

Configuring VLAN Dynamic Profiles

Creating dynamic single-tag VLANs or stacked (dual-tag) VLANs requires the use of dynamic profiles. The dynamic profile automatically references the VLAN interface and creates the interface unit and the necessary VLAN IDs for each new single-tag VLAN or stacked VLAN.



NOTE: VLAN dynamic profiles do not support user-defined variables. Use only JUNOS VLAN predefined variables when configuring VLAN dynamic profiles. See Dynamic Variables Overview for information about dynamic variables.

- Configuring a VLAN Dynamic Profile for Creating Single-Tag VLANs Using Standard TPID Values on page 1
- Configuring a VLAN Dynamic Profile for Creating Single-Tag VLANs Using Any TPID Values on page 3
- Configuring a Stacked VLAN Dynamic Profile on page 4
- Configuring a VLAN Dynamic Profile That Associates VLAN Interfaces with Separate Routing Instances on page 6

Configuring a VLAN Dynamic Profile for Creating Single-Tag VLANs Using Standard TPID Values

You can configure a VLAN dynamic profile to create single-tag VLANs that accept only standard TPID values (a TPID value of 0x8100) by using the `vlan-id` statement and the `$junos-vlan-id` variable.



NOTE: This procedure configures a dynamic profile that accepts only TPID values of 0x8100. To configure a VLAN dynamic profile for creating VLANs using any TPID values, see “Configuring a VLAN Dynamic Profile for Creating Single-Tag VLANs Using Any TPID Values” on page 3.

Before you begin:

- Configure the dynamic profile.
See Configuring a Basic Dynamic Profile.

To configure a dynamic VLAN profile:

1. Ensure that the VLAN dynamic profile uses the `$junos-interface-ifd-name` variable for the dynamic interface and the `$junos-interface-unit` variable for the interface unit.
2. (Optional) To support dynamic demux interfaces, enable them using the `demux-source` statement.
 - a. For IPv4 demux interfaces, specify `inet` as the source type.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit
"$junos-interface-unit"]
user@host# set demux-source inet
```

- b. For IPv6 demux interfaces, specify `inet6` as the source type.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit
"$junos-interface-unit"]
user@host# set demux-source inet6
```

3. (Optional) To configure the router to respond to any ARP request, specify the `proxy-arp` statement.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit
"$junos-interface-unit"]
user@host# set proxy-arp
```

4. Specify that you want to use dynamic VLAN IDs in the dynamic profile.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit
"$junos-interface-unit"]
user@host# set vlan-id $junos-vlan-id
```

When the dynamic profile is instantiated, the variable is dynamically replaced with a VLAN ID within the VLAN range specified at the `[interfaces]` hierarchy level.

5. Define the unit family type.

- a. For IPv4 interfaces, specify the `inet` family type.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit
"$junos-interface-unit"]
user@host# set family inet
```

- b. For IPv6 interfaces, specify the `inet6` family type.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit
"$junos-interface-unit"]
user@host# set family inet6
```

6. (Optional) Enable IP and MAC address validation for dynamic demux interfaces in a dynamic profile.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit
"$junos-interface-unit" family inet]
user@host# set mac-validate strict
```

7. Specify the unnumbered address.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit
"$junos-interface-unit" family inet]
user@host# set unnumbered-address lo.0
```

8. Specify the preferred source address.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit
"$junos-interface-unit" family inet]
user@host# set preferred-source-address 192.0.16.1
```

Configuring a VLAN Dynamic Profile for Creating Single-Tag VLANs Using Any TPID Values

You can configure a VLAN dynamic profile to create single-tag VLANs that accept any TPID values by configuring the `vlan-tags` statement and the `$junos-vlan-id` variable.



NOTE: For procedures to configure a VLAN dynamic profile for creating single-tag VLANs that use only standard TPID values (a TPID value of 0x8100), see “Configuring a VLAN Dynamic Profile for Creating Single-Tag VLANs Using Standard TPID Values” on page 1.

Before you begin:

- Configure the dynamic profile.
See Configuring a Basic Dynamic Profile.

To configure a dynamic VLAN profile:

1. Ensure that the VLAN dynamic profile uses the `$junos-interface-ifd-name` variable for the dynamic interface and the `$junos-interface-unit` variable for the interface unit.
2. (Optional) To support dynamic demux interfaces, enable them using the `demux-source` statement.
 - a. For IPv4 demux interfaces, specify `inet` as the source type.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit
"$junos-interface-unit"]
user@host# set demux-source inet
```

