If vlanId is null.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for InstanceNameIds in portNameIds does not exist.

Parameters

opContext—Operational context.

portNameIds—List of InstanceNameId of SwitchedNetworkInterfaces which has to bound to the specified VLAN.

vlanId—Integer VLAN ID of the VlanExternalto which the given access ports have to be bound.

Return Value

List of SwitchedNetworkInterfaceBelongsToVlan objects.

bindHostPortsToPrivateVlan

Binds PVLAN host ports to a secondary VLAN. If the specified VLAN does not, an incomplete Normal VLANVlanExternal will be created.

Following associations will be updated between the Port and VLAN:

- SwitchedNetworkInterfaceBelongsToVlan with association type as PVLAN_HOST_PRIMARY for primary VLAN and PVLAN_HOST_SECONDARY for the given secondary VLAN will be created.

ValidationException is thrown if any of the following situations occurs:

- If portNameIds is null or empty or the elements in the list are not of type InstanceNameId.
- If elements in portNameIds is not a valid InstanceNameId of SwitchedNetworkInterface object.
- If corresponding object for the elements in portNameIds does not exist.
- The given ports should be in Host mode.
- If secondaryVlanNameId or primaryVlanId is null.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for InstanceNameIds in portNameIds does not exist.

Parameters

opContext—Operational context.

primaryVlanId—VLAN ID of the PrimaryVlan to be bound to the given ports.

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secondaryVlanId—VLAN ID of the SecondaryVlan to be bound to the given ports.

secondaryHostPortNameIdCol—List of InstanceNameId of SwitchedNetworkInterfaces in Host Mode.

Return Value

List of SwitchedNetworkInterfaceBelongsToVlan objects.

bindNativeVlanOnTrunks

Set the specified VLAN as native VLAN for the given ports. If the specified VLAN does not exist, then an Incomplete Normal VLAN will be created and bound to the ports.

ValidationException is thrown if any of the following situations occurs:

- If portNameIds is null or empty.
- If the elements in the portNameIds is not valid InstanceNameId of SwitchedNetworkInterface
- If vlanRange is null or empty.
- If the IDs in the vlanRange are out of valid Range.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for InstanceNameIds in portNameIds does not exist.

Parameters

opContext—Operational context.

portNameIds—List of InstanceNameIds of SwitchedNetworkInterface ports.

vlanId—Integer ID of the VLAN to be set as native VLAN for the given ports.

Return Value

void

bindPromiscuousPortsToPrivateVlan

Binds Promiscuous ports to the given primary VLAN and the given secondary VLANs will also be mapped to the created promiscuous association. If the specified VLAN does not exist, an incomplete Normal VLAN will be created.

Following associations will be updated between the Port, primary VLAN and secondary VLANs:

- PromiscuousPvlanMapping

ValidationException is thrown if any of the following situations occurs:

- If portNameIds is null or empty or the elements in the list are not of type InstanceNameId.
- If elements in portNameIds is not a valid InstanceNameId of SwitchedNetworkInterface object.
- If primaryVlanId is null or not InstanceNameId of PrimaryVlan or corresponding object does not exist.
- If secondaryVlanIds is null or empty.
- If any of the VLANIds in secondaryVlanIds overlaps with primaryVlanId.

IntegrityException is thrown if any of the following situations occurs:

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- If the corresponding object for InstanceNameIds in portNameIds does not exist.

Parameters

opContext—Operational context.

portNameIds—List of InstanceNameId of SwitchedNetworkInterfaces.

primaryVlanId—Integer VLAN of the primary VLAN to which the given promiscuous ports are added.

secondaryVlanIds—IntegerRange of secondary VLAN IDs (e.g. 1-10,20,35,50-120) to be mapped to the promiscuous port.

Return Value

List of PromiscuousPvlanMappings.

bindSecondaryVlansToPrimary

Binds the given secondary VLANs to the specified primary VLAN.

If the specified secondary VLAN object does not exist, incomplete secondary VLAN object will be created and bound.

ValidationException is thrown if any of the following situations occurs:

- If primaryVlanNameId is null or not InstanceNameId of primary VLAN.
- In case of Catalyst 6500 series switches, if the VTP Mode is in client / server.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for primaryVlanNameId does not exist.

Parameters

opContext—Operational context.

primaryVlanNameId—InstanceNameId of the primary VLAN.

secondaryVlanRange—IntegerRange of Secondary VLAN IDs to be bound with the given primary VLAN (e.g. 1-10,20,35,50-120).

