



# IP Multicast Routing Configuration Guide

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# 1. IGMP Overview

Internet Group Management (IGMP) protocol allows a host to advertise its multicast group membership to neighbouring switches and routers. IGMP is a standard protocol used by the TCP/IP protocol suite to achieve dynamic multicasting.

There are two components in the IGMP solution:

- IGMPv2/v3 Client: It sends Join or Leave messages to a multicast group. Typical example of a client is a SET-TOP box. The IGMP client can respond to any IGMP general queries or group-specific queries that are received.
- Multicast Router: The recipient of IGMP Join/Leave message. After receiving the message, it determines whether the corresponding message needs to be processed or not. After processing the IGMP messages, it sends this information to its multicast upstream router. Along with this, it can program certain entries in its routers which results in forwarding specific multicast packets on that interface.

## 1.1. IGMPv3 Lite

IGMP version 3 adds support for "source filtering", that is, the ability for a system to report interest in receiving packets **only** from specific source addresses, or from **all but** specific source addresses, sent to a particular multicast address. That information may be used by multicast routing protocols to avoid delivering multicast packets from specific sources to networks where there are no interested receivers.

The RtBrick IGMP v3lite solution adds support for source filtering. Source filtering enables a multicast receiver host to signal from which groups it wants to receive multicast traffic, and from which sources this traffic is expected. That information may be used by multicast routing protocols to avoid delivering multicast packets from specific sources to networks where there are no interested receivers.

IGMP Version 3 will help conserve bandwidth by allowing a host to select the specific sources from which it wants to receive traffic. Also, multicast routing protocols will be able to make use of this information to conserve bandwidth when constructing the branches of their multicast delivery trees.

## 2. Configuring IGMP

### 2.1. Enabling IGMPv3 Service on an Instance

#### 2.1.1. Adding IGMPv3 Service on an Instance

To add IGMPv3 service on an instance, enter the following command:

##### Syntax

```
rtb confd set igmp instance <instance>
```

##### Command Parameters

<instance>	Name of the routing instance
------------	------------------------------

##### Example

```
ubuntu@rtbrick:~$ rtb confd set igmp instance default
ubuntu@rtbrick:~$ rtb confd show datastore table dump
global.igmp.instance.config json | jq .
{
  "table": {
    "table_name": "global.igmp.instance.config",
    "table_index": "sequence"
  },
  "objects": [
    {
      "sequence": 2000003,
      "update": true,
      "timestamp": "Mon Jul 27 14:47:10 GMT +0000 2020",
      "attribute": {
        "instance_name": "default"
      }
    }
  ]
}
```

#### 2.1.2. Deleting IGMPv3 Service on an Instance

##### Syntax

```
rtb confd delete igmp instance <instance>
```

## Command Parameters

<instance>	Name of the routing instance
------------	------------------------------

### Example

```
ubuntu@rtbrick:~$ rtb confd delete igmp instance default
```

## 2.2. Enabling IGMPv3 Service on an Interface

### 2.2.1. Adding IGMPv3 Service on an Interface

To add IGMPv3 service on an interface, enter the following command:

#### Syntax

```
rtb confd set igmp interface <interface>
```

To configure the interface options, enter the following commands:

```
rtb confd set interface <interface> interface-cofiguration-profile <profile>
rtb confd set interface <interface> max-members <count>
rtb confd set interface <interface> protocol-version <IGMPv2 | IGMPv3>
```

## Command Parameters

<interface>	Name of the IP multicast interface
<profile>	Name of the interface configuration profile
<count>	Specifies the maximum count of multicast group members
<IGMPv2   IGMPv3>	Specifies the IGMP version

### Example

```
ubuntu@rtbrick:~$ rtb confd set igmp interface ifl-0/0/1/1 interface-
configuration-profile profile
ubuntu@rtbrick:~$ rtb confd set igmp interface ifl-0/0/1/1 max-members 10
ubuntu@rtbrick:~$ rtb confd set igmp interface ifl-0/0/1/1 protocol-version
IGMPv3

ubuntu@rtbrick:~$ rtb confd show datastore table dump
default.igmp.interface.config json | jq .
{
  "table": {
    "table_name": "default.igmp.interface.config",
    "table_index": "sequence"
  },
  "objects": [
    {
      "sequence": 1400004,
      "update": true,
      "timestamp": "Mon Jul 27 14:35:44 GMT +0000 2020",
      "attribute": {
        "interface_name": "ifl-0/0/1/1",
        "version": "IGMPv3",
        "config_profile_name": "iprofile",
        "max_members_per_interface": 10
      }
    }
  ]
}
```