- b. For IPv6 demux interfaces, specify `inet6` as the source type.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit
"$junos-interface-unit"]
user@host# set demux-source inet6
```

3. (Optional) To configure the router to respond to any ARP request, specify the `proxy-arp` statement.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit
"$junos-interface-unit"]
user@host# set proxy-arp
```

4. Specify that you want to use dynamic VLAN IDs in the dynamic profile.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit
"$junos-interface-unit"]
user@host# set vlan-tags outer $junos-vlan-id
```

The variable is dynamically replaced with both the TPID value and a VLAN ID within the VLAN range specified at the [interfaces] hierarchy level.

5. Define the unit family type.

- a. For IPv4 interfaces, specify the inet family type.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit
"$junos-interface-unit"]
user@host# set family inet
```

- b. For IPv6 interfaces, specify the inet6 family type.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit
"$junos-interface-unit"]
user@host# set family inet6
```

6. (Optional) Enable IP and MAC address validation for dynamic demux interfaces in a dynamic profile.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit
"$junos-interface-unit" family inet]
user@host# set mac-validate strict
```

7. Specify the unnumbered address.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit
"$junos-interface-unit" family inet]
user@host# set unnumbered-address lo.0
```

8. Specify the preferred source address.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit
"$junos-interface-unit" family inet]
user@host# set preferred-source-address 192.0.16.1
```

Configuring a Stacked VLAN Dynamic Profile

You can configure a dynamic profile for creating stacked 802.1Q VLANs.

Before you begin:

- Configure the dynamic profile.
See Configuring a Basic Dynamic Profile.

To configure a stacked VLAN dynamic profile:

1. Ensure that the VLAN dynamic profile uses the `$junos-interface-ifd-name` variable for the dynamic interface and the `$junos-interface-unit` variable for the interface unit.
2. (Optional) To support dynamic demux interfaces, enable them using the `demux-source` statement.
 - a. For IPv4 demux interfaces, specify `inet` as the source type.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit
 "$junos-interface-unit"]
user@host# set demux-source inet
```

- b. For IPv6 demux interfaces, specify `inet6` as the source type.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit
 "$junos-interface-unit"]
user@host# set demux-source inet6
```

3. (Optional) To configure the router to respond to any ARP request, specify the `proxy-arp` statement.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit
 "$junos-interface-unit"]
user@host# set proxy-arp
```

4. Specify the outer VLAN ID variable.

```
[edit dynamic-profiles STACKED-VLAN-PROF1 interfaces "$junos-interface-ifd-name"
 unit "$junos-interface-unit"]
user@host# set vlan-tags outer $junos-stacked-vlan-id
```

The variable is dynamically replaced with an outer VLAN ID within the VLAN range specified at the `[interfaces]` hierarchy level.

5. Specify the inner VLAN ID variable.

```
[edit dynamic-profiles STACKED-VLAN-PROF1 interfaces "$junos-interface-ifd-name"
 unit "$junos-interface-unit"]
user@host# set vlan-tags inner $junos-vlan-id
```

The variable is dynamically replaced with an inner VLAN ID within the VLAN range specified at the `[interfaces]` hierarchy level.

6. Define the unit family type.

- a. For IPv4 interfaces, specify the `inet` family type.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit
 "$junos-interface-unit"]
user@host# set family inet
```

- b. For IPv6 interfaces, specify the `inet6` family type.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit
 "$junos-interface-unit"]
user@host# set family inet6
```

7. (Optional) Enable IP and MAC address validation for dynamic demux interfaces in a dynamic profile.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit
 "$junos-interface-unit" family inet]
user@host# set mac-validate strict
```