Return Value

void

bindSecondaryVlansToVlanNetworkInterface

Binds a set of secondary VLANs to an VlanNetworkInterface (SVI).

ValidationException is thrown if any of the following situations occurs:

- If vlanNetworkInterfaceNameId is null or not valid InstanceNameId of VlanNetworkInterface.
- If secondaryVlanId is null or the list is empty.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding VlanNetworkInterface object for the vlanNetworkInterfaceNameId does not exist.

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Parameters

opContext—Operational context.

vlanNetworkInterfaceNameId—InstanceNameId of VlanNetworkInterface to which the Secondary VLANs are to be bound.

secondaryVlanNameIds—List of InstanceNameId of secondary VLANs to be bound to the VlanNetworkInterface.

Return Value

void

createSecondaryVlans

Create a list of secondary VLANs for a given primary InstanceNameId. A primary VLAN must exist to create a secondary VLAN.

ValidationException is thrown if any of the following situations occurs:

- If secVlanCol is null or empty.
- If elements in secVlanCol is not a valid type of SecondaryVlan.
- If the secondaryVlanType is null.
- In case of Catalyst 6500 series switches, if the VTP Mode is in client / server.
- If the VLAN name is not unique in the device.
- If the specified VLAN ID overlap with VLAN ID of an Internal VLAN.
- If the VLAN is a default VLAN, e.g.: VLAN 1, VLAN 1002 in Catalyst 6500 series switches.
- If the specified primary VLAN have more than 1 Isolated VLAN mapped to it

IntegrityException is thrown if any of the following situations occurs:

- If a VLAN with same vlanId in the specified device already exist.
- If the corresponding object for primaryVlanNameId does not exist.

Parameters

opContext—Operational context.

primaryVlanNameId—PrimaryVlan object for which secondary VLAN have to be associated.

secVlanCol—List of SecondaryVlan object which need to be created and associated to a primary VLAN.

Return Value

List of InstanceNameId of the newly created SecondaryVlan.

createVlanInNetwork

Create a normal VLAN on a set of network elements. If network elements are not specified, the VLAN will be created on all the managed network elements.

ValidationException is thrown if any of the following situations occurs:

- If vlanId is null.

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- If elements in neNameIds is not a valid InstanceNameId of AbstractNetworkElement.
- If the VLAN name is not unique in the device.
- If the specified VLAN ID overlap with VLAN ID of an Internal VLAN.
- In case of Catalyst 6500 series switches, if the VTP Mode is in client / server.
- If the vlanId overlap with any of the default VLAN IDs. E.g.: VLAN 1, VLAN 1002(In case of Catalyst 6500 series switches) etc.

IntegrityException is thrown if any of the following situations occurs:

- If a VLAN with same vlanId in the specified device already exist.
- If the corresponding object for InstanceNameIds in neNameIds does not exist.

Parameters

opContext—Operational context.

neNameIds—InstanceNameIds of network elements on which the VLAN is to be created. If null or empty, VLAN will be created on all the managed network elements.

vlanId—ID of VLAN to be created.Integer.

vlanName—Description of the VLAN. If null, VLAN will be created with default name, e.g.,VLAN keyword appended with the VLAN ID is set.

Return Value

List of InstanceNameId corresponding to the newly created VLANs.

createVlans

Create a list of VLANs in a network elements. This method can be used to create normal as well as private VLANs. None of the associations like (SVI, secondary VLAN) will be considered in this API.

Following associations are to be provided for the given VLAN:

- Network Element reference

ValidationException is thrown if any of the following situations occurs:

- If vlanCol is null or empty.
- If elements in vlanCol is not a valid type of VlanExternal or with AbstractNetworkElement reference not specified.
- If the VLAN name is not unique in the device.
- If the specified VLAN ID overlap with VLAN ID of an Internal VLAN.
- In case of Catalyst 6500 series switches, if the VTP Mode is in client / server.
- If the VLAN is a default VLAN. E.g.: VLAN 1, VLAN 1002(In case of Catalyst 6500 series switches) etc.

IntegrityException is thrown if any of the following situations occurs:

- If a VLAN with same vlanId in the specified device already exist.
- If the corresponding object to the specified AbstractNetworkElement does not exist.

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Parameters

opContext—Operational context.

vlanCol—List of VlanExternal objects to be created.

Return Value

List of InstanceNameId corresponding to the newly created VLANs.

deleteAllowedVlansOnTrunks

Delete a range of VLANs from the allowed-VLAN list of trunk ports. The VLAN can be of any type. If all the VLANs are removed from the allowed VLANs list for any port, allowed VLANs will be set to default (1-4094).

