

## Configuring a Layer 2 Virtual Switch

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A Layer 2 virtual switch, which isolates a LAN segment with its spanning-tree protocol instance and separates its VLAN ID space, filters and forwards traffic only at the data link layer. Layer 3 routing is not performed. Each bridge domain consists of a set of logical ports that participate in Layer 2 learning and forwarding. A virtual switch represents a Layer 2 network.

Two main types of interfaces are used in virtual switch hierarchies:

- Layer 2 logical interface—This type of interface uses the VLAN-ID as a virtual circuit identifier and the scope of the VLAN-ID is local to the interface port. This type of interface is often used in service-provider-centric applications.
- Access or trunk interface—This type of interface uses a VLAN-ID with global significance. The access or trunk interface is implicitly associated with bridge domains based on VLAN membership. Access or trunk interfaces are typically used in enterprise-centric applications.



**NOTE:** The difference between access interfaces and trunk interfaces is that access interfaces can be part of one VLAN only and the interface is normally attached to an end-user device (packets are implicitly associated with the configured VLAN). In contrast, trunk interfaces multiplex traffic from multiple VLANs and usually interconnect switches.

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To configure a Layer 2 virtual switch, include the following statements:

```
[edit]
routing-instances {
  routing-instance-name (
    instance-type virtual-switch;
    bridge-domains {
      bridge-domain-name {
        domain-type bridge;
        interface interface-name;
        vlan-id (all | none | number); # Cannot be used with 'vlan-tags' statement
        vlan-id-list [ vlan-id-numbers ];
        vlan-tags outer number inner number; # Cannot be used with 'vlan-id'
          statement
      }
    }
  }
  protocols {
    mstp {
      ...mstp-configuration ...
    }
  }
}
```

To enable a virtual switch, you must specify `virtual-switch` as the `instance-type`.

For each bridge domain that you configure for the virtual switch, specify a *bridge-domain-name*. You must also specify the value `bridge` for the `domain-type` statement.

For the `vlan-id` statement, you can specify either a valid VLAN identifier or the `none` or `all` options. If you specify a valid VLAN identifier, you cannot also use the `none` option. These statements are mutually exclusive.

The `all` option is not supported with IRB.



**NOTE:** You do not have to specify a VLAN identifier for a bridge domain. However, you cannot specify the same VLAN identifier for more than one bridge domain within a virtual switch. Each bridge domain within a virtual switch must have a unique VLAN identifier.



**NOTE:** For a single bridge domain, you can include either the `vlan-id` statement or the `vlan-tags` statement, but not both.

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To specify one or more logical interfaces to include in the bridge domain, specify an *interface-name* for an Ethernet interface you configured at the `[edit interfaces]` hierarchy level. For more information, see the *Junos Network Interfaces Configuration Guide*.

For information about how to configure spanning tree protocols, see the *Junos Feature Guide*.

**Related Topics**

- Guidelines for Configuring VLAN Identifiers for Bridge Domains and VPLS Routing Instances
- Configuring VLAN Identifiers for Bridge Domains and VPLS Routing Instances
- Configuring Integrated Routing and Bridging for a Bridge Domain in a Layer 2 Virtual Switch

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