## 2.2.2. Deleting IGMPv3 Service on an Interface

To delete IGMPv3 service on an interface, enter the following command:

### Syntax

```
rtb confd delete igmp interface <interface>
```

To delete the interface options, enter the following commands:

```
rtb confd delete igmp interface <interface> protocol-version
rtb confd delete igmp interface <interface> interface-configuration-profile
rtb confd delete igmp interface <interface> max-members
rtb confd delete igmp interface <interface>
```

### Command Parameters

<interface>	Name of the IP multicast interface
-------------	------------------------------------

### Example

```
ubuntu@rtbrick:~$ rtb confd delete igmp interface if1-0/0/1/1 protocol-
version
ubuntu@rtbrick:~$ rtb confd delete igmp interface if1-0/0/1/1 max-members
ubuntu@rtbrick:~$ rtb confd delete igmp interface if1-0/0/1/1 interface-
cofiguration-profile
ubuntu@rtbrick:~$ rtb confd delete igmp interface if1-0/0/1/1
```

## 2.3. Configuring IGMP Version

The version command sets the IGMP version on the interface.

### Syntax

```
rtb confd set interface <interface> protocol-version <IGMPv2|IGMPv3>
```

### Command Parameters

<IGMPv2	IGMPv3>
---------	---------

### Example

```
ubuntu@rtbrick:~$ rtb confd set igmp interface if1-0/0/1/1 protocol-version
IGMPv3
```

## 2.4. Configuring IGMPv3 Interface Profile

You need configure the following interface profiles:

- Immediate Leave
- SSM Mapping
- Filter List

### 2.4.1. Adding IGMPv3 Interface Profile

To add IGMPv3 interface profile, enter the following command:

### Syntax



```
rtb confd set multicast-options igmp interface-config-profile <profile>
```

To configure interface profile options, enter the following commands:

```
rtb confd set multicast-options igmp interface-config-profile <profile>
immediate-leave <enable | disable>name> default-action <deny | permit>
```

```
rtb confd set multicast-options igmp interface-config-profile <profile>
maximum-query-response-interval <interval>
```

```
rtb confd set multicast-options igmp interface-config-profile <profile>
querier-timeout-interval <interval>
```

```
rtb confd set multicast-options igmp interface-config-profile <profile> query-
interval <query_interval>
```

```
rtb confd set multicast-options igmp interface-config-profile <profile> ssm-
mapping-profile <name>
```

```
rtb confd set multicast-options igmp interface-config-profile <profile> start-
query-count <count>
```

```
rtb confd set multicast-options igmp interface-config-profile <profile> start-
query-interval <interval>
```

## Command Parameters

<interface>	Name of the IP multicast interface
<profile>	Name of the interface configuration profile
<enable   disable>	Enable or disable the immediate leave option
maximum-query-response-interval <interval>	Maximum query response interval. The default value is 100 seconds.
<query_interval>	IGMP query interval. The default value is 125 seconds.
<name>	Name of the SSM mapping profile
<count>	The count of multicast group members

## Example

```

ubuntu@rtbrick:~$ rtb confd set multicast-options igmp interface-config-
profile iprofile maximum-query-response-interval 10
ubuntu@rtbrick:~$ rtb confd set multicast-options igmp interface-config-
profile iprofile query-interval 10
ubuntu@rtbrick:~$ rtb confd set multicast-options igmp interface-config-
profile iprofile start-query-count 10
ubuntu@rtbrick:~$ rtb confd set multicast-options igmp interface-config-
profile iprofile querier-timeout-interval 10
ubuntu@rtbrick:~$ rtb confd set multicast-options igmp interface-config-
profile iprofile start-query-interval 10
ubuntu@rtbrick:~$ rtb confd set multicast-options igmp interface-config-
profile iprofile immediate-leave Enable
ubuntu@rtbrick:~$ rtb confd set multicast-options igmp interface-config-
profile iprofile ssm-mapping-profile sprofile
ubuntu@rtbrick:~$ rtb confd set multicast-options igmp interface-config-
profile iprofile filter-list-profile flist default-action permit

ubuntu@leaf2:~$ rtb confd show datastore table dump
global.igmp.interface.config.profile json | jq .
{
  "table": {
    "table_name": "global.igmp.interface.config.profile",
    "table_index": "sequence"
  },
  "objects": [
    {
      "sequence": 2000007,
      "update": true,
      "timestamp": "Mon Jul 27 14:22:24 GMT +0000 2020",
      "attribute": {
        "config_profile_name": "iprofile",
        "query_interval": 10,
        "start_query_interval": 10,
        "start_query_count": 10,
        "querier_timeout": 10,
        "maximum_query_response_time": 10,
        "ssm_mapping_profile_name": "sprofile",
        "filter_list_profile_name": "flist",
        "default_filter_action": "permit"
      }
    }
  ]
}