Following validations will be done:

- The given VLAN should be a Normal VLAN only.
- The given port should be a Trunk port only.

ValidationException is thrown if any of the following situations occurs:

- If portNameIds is null or empty.
- If the elements in the portNameIds is not valid InstanceNameId of SwitchedNetworkInterface.
- If vlanRange is null or empty.
- If the IDs in the vlanRange are out of valid Range.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for InstanceNameIds in portNameIds does not exist.

Parameters

opContext—Operational context.

portNameIds—List of InstanceNameIds of the port from which the allowed VLANs are to be deleted.

vlanRange—IntegerRange of VLAN IDs to be deleted from the allowed VLANs list for the given port (e.g. 1-10,20,35,50-120).

Return Value

void

deleteVlans

Deletes a collection of VLANs. If the VLAN is a primary VLAN, all the associated secondary VLANs will be deleted. If the specified VLAN have associations, then the VLAN will be set to Incomplete state and its associations are preserved.

ValidationException is thrown if any of the following situations occurs:

- If vlanNameIds is null or empty.
- If the elements in the vlanNameIds is not a InstanceNameId of VLAN
- If the specified VLAN is an internal or default VLAN.

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- In case of Catalyst 6500 series switches, if the VTP Mode is in client / server.
- If the VLAN name overlaps with any of the VLANs in the device.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding VLAN objects for the InstanceNameId in the vlanNameIds does not exist.

Parameters

opContext—Operational context.

vlanNameIds—List of InstanceNameId of the VLAN to be deleted.

Return Value

void

deleteVlansInNetwork

Deletes a collection of VLANs from a list of network elements. If the VLAN is a primary VLAN, all the associated secondary VLANs will be unbound. Also if the primary VLAN has any incomplete Secondary VLANs bound to it, then the incomplete VLANs will be deleted.

ValidationException is thrown if any of the following situations occurs:

- If vlanIds is null or empty.
- If the specified VLAN is an internal or defaultVLAN.
- In case of Catalyst 6500 series switches, if the VTP Mode is in client / server.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding AbstractNetworkElement objects for the InstanceNameId in the neNameIds does not exist.

Parameters

opContext—Operational context.

vlanIds—IntegerRange of VLANs to be deleted.

neNameIds—List of InstanceNameId of the network elements from which the VLAN has to be deleted. If null, VLAN will be deleted from all network elements.

Return Value

void

disablePrivateVlanService

Disables Private VLAN Service in the network element. Service Enabling/Disabling is supported in DCOS platform. If this API is called with the network elements of Catalyst 6500 series switches then FeatureException will be thrown.

ValidationException is thrown if any of the following situations occurs:

- If neInstanceNameIdCol is null.
- If neInstanceNameIdCol does not contain a valid network element InstanceNameId.

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- If the network element does not exist in the database.

Parameters

opContext—Operational context.

neInstanceNameIdCol—Collection of InstanceNameId of the network elements.

Return Value

void

enablePrivateVlanService

Enables private VLAN service for the network element. Service Enabling/Disabling is supported in DCOS platform. If this API is called with the network elements of Catalyst 6500 series switches then FeatureException will be thrown.

ValidationException is thrown if any of the following situations occurs:

- If neInstanceNameIdCol is null.
- If neInstanceNameIdCol does not contain a valid network element InstanceNameId.
- If the network element does not exist in the database.

Parameters

opContext—Operational context.

neInstanceNameIdCol—Collection of InstanceNameId of the network elements.

Return Value

void

getActivePortsCountInVlans

Returns List of number of active ports present for given VLAN InstanceNameId list.

Count will be done for the ports based on the VLAN type:

- Normal VLAN—number of active access ports.
- Primary VLAN—number of active promiscuous ports.
- Secondary VLAN—number of active PVLAN host ports.

ValidationException is thrown if any of the following situations occurs:

- If vlanNameIds is null or empty or the elements in the list are not of type InstanceNameId.
- If elements in vlanNameIds is not a valid InstanceNameId of VlanExternal object.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for InstanceNameIds in vlanNameIds does not exist.

Parameters

opContext—Operational context.

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vlanNameIds—List of InstanceNameId of the VLAN objects for which the active port counts are to be queried.

Return Value

List of active port counts

getInactivePortsCountInVlans

Returns List of number of inactive ports present for given VLAN InstanceNameId list.

Count will be done for the ports based on the VLAN type:

- Normal VLAN—number of inactive access ports.
- Primary VLAN—number of inactive promiscuous ports.
- Secondary VLAN—number of inactive PVLAN host ports.