8. Specify the unnumbered address.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit
"$junos-interface-unit" family inet]
user@host# set unnumbered-address lo.0
```

9. Specify the preferred source address.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit
"$junos-interface-unit" family inet]
user@host# set preferred-source-address 192.0.16.1
```

Configuring a VLAN Dynamic Profile That Associates VLAN Interfaces with Separate Routing Instances

You can configure a VLAN dynamic profile that dynamically creates underlying VLAN interfaces and associates these interfaces with dynamically-created routing instances. The VLAN interface is created in the default logical system (LS) for a specific routing instance as defined by VSA 26–1 (LSRI-Name) on the AAA server (for example, RADIUS server).

To configure a dynamic VLAN profile using routing instances:

1. Name the profile.

```
[edit]
user@host# edit dynamic-profiles VLAN_PROFILE_RI
```

2. Specify that you want to dynamically create routing instances on the default logical system.

```
[edit dynamic-profiles VLAN_PROFILE_RI]
user@host# edit routing-instances $junos-routing-instance
```

3. Define the routing instance interface statement with the internal `$junos-interface-name` variable used by the router to match the interface name of the receiving interface.

```
[edit dynamic-profiles VLAN_PROFILE_RI routing-instances
"$junos-routing-instance"]
user@host# set interface $junos-interface-name
```

4. Define the dynamic profile interfaces statement with the internal `$junos-interface-ifd-name` variable.

```
[edit dynamic-profiles VLAN_PROFILE_RI]
user@host# edit interfaces $junos-interface-ifd-name
```

5. Define the unit statement with the internal `$junos-interface-unit` variable used by the router to generate a unit value for the interface.

```
[edit dynamic-profiles VLAN_PROFILE_RI interfaces "$junos-interface-ifd-name"]
user@host# edit unit $junos-interface-unit
```

6. To support dynamic demux interfaces, enable them using the `demux-source` statement.

- a. For IPv4 demux interfaces, specify `inet` as the source type.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit
 "$junos-interface-unit"]
user@host# set demux-source inet
```

- b. For IPv6 demux interfaces, specify `inet6` as the source type.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit
 "$junos-interface-unit"]
user@host# set demux-source inet6
```

7. (Optional) To configure the router to respond to any ARP request, specify the `proxy-arp` statement.

```
[edit dynamic-profiles VLAN_PROFILE_RI interfaces "$junos-interface-ifd-name"
 unit "$junos-interface-unit"]
user@host# set proxy-arp
```

8. Specify that you want to use dynamic VLAN IDs in the dynamic profile.

```
[edit dynamic-profiles VLAN_PROFILE_RI interfaces "$junos-interface-ifd-name"
 unit "$junos-interface-unit"]
user@host# set vlan-id $junos-vlan-id
```

The variable is dynamically replaced with both the TPID value and a VLAN ID within the VLAN range specified at the `[interfaces]` hierarchy level.

9. Define the unit family type.

- a. For IPv4 interfaces, specify the `inet` family type.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit
 "$junos-interface-unit"]
user@host# set family inet
```

- b. For IPv6 interfaces, specify the `inet6` family type.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit
 "$junos-interface-unit"]
user@host# set family inet6
```

10. (Optional) Enable IP and MAC address validation for dynamic demux interfaces in a dynamic profile.

```
[edit dynamic-profiles VLAN_PROFILE_RI interfaces "$junos-interface-ifd-name"
 unit "$junos-interface-unit" family inet]
user@host# set mac-validate strict
```

11. Specify the unnumbered address to dynamically create loopback interfaces.

```
[edit dynamic-profiles VLAN_PROFILE_RI interfaces "$junos-interface-ifd-name"
 unit "$junos-interface-unit" family inet]
user@host# set unnumbered-address $junos-loopback-interface
```

12. (Optional) Specify the preferred source address.

```
[edit dynamic-profiles VLAN-PROF1 interfaces "$junos-interface-ifd-name" unit  
"$junos-interface-unit" family inet]  
user@host# set preferred-source-address 192.0.16.1
```

Published: 2010-04-15