```

## 2.4.2. Deleting IGMPv3 Interface Profile

To delete IGMPv3 interface profile and interface profile options, enter the following commands:

### Syntax

```
rtb confd delete multicast-options igmp interface-config-profile <profile>  
filter-list-profile
```

```
rtb confd delete multicast-options igmp interface-config-profile <profile>  
immediate-leave
```

```
rtb confd delete multicast-options igmp interface-config-profile <profile>  
maximum-query-response-interval
```

```
rtb confd delete multicast-options igmp interface-config-profile <profile>  
querier-timeout-interval
```

```
rtb confd delete multicast-options igmp interface-config-profile <profile>  
query-interval
```

```
rtb confd delete multicast-options igmp interface-config-profile <profile>  
ssm-mapping-profile
```

```
rtb confd delete multicast-options igmp interface-config-profile <profile>  
start-query-count
```

```
rtb confd delete multicast-options igmp interface-config-profile <profile>  
start-query-interval
```

## Command Parameters

<interface>	Name of the IP multicast interface configuration profile
-------------	--

## Example

```
ubuntu@rtbrick:~$ rtb confd delete multicast-options igmp interface-config-  
profile iprofile start-query-interval
```

## 2.5. Enabling or Disabling Immediate Leave

To enable the device to remove the group entry from the multicast routing table immediately upon receiving a leave message for the group, enter the following command.

### Syntax

```
rtb confd set multicast-options igmp interface-config-profile <profile>  
immediate-leave <enable|disable>
```

## Command Parameters

<enable   disable>	Enable or disable the immediate leave option
--------------------	--

### Example

```
ubuntu@rtbrick:~$ rtb confd set multicast-options igmp interface-config-profile iprofile immediate-leave Enable
```

## 2.6. Configuring SSM Mapping Profile

SSM mapping takes IGMPv2 reports and converts them to IGMPv3. In case of legacy devices, there could be a possibility that BNG might receive IGMPv2 membership reports. If BNG receives an IGMPv2 membership for a specific group G1, BNG uses the SSM mapping configuration to determine one or more Source (S) addresses for a given group. This SSM mappings are translated to the IGMPv3 joins like IGMPV3 JOIN INCLUDE (G, [S1, G1], [S2, G1] and so on) and BNG continues to process as if it has received from the subscriber.

### 2.6.1. Adding an SSM Mapping profile

To add an SSM mapping profile, enter the following command:

#### Syntax

```
rtb confd set multicast-options igmp ssm-mapping-profile <profile> group <group> source <source>
```

## Command Parameters

<profile>	Specifies the SSM mapping profile
<group>	Specifies the name of the group
<source>	Specifies the source from which the multicast traffic is received

### Example

```

ubuntu@rtbrick$ rtb confd set multicast-options igmp ssm-mapping-profile
sprofile group 224.0.40.1 source 1.1.1.1

ubuntu@rtbrick:~$ rtb confd show datastore table dump
global.igmp.ssm.mapping.config json | jq .
{
  "table": {
    "table_name": "global.igmp.ssm.mapping.config",
    "table_index": "sequence"
  },
  "objects": [
    {
      "sequence": 2000001,
      "update": true,
      "timestamp": "Mon Jul 27 14:13:08 GMT +0000 2020",
      "attribute": {
        "ssm_mapping_profile_name": "sprofile",
        "group4": "224.0.40.1",
        "source4": "1.1.1.1"
      }
    }
  ]
}

```

## 2.6.2. Deleting an SSM Mapping profile

To delete an SSM mapping profile, enter the following command:.