ValidationException is thrown if any of the following situations occurs:

- If vlanNameIds is null or empty or the elements in the list are not of type InstanceNameId.
- If elements in vlanNameIds is not a valid InstanceNameId of VlanExternal object.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for InstanceNameIds in vlanNameIds does not exist.

Parameters

opContext—Operational context.

vlanNameIds—List of InstanceNameId of the VLAN objects for which the Inactive port counts are to be queried.

Return Value

List of Inactive port counts.

getInternalVlansInNetworkElement

Returns Internal VLAN objects corresponding to the network element.

Associations will not be available for the VlanInternal Objects.

ValidationException is thrown if any of the following situations occurs:

- If neNameId is null or not an InstanceNameId of AbstractNetworkElement.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for neNameId does not exist.

Parameters

opContext—Operational context.

neNameId—InstanceNameId of network element for which Internal VLANs are to be queried.

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Return Value

Ordered list of VlanInternal objects.

getPortsCountInVlans

Returns List of number of ports present for given VLAN InstanceNameId list.

Count will be done for the ports based on the VLAN type:

- Normal VLAN—number of access ports with given status.
- Primary VLAN—number of promiscuous ports with given status.
- Secondary VLAN—number of PVLAN host ports with given status.

ValidationException is thrown if any of the following situations occurs:

- If vlanNameIds is null or empty or the elements in the list are not of type InstanceNameId.
- If elements in vlanNameIds is not a valid InstanceNameId of VlanExternal object.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for InstanceNameIds in vlanNameIds does not exist.

Parameters

opContext—Operational context.

vlanNameIds—List of InstanceNameId of the VLAN objects for which the port counts based on the NetworkInterfaceOperationStatus are to be queried.

status—NetworkInterfaceOperationStatus.If null,returns number of ports in the VLAN irrespective of operational status.

Return Value

List of port counts

getPortsInVlan

Returns a list of ports belonging to a VLAN. Returns a collection of SwitchedNetworkInterface (Physical Ports and Port Channel) based on the VLAN type provided:

- a) Normal VLAN—Access ports
- b) Primary VLAN—Promiscuous ports
- c) Secondary VLAN—Private VLAN host ports

Following associations will be available for each NetworkInterface:

- NetworkInterfaceName.
- NetworkInterfaceStatus.
- PromiscuousPvlanMapping. Secondary VLANs collection will be populated for Promiscuous PVLAN mapping

ValidationException is thrown if any of the following situations occurs:

- If vlanNameId is null or not a valid InstanceNameId of VlanExternal.

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IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for vlanNameId does not exist.

Parameters

opContext—Operational context.

vlanNameId—InstanceNameId of VlanExternal from which the ports are to be queried.

Return Value

List of SwitchedNetworkInterface ports that are associated for the given VLAN InstanceNameId.

getPrivateVlanServiceState

Returns list of boolean stating the corresponding PVLAN service is enabled or not.

ValidationException is thrown if any of the following situations occurs:

- If neInstanceNameIdCol is null.
- If neInstanceNameIdCol does not contain a valid network element InstanceNameId.
- If the network element does not exist in the database.

Parameters

opContext—Operational context.

neInstanceNameIdCol—Collection of InstanceNameId of the network elements.

Return Value

void

getPrivateVlansInNetworkElement

Returns private VLANs configured in a network element. Given the InstanceNameId of the network element, returns a List of primary VLANs and their corresponding secondary VLANs.

Following associations will be available for each VLAN:

- VLAN status
- Secondary VLANs collection incase of primary VLAN. This secondary VLAN references VlanStatus
- Primary VLAN reference incase of Secondary VLAN. This primary VLAN references VlanStatus

ValidationException is thrown if any of the following situations occurs:

- If neNameId is not InstanceNameId of AbstractNetworkElement.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for neNameId does not exist.

Parameters

opContext—Operational context.

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neNameId—InstanceNameId of network element for which Private VLANs are to be queried.

Return Value

Ordered List of private VLANs PrimaryVlan and SecondaryVlan objects.

getSecondaryVlans

Returns secondary VLANs of one or more primary VLANs.

Following associations will be available for each VLAN:

- VLAN status

ValidationException is thrown if any of the following situations occurs:

- If pvlanNameIds is null or empty or it is not of type InstanceNameId.
- If elements in pvlanNameIds is not a valid InstanceNameId of PrimaryVlan object.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for InstanceNameIds in pvlanNameIds does not exist.

Parameters

opContext—Operational context.

pvlanNameIds—List of PrimaryVlan InstanceNameIds whose secondary VLANs has to be queried.

Return Value

List of SecondaryVlan objects with its associated PrimaryVlan reference.

getTrunksForVlan

Returns trunk ports allowing a VLAN.

Returns a List of SwitchedNetworkInterface based on the VLAN type:

Normal VLAN—Trunk ports which allow the VLAN

Following associations will be available for each NetworkInterface:

- NetworkInterfaceName
- NetworkInterfaceStatus

ValidationException is thrown if any of the following situations occurs:

- If vlanNameId is null or not a valid InstanceNameId of VlanExternal.
- If the given VLAN is private VLANs (PrimaryVlan or SecondaryVlan).

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for vlanNameId does not exist.

Parameters

opContext—Operational context.

vlanNameId—InstanceNameId of VlanExternal from which the ports are to be queried.

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Return Value

List of SwitchedNetworkInterface.

getVlanGlobalSettings

Returns a list of VLAN global settings for the given network elements.

ValidationException is thrown if any of the following situations occurs:

- If neNameIds is null or empty or the elements in the list are not of type InstanceNameId.
- If elements in the neNameIds are not of InstanceNameId type of AbstractNetworkElement.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for InstanceNameIds in neNameIds does not exist.

Parameters

opContext—Operational context.

neNameIds—InstanceNameId of network elements whose VLAN IDs are to be queried. If null, will return all VLAN IDs from all the managed network elements.

Return Value

List of VlanGlobalSetting objects corresponding to the given network elements.

getVlanIdsInNetwork

Returns IDs of VLANs configured on a set of network elements. This API will return IDs of normal and primary VLANs. No associations will be populated in this API, only VLAN ID range will be returned by this API

ValidationException is thrown if any of the following situations occurs:

- If elements in the neNameIds are not of InstanceNameId type of AbstractNetworkElement.

Parameters

opContext—Operational context.

neNameIds—InstanceNameId of network elements whose VLAN IDs are to be queried. If null, will return all VLAN IDs from all the managed network elements.

Return Value

Range of VLAN IDs IntegerRange

getVlanNetworkInterfaces

Returns a VlanNetworkInterface (SVI) objects corresponding to a list of VLANs

Following associations will be available for each interface:

- Name.
- Interface Status.

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- Secondary VLAN collection.

ValidationException is thrown if any of the following situations occurs:

- If vlanNameIds is null or empty or the elements in the list are not of the type InstanceNameId.
- If elements in vlanNameIds is not a valid InstanceNameId of VlanExternal object.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for InstanceNameIds in vlanNameId does not exist.

Parameters

opContext—Operational context.

vlanNameIds—List of InstanceNameId of VlanExternal objects.

Return Value

List of corresponding VlanNetworkInterface objects for the given VLAN InstanceNameId.

getVlans

Returns corresponding VLAN objects for the given VLAN InstanceNameId list. Only VLAN external objects is allowed in this API.

Following associations will be available for each VLAN:

- VLAN status
- Secondary VLANs collection incase of primary VLAN. This secondary VLAN references VlanStatus
- Primary VLAN reference incase of Secondary VLAN. This primary VLAN references VlanStatus

ValidationException is thrown if any of the following situations occurs:

- If vlanNameIds is null or empty or it is not of type InstanceNameId.
- If elements in pvlanNameIds is not a valid InstanceNameId of VlanExternal object.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for InstanceNameIds in vlanNameIds does not exist.

Parameters

opContext—Operational context.

vlanNameIds—InstanceNameIds of VLANs.

Return Value

List of VlanExternal objects corresponding to the specified InstanceNameId list.

getVlansInNetwork

Returns VLAN objects corresponding to a list of VLAN IDs for a list of network elements. If the VLAN IDs passed is null then the all VLANs are returned for the given network elements. If null is passed for network element InstanceNameId list then VLANs in all the managed network elements are returned.

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Following associations will be available for each VLAN:

- VLAN status
- PVRST Settings
- MST Setting
- Secondary VLANs collection incase of primary VLAN. This secondary VLAN references to VlanStatus and STP settings
- Primary VLAN reference incase of Secondary VLAN. This primary VLAN references VlanStatus and STP settings

ValidationException is thrown if any of the following situations occurs:

- If elements in the neNameIds are not of InstanceNameId type of AbstractNetworkElement.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for InstanceNameIds in neNameIds does not exist.