### Syntax

```

rtb confd delete multicast-options igmp ssm-mapping-profile <profile>
group <group4> source <source>

rtb confd delete multicast-options igmp ssm-mapping-profile <profile>
group <group>

```

### Command Parameters

<profile>	Specifies the SSM mapping profile
<source>	Specifies the source from which the multicast traffic is received
<group>	Specifies the group address

### Example

```
ubuntu@rtbrick:~$ rtb confd delete multicast-options igmp ssm-mapping-profile
sprofile group 224.0.40.1 source 1.1.1.1
```

## 2.7. Configuring Filter List

### 2.7.1. Adding a Filter List

To add a filter list, enter the following command:

#### Syntax

```
rtb confd set multicast-options igmp filter-list <list> group <group> source
<source> action <action>
```

#### Command Parameters

<list>	Specifies the name of the profile list
<group>	Specifies the group name
<source>	Specifies the source from which the multicast traffic is received
<action>	Sets the action to permit or deny

#### Example

```

ubuntu@rtbrick:~$ rtb confd set multicast-options igmp filter-list list flist
group 224.0.40.1 source 1.1.1.1 action deny

ubuntu@rtbrick:~$ rtb confd show datastore table dump
global.igmp.filter.list.config json | jq .
{
  "table": {
    "table_name": "global.igmp.filter.list.config",
    "table_index": "sequence"
  },
  "objects": [
    {
      "sequence": 2000001,
      "update": true,
      "timestamp": "Mon Jul 27 11:51:48 GMT +0000 2020",
      "attribute": {
        "filter_list_profile_name": "flist",
        "group4": "224.0.40.1",
        "source4": "1.1.1.1",
        "filter_action": "deny"
      }
    }
  ]
}

```

## 2.7.2. Deleting a Filter List

To delete a filter list, enter the following command:

### Syntax

```
ubuntu@rtbrck:~$ delete multicast-options igmp filter-list list <list> group
<group4> source <source4>
```

```
ubuntu@rtbrck:~$ delete multicast-options igmp filter-list list <list> group
<group4>
```

### Command Parameters

<list>	Specifies the name of the profile list
<group4>	Specifies the multicast group address
<source4>	Specifies the source from which the multicast traffic is received

### Example

```
ubuntu@rtbrick:~$ rtb confd delete multicast-options igmp filter-list list
flist group 224.0.40.1
```

## 2.8. Configuring the IGMP Static Joins

After an interface on a multicast device is configured to statically join an IGMP group, the multicast device considers that the interface has static multicast group members and sends multicast packets to this interface, regardless of whether hosts connected to this interface request the multicast packets.

### 2.8.1. Adding IGMP Static Joins

To add an IGMP static join, enter the following command:

#### Syntax

```
rtb confd igmp instance <instance> static-join <group> source <source> oif
<interface>
```

To configure the static join options, enter the following command:

```
rtb confd igmp instance <instance> static-join <group> source <source> oif
<interface> refresh-interval <value>
```

#### Command Parameters

<group>	Specifies the group name
<source>	Specifies the source from which the multicast traffic is received
<interface>	Name of the outbound interface
<value>	refresh interval

#### Example

```
ubuntu@rtbrick:$ rtb confd set igmp instance ip2vrf

ubuntu@rtbrick:$ rtb confd set igmp instance ip2vrf static-join 239.0.0.1
source 100.10.1.2 oif null0

ubuntu@rtbrick:$ rtb confd set igmp instance ip2vrf static-join 239.0.0.1
source 100.10.1.2 if1-0/0/1/1 refresh-interval 100
```



```
ubuntu@rtbrick:~$ rtb confd show datastore table dump
ip2vrf.igmp.static.membership.config
object: 1, sequence: 1, last update: Tue Jul 28 05:10:12 GMT +0000 2020
  attribute: source4 (1), type: ipv4addr (12), length: 4, value: 100.10.1.2
  attribute: group4 (2), type: ipv4addr (12), length: 4, value: 239.0.0.1
  attribute: oif_name (3), type: string (9), length: 6, value: null0

ubuntu@rtbrick:~$ rtb confd show datastore table dump
ip2vrf.igmp.static.membership.config
object: 1, sequence: 3, last update: Tue Jul 28 05:18:10 GMT +0000 2020
  attribute: source4 (1), type: ipv4addr (12), length: 4, value: 100.10.1.2
  attribute: group4 (2), type: ipv4addr (12), length: 4, value: 239.0.0.1
  attribute: oif_name (3), type: string (9), length: 15, value: if1-0/0/1/1
  attribute: refresh_interval (4), type: uint32 (4), length: 4, value: 100

ubuntu@rtbrick:~$ rtb confd show datastore table dump
ip2vrf.igmp.static.membership.config json | jq .
{
  "table": {
    "table_name": "ip2vrf.igmp.static.membership.config",
    "table_index": "sequence"
  },
  "objects": [
    {
      "sequence": 1,
      "update": true,
      "timestamp": "Tue Jul 28 05:10:12 GMT +0000 2020",
      "attribute": {
        "source4": "100.10.1.2",
        "group4": "239.0.0.1",
        "oif_name": "null0"
      }
    }
  ]
}

ubuntu@rtbrick:~$ rtb confd show datastore table dump
ip2vrf.igmp.static.membership.config json | jq .
{
  "table": {
    "table_name": "ip2vrf.igmp.static.membership.config",
    "table_index": "sequence"
  },
  "objects": [
    {
      "sequence": 3,
      "update": true,
      "timestamp": "Tue Jul 28 05:18:10 GMT +0000 2020",
      "attribute": {
        "source4": "100.10.1.2",
        "group4": "239.0.0.1",
        "oif_name": "if1-0/0/1/1",
        "refresh_interval": 100
      }
    }
  ]
}
```