Parameters

opContext—Operational context.

vlanIdRange—Range of VLAN IDs (e.g. 1-10,20,35,50-120). If null, returns all VLANs.

neNameIds—InstanceNameId list of network elements for which VLAN IDs are to be queried. If null, returns VLANs on all managed network elements.

Return Value

Ordered list of VlanExternal objects.

getVlansInNetworkElement

Returns VLANs configured in a network element. Given the InstanceNameId of the network element, returns a list of following types of VLAN:

- Normal VLAN.
- Private VLAN (Primary and Secondary).

This API will not return any internal VLANs.

Following associations will be available for each VLAN:

- VLAN status
- Secondary VLANs collection incase of primary VLAN. This secondary VLAN references to VlanStatus
- Primary VLAN reference incase of Secondary VLAN. This primary VLAN references VlanStatus

ValidationException is thrown if any of the following situations occurs:

- If neNameId is not InstanceNameId of AbstractNetworkElement.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for neNameId does not exist.

Parameters

opContext—Operational context.

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neNameId—InstanceNameId of network element for which VLANs are to be queried.

Return Value

Ordered List of VlanExternal objects.

getVlansWithSecurityAssociations

Return the security associations corresponding to VLANs.

Following associations will be populated for each VLAN:

- DaiSetting
- DhcpSnoopingSetting

ValidationException is thrown if any of the following situations occurs:

- If vlanNameIds is null or empty or the elements in the list are not of type InstanceNameId.
- If elements in vlanNameIds is not a valid InstanceNameId of VlanExternal object.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for InstanceNameIds in vlanNameIds does not exist.

Parameters

opContext—Operational context.

vlanNameIds—InstanceNameIds of VLANs.

Return Value

List of VlanExternal objects with security associations corresponding to the specified InstanceNameId.

getVlansWithSpanAssociations

Return the SPAN associations corresponding to VLANs.

Following associations will be populated for each VLAN:

- Local SPAN to source VLAN
- Filtered VLAN

Following objects will be populated on other end of LocalSpanSessionAppliesToVlan/ filtered VLAN association:

- LocalSpanSession

ValidationException is thrown if any of the following situations occurs:

- If vlanNameIds is null or empty or it is not of type InstanceNameId.
- If elements in vlanNameIds is not a valid InstanceNameId of VlanExternal object.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for InstanceNameIds in vlanNameIds does not exist.

Parameters

opContext—Operational context.

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vlanNameIds—InstanceNameIds of VLANs.

Return Value

List of VlanExternal objects with SPAN associations corresponding to the specified InstanceNameId.

getVtpGlobalSettings

Returns a list of VTP global settings for the given network elements. VtpGlobalSetting object will be null in Nexus 7000 series switch platform.

ValidationException is thrown if any of the following situations occurs:

- If neNameIds is null or empty or the elements in the list are not of type InstanceNameId.
- If elements in the neNameIds are not of InstanceNameId type of AbstractNetworkElement.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for InstanceNameIds in neNameIds does not exist.

Parameters

opContext—Operational context.

neNameIds—InstanceNameId of network elements whose VLAN IDs are to be queried. If null, will return all VLAN IDs from all the managed network elements.

Return Value

List of VtpGlobalSetting objects corresponding to the given network elements.

modifyAllowedVlansOnTrunks

Modify the existing allowed VLAN for the list of given ports irrespective of port mode. The old associations will be replaced with the given VLAN IDs. If the specified VLAN does not exist, then an Incomplete Normal VLAN will be created and bound to the port.

ValidationException is thrown if any of the following situations occurs:

- If portNameIds is null or empty.
- If the elements in the portNameIds is not valid InstanceNameId of SwitchedNetworkInterface
- If vlanRange is null or empty.
- If the IDs in the vlanRange are out of valid Range.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for InstanceNameIds in portNameIds does not exist.

Parameters

opContext—Operational context.

portNameIds—List of InstanceNameIds of the port for which the allowed VLANs are to be modified.

vlanRange—IntegerRange of VLAN IDs to be modified as allowed VLANs for the given port(e.g. 1-10,20,35,50-120).

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Return Value

void

modifySecondaryVlansForPromiscuousPorts

Modifies the existing secondary VLANs associated with the existing promiscuous PVLAN association for the given list of ports. If the specified VLAN does not exist, an incomplete normal VLAN will be created.

Following associations will be replaced between the Port and secondary VLANs:

- PromiscuousPvlanMapping.

ValidationException is thrown if any of the following situations occurs:

- If portNameIds is null or empty or the elements in the list are not of type InstanceNameId.
- If elements in portNameIds is not a valid InstanceNameId of SwitchedNetworkInterface object.
- If primaryVlanId is null or not InstanceNameId of PrimaryVlan or corresponding object does not exist.
- If secondaryVlanIdRange is null or empty.
- If any of the VLANIds in secondaryVlanIdsRange overlaps with primaryVlanId.
- If promiscuous binding does not exist for the given ports.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for InstanceNameIds in portNameIds does not exist.

Parameters

opContext—Operational context.

portNameIdCol—List of InstanceNameId of SwitchedNetworkInterfaces.

secondaryVlanIdRange—IntegerRange of secondary VLAN IDs (e.g. 1-10,20,35,50-120) to be mapped to the promiscuous port.

Return Value

List of PromiscuousPvlanMappings.

modifyVlanGlobalSetting

Modify the an existing VLAN global setting object with the given global setting. The old association will be replaced with the new global setting.

ValidationException is thrown if any of the following situations occurs:

- If neNameIds is null or empty or the elements in the list are not of type InstanceNameId.
- If elements in the neNameIds are not of InstanceNameId type of AbstractNetworkElement.
- If setting is null.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for InstanceNameIds in neNameIds does not exist.

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Parameters

opContext—Operational context.

neNameId—InstanceNameId of the AbstractNetworkElement.

setting—modified VlanGlobalSetting object.

Return Value

void

modifyVlanTypeToNormal

Modify a list of VLAN's type to Normal. This will return the list of type changed VLAN object that has been created in the server.

ValidationException is thrown if any of the following situations occurs:

- If vlanCol is null or empty or the elements in the list are not of type VlanExternal.
- If the elements in the list are of VlanExternal with the already exist in the device.
- In case of Catalyst 6500 series switches, if the VTP Mode is in client / server.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for objects in vlanCol does not exist.

Parameters

opContext—Operational context.

vlanCol—List of VLAN containing Normal VLAN and secondary VLANs

Return Value

List of modified (Normal) VLANs

modifyVlanTypeToPrimary

Modify a list of VLAN's type to Primary. This will return the list of type changed VLAN object that has been created in the server.

ValidationException is thrown if any of the following situations occurs:

- If vlanCol is null or empty or the elements in the list are not of type VlanExternal.
- If the elements in the list are of PrimaryVlan with the already exist in the device.
- In case of Catalyst 6500 series switches, if the VTP Mode is in client / server.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for objects in vlanCol does not exist.

Parameters

opContext—Operational context.

vlanCol—List of VLAN containing Normal VLANs and secondary VLANs

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Return Value

List of modified VLANs

modifyVlanTypeToSecondary

Modify a list of VLAN's type to Secondary. This will return the list of type changed VLAN object that has been created in the server.

ValidationException is thrown if any of the following situations occurs:

- If vlanCol is null or empty or the elements in the list are not of type VlanExternal.
- If the elements in the list are of SecondaryVlan with the same secondaryVlanType overlap with any of the VLAN already existing in the device.
- If secondaryVlanType is null.
- If the Isolated VLAN limit of the primary VLAN corresponding to given Secondary VLAN objects exceeded.
- In case of Catalyst 6500 series switches, if the VTP Mode is in client / server.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for objects in vlanCol does not exist.

Parameters

opContext—Operational context.

vlanCol—List of VLAN containing Normal VLANs and Primary VLANs

secondaryVlanType—Secondary VLAN type (community/isolated)

Return Value

List of modified VLANs

modifyVlans

Modify a collection of existing VLAN objects. No associations will be updated. Only VLAN specific parameters will be updated.

ValidationException is thrown if any of the following situations occurs:

- If modifiedVlanCol is null or empty.
- If the elements in the modifiedVlanCol is not of type VlanExternal
- If the specified VLAN is an internal or default VLAN.
- If the private VLANs are Remote SPAN enabled.
- In case of Catalyst 6500 series switches, if the VTP Mode is in client / server.

PropertiesException is thrown if any of the following situations occurs:

- If any of the attributes for VlanExternal object modifiedVlanCol is not valid / not supported based on the platform type.

Example:

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- Only ethernet mediaType of VlanExternal is supported.
- vlanId of a VlanExternal is out of range.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for the objects in the modifiedVlanCol VlanExternal collection does not exist.

Parameters

opContext—Operational context.

modifiedVlanCol—List of modified VlanExternal objects.

Return Value

void

unbindAccessPortsFromVlan

Unbinds the access VLAN association for the given ports. After unbinding, the port will be bound to default VLAN.