## 2.8.2. Deleting IGMP Static Joins

To delete an IGMP static join, enter the following command:

### Syntax

```
rtb confd delete static-join <group> source <source> oif <interface>
```

### Command Parameters

<group>	Specifies the multicast group name
<source>	Specifies the source from which the multicast traffic is received
<interface>	Name of the IP multicast interface

### Example

```
ubuntu@rtbrick:~$ rtb confd delete igmp instance ip2vrf static-join 239.0.0.1
source 100.10.1.2 oif null0
ubuntu@rtbrick:~$ rtb confd delete igmp instance ip2vrf static-join 239.0.0.1
source 100.10.1.2 oif ifl-0/0/1/1
ubuntu@rtbrick:~$ rtb confd show datastore table dump
ip2vrf.igmp.static.membership.config
```

## 2.9. Configuring PIM

Routing devices can translate Protocol Independent Multicast (PIM) join and prune messages into corresponding Internet Group Management Protocol (IGMP) or Multicast Listener Discovery (MLD) reports or leave messages.

### 2.9.1. Enabling PIM

To enable PIM, enter the following command.

### Syntax

```
rtb confd set pim address-family <ipv4|ipv6>
```

To configure PIM TOS value, enter the following command:

```
rtb confd set pim address-family <ipv4|ipv6> tos <tos_value>
```

## Command Parameters

<ipv4   ipv6>	Specifies the PIM address family.
<tos value>	Specifies the type of service, which is optional

## Example

```
ubuntu@rtbrick:~$ rtb confd set pim address-family ipv4 tos 10

ubuntu@rtbrick:~$ rtb confd show datastore table dump
global.pim.instance.config json | jq .
{
  "table": {
    "table_name": "global.pim.instance.config",
    "table_index": "sequence"
  },
  "objects": [
    {
      "sequence": 7700003,
      "update": true,
      "timestamp": "Wed Jul 29 16:02:54 GMT +0000 2020",
      "attribute": {
        "instance_name": "default",
        "afi": "ipv4",
        "tos": 10
      }
    }
  ]
}
```

## 2.9.2. Deleting PIM Configuration

To delete the PIM configuration, enter the following command.

### Syntax

```
rtb confd delete pim address-family ipv4
```

## 2.9.3. Enabling PIM on an Instance

To enable PIM on an instance, enter the following command.

### Syntax

```
rtb confd set pim instance <instance> address-family <ipv4|ipv6>
```

To configure PIM TOS value on an instance, enter the following command:

```
rtb confd set pim instance <instance> address-family <ipv4|ipv6> tos
<tos_value>
```

## Command Parameters

<instance>	Name of the PIM instance
<ipv4   ipv6>	Specifies the PIM address family
<tos value>	Specifies the type of service

## Example

```
ubuntu@rtbrick:~$ rtb confd set pim instance red address-family ipv4 tos 10

ubuntu@rtbrick:~$ rtb confd show datastore table dump
global.pim.instance.config json | jq .
{
  "table": {
    "table_name": "global.pim.instance.config",
    "table_index": "sequence"
  },
  "objects": [
    {
      "sequence": 7700004,
      "update": true,
      "timestamp": "Wed Jul 29 16:03:40 GMT +0000 2020",
      "attribute": {
        "instance_name": "red",
        "afi": "ipv4",
        "tos": 10
      }
    }
  ]
}
```

## 2.9.4. Deleting the PIM Configuration on an Instance

To delete the PIM configuration on an instance, enter the following command:

### Syntax

```
rtb confd delete pim instance red address-family ipv4
```

## 2.10. IGMP Show Commands

### 2.10.1. Viewing IGMP Groups

To view IGMP groups, enter the following command:

#### Syntax

```
rtb igmp.iod.1 show igmpv3 instance ip2vrf groups
```

#### Example

```

ubuntu@rtbrick:~$ rtb igmp.iod.1 show igmpv3 instance ip2vrf groups
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
Source Address      Group Address      Interface              Last Reporter
Uptime              Expires
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
1.1.1.1             225.0.0.1          ppp-0/0/4/723390690146... 10.100.128.199
0d:0h:0m:0s        5110us
1.1.1.1             225.0.0.1          ppp-0/0/4/723390690146... 10.100.128.200
0d:0h:0m:0s        3407us
1.1.1.1             225.0.0.1          ppp-0/0/4/723390690146... 10.100.128.201
0d:0h:0m:0s        3851us
1.1.1.1             225.0.0.1          ppp-0/0/4/723390690146... 10.100.128.202
0d:0h:0m:0s        8896us
1.1.1.1             225.0.0.1          ppp-0/0/4/723390690146... 10.100.128.203
0d:0h:0m:0s        8299us
1.1.1.1             225.0.0.2          ppp-0/0/4/723390690146... 10.100.128.199
0d:0h:0m:0s        5392us
1.1.1.1             225.0.0.2          ppp-0/0/4/723390690146... 10.100.128.200
0d:0h:0m:0s        3608us
1.1.1.1             225.0.0.2          ppp-0/0/4/723390690146... 10.100.128.201
0d:0h:0m:0s        4053us
1.1.1.1             225.0.0.2          ppp-0/0/4/723390690146... 10.100.128.202
0d:0h:0m:0s        8973us
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+

```

### 2.10.2. Viewing IGMP Interface

To view IGMP interfaces, enter the following command:

## Syntax

```
rtb igmp.iod.1 show igmpv3 instance ip2vrf interface
```

## Example

```
ubuntu@rtbrick:~$ rtb igmp.iod.1 show igmpv3 instance ip2vrf interface
+-----+-----+-----+-----+
+-----+-----+-----+-----+
Interface                Primary Addr      State           Querier Addr
Up Time
+-----+-----+-----+-----+
+-----+-----+-----+-----+
 ppp-0/0/4/723390690146... 10.100.128.199    Querier
10.100.128.199           Fri Jul 31 05:26:26 GMT +0000 2020
 ppp-0/0/4/723390690146... 10.100.128.200    Querier
10.100.128.200           Fri Jul 31 05:26:26 GMT +0000 2020
 ppp-0/0/4/723390690146... 10.100.128.201    Querier
10.100.128.201           Fri Jul 31 05:27:25 GMT +0000 2020
 ppp-0/0/4/723390690146... 10.100.128.202    Querier
10.100.128.202           Fri Jul 31 05:26:26 GMT +0000 2020
 ppp-0/0/4/723390690146... 10.100.128.203    Querier
10.100.128.203           Fri Jul 31 05:26:26 GMT +0000 2020
+-----+-----+-----+-----+
+-----+-----+-----+-----+
```

## 2.10.3. Viewing the Details of a Specific IGMP Interface

To view the details of a specific IGMP interfaces, enter the following command:

## Syntax

```
rtb igmp.iod.1 show igmpv3 instance ip2vrf interface <interface name>
```

## Example

```
ubuntu@rtbrick:~$ rtb igmp.iod.1 show igmpv3 instance ip2vrf interface
[<Enter>] <interface>
ubuntu@rtbrick:~$ rtb igmp.iod.1 show igmpv3 instance ip2vrf interface ppp-
0/0/4/72339069014638596
Interface : ppp-0/0/4/72339069014638596, State : Querier, Uptime : Fri Jul 31
05:27:25 GMT +0000 2020
    Primary address is 10.100.128.201
    Querier address is 10.100.128.201
    IGMP Version running is 3
Timer values
    Query interval : 125
    Other querier present interval : 425
    Startup query interval : 31
    Last member query interval : 1
Count values
    Last member query count : 3
    Startup query count : 0
Statistics
    General query sent : 5
    General query received : 0
    Group specific query sent : 0
    Group specific query received : 0
ubuntu@rtbrick:~$ ~
```

## 3. IGMP for Subscribers

IGMP can be configured as a service for subscribers in two ways:

- Local Configuration
- Using RADIUS Attributes

For more information about these, see the *Subscriber Management Configuration Guide*.