Following associations will be updated between the Port and VLAN:

- SwitchedNetworkInterfaceBelongsToVlan with association type as access

ValidationException is thrown if any of the following situations occurs:

- If portNameIds is null or empty or the elements in the list are not of type InstanceNameId.
- If elements in portNameIds is not a valid InstanceNameId of SwitchedNetworkInterface object.
- If vlanId is null.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for InstanceNameIds in portNameIds does not exist.

Parameters

opContext—Operational context.

portNameIds—List of InstanceNameId of SwitchedNetworkInterfaces which has to unbound from the access VLAN.

Return Value

void

unbindHostPortsFromPrivateVlan

Unbinds the PVLAN host association for the given ports.

Following associations will be updated between the Port and VLAN:

- SwitchedNetworkInterfaceBelongsToVlan with association type as access.

ValidationException is thrown if any of the following situations occurs:

- If portNameIds is null or empty or the elements in the list are not of type InstanceNameId.

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- If elements in portNameIds is not a valid InstanceNameId of SwitchedNetworkInterface object. IntegrityException is thrown if any of the following situations occurs:
 - If the corresponding object for InstanceNameIds in portNameIds does not exist.

Parameters

opContext—Operational context.

portNameIds—List of InstanceNameId of SwitchedNetworkInterfaces which has to unbound from the PVLAN Host VLAN.

Return Value

void

unbindNativeVlanOnTrunks

Unbinds the trunk native VLAN association for the given ports. After unbinding, the port will be bound to default VLAN.

Following associations will be updated between the Port and VLAN:

- SwitchedNetworkInterfaceBelongsToVlan with association type as access.

ValidationException is thrown if any of the following situations occurs:

- If portNameIds is null or empty or the elements in the list are not of type InstanceNameId.
- If elements in portNameIds is not a valid InstanceNameId of SwitchedNetworkInterface object.
- If vlanId is null.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for InstanceNameIds in portNameIds does not exist.

Parameters

opContext—Operational context.

portNameIds—List of InstanceNameId of SwitchedNetworkInterfaces which has to unbound from the trunk native VLAN.

Return Value

void

unbindPromiscuousPortsFromPrivateVlan

Binds promiscuous ports to the given primary VLAN and the given secondary VLANs will also be mapped to the created promiscuous association. If the specified VLAN does not, an incomplete normal VLAN will be created.

Following associations will be updated between the Port, primary VLAN and secondary VLANs:

- PromiscuousPvlanMapping.

ValidationException is thrown if any of the following situations occurs:

- If portNameIds is null or empty or the elements in the list are not of type InstanceNameId.

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- If elements in portNameIds is not a valid InstanceNameId of SwitchedNetworkInterface object. IntegrityException is thrown if any of the following situations occurs:
 - If the corresponding object for InstanceNameIds in portNameIds does not exist.

Parameters

opContext—Operational context.

portNameIds—List of InstanceNameId of SwitchedNetworkInterfaces which has to unbound from the promiscuous mapping.

Return Value

void

unbindSecondaryVlansFromPrimary

Unbinds the secondary VLANs from the primary VLAN if bound.

If the secondary VLAN is in Incomplete state, then the secondary VLAN will be deleted.

ValidationException is thrown if any of the following situations occurs:

- If secondaryVlanNameIds is null or empty or the elements in the list are not of type InstanceNameId.
- If elements in secondaryVlanNameIds is not a valid InstanceNameId of SecondaryVlan object.
- In case of Catalyst 6500 series switches, if the VTP Mode is in client/server.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding object for InstanceNameIds in secondaryVlanNameIds does not exist.

Parameters

opContext—Operational context.

secondaryVlanNameIds—List of (@link InstanceNameId) of secondary VLANs to be unbound from the Primary VLAN.

Return Value

void

unbindSecondaryVlansFromVlanNetworkInterface

Unbinds the secondary VLANs from the given VlanNetworkInterface (SVI).

ValidationException is thrown if any of the following situations occurs:

- If vlanNetworkInterfaceNameId is null or not valid InstanceNameId of VlanNetworkInterface.
- If secondaryVlanIds is null or empty.

IntegrityException is thrown if any of the following situations occurs:

- If the corresponding VlanNetworkInterface object for the vlanNetworkInterfaceNameId does not exist.

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Parameters

opContext—Operational context.

vlanNetworkInterfaceNameId—InstanceNameId of VlanNetworkInterface to which the Secondary VLANs are to be bound.

secondaryVlanIds—IntegerRange of secondary VLAN IDs (e.g. 1-10,20,35,50-120) to be bound to the VlanNetworkInterface.

Return Value

void

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