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# MEAPS Configuration Commands

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# Chapter 1 MEAPS Configuration Commands

## 1.1 Global Commands

### 1.1.1 mether-ring *id1* domain *id2*

To set an instance of ring and enter the node mode, run the following command:

**mether-ring *id1* domain *id2***

To cancel an instance of ring, run the following command:

**no mether-ring *id1* domain *id2***

#### Parameters

Parameters	Description
id1	Stands for the node instance ID, which ranges from 0 to 7.
id2	Stands for the domain instance ID, which ranges from 0 to 3.

#### Default Value

By default, the ring node is not configured.

#### Command Mode

Global configuration mode

#### Usage Guidelines

If the configured domain is 0, that is **id2 is 0**, *domain id2* can be omitted.

#### Example

```
S1_config#mether-ring 1 domain 2
S1_config_ring1#
```

#### Related Command

None

## 1.1.2 master-node

To configure an Ethernet ring as a master node, run the following command:

**master-node**

### Parameters

None

### Default Value

By default, the node type is not configured.

### Command Mode

Node configuration mode

### Usage Guidelines

1. A node can be set to be a master node, a transit node, an edge node or an assistant node.
2. After the node type, the node ring's level and ring control VLAN are set, you need to decide whether to exist from the ring configuration mode and enable the ring's node, for if you conduct the two actions, the node type can never be modified.

### Example

```
S1_config#mether-ring 1 domain 2
S1_config_ring1#master-node
S1_config_ring1#
```

### Related Command

[transit-node](#)

[edge-node](#)

[assistant-node](#)

[major-ring](#)

[sub-ring](#)

[control-vlan](#)

### 1.1.3 transit-node

To configure the node type to be a transit node, run the following command.

#### **transit-node**

##### Parameters

None

##### Default Value

By default, the node type is not configured.

##### Command Mode

Node configuration mode

##### Usage Guidelines

1. A node can be set to be a master node, a transit node, an edge node or an assistant node.
2. After the node type, the node ring's level and ring control VLAN are set, you need to decide whether to exist from the ring configuration mode and enable the ring's node, for if you conduct the two actions, the node type can never be modified.

##### Example

```
S1_config#mether-ring 1 domain 2
S1_config_ring1# transit-node
S1_config_ring1#
```

##### Related Command

[master-node](#)

[edge-node](#)

[assistant-node](#)

[major-ring](#)

[sub-ring](#)

[control-vlan](#)

### 1.1.4 edge-node

To set the node type to be an edge node, run the following command:

**edge-node**

#### Parameters

None

#### Default Value

By default, the node type is not configured.

#### Command Mode

Node configuration mode

#### Usage Guidelines

1. A node can be set to be a master node, a transit node, an edge node or an assistant node.
2. After the node type, the node ring's level and ring control VLAN are set, you need to decide whether to exist from the ring configuration mode and enable the ring's node, for if you conduct the two actions, the node type can never be modified.

#### Example

```
S1_config#mether-ring 1 domain 2
S1_config_ring1# edge-node
S1_config_ring1#
```

#### Related Command

[master-node](#)

[transit-node](#)

[assistant-node](#)

[major-ring](#)

[sub-ring](#)

[control-vlan](#)

### 1.1.5 assistant-node

To set the node type to be an assistant edge node, run the following command:

**assistant-node**

#### Parameters

None

#### Default Value

By default, the node type is not configured.

#### Command Mode

Node configuration mode

#### Usage Guidelines

1. A node can be set to be a master node, a transit node, an edge node or an assistant node.
2. After the node type, the node ring's level and ring control VLAN are set, you need to decide whether to exist from the ring configuration mode and enable the ring's node, for if you conduct the two actions, the node type can never be modified.

#### Example

```
S1_config#mether-ring 1 domain 2
S1_config_ring1# assistant-node
S1_config_ring1#
```

#### Related Command

[master-node](#)

[transit-node](#)

[edge-node](#)

[major-ring](#)

[sub-ring](#)

[control-vlan](#)

### 1.1.6 major-ring

To set the node ring's level to be the major ring node, run the following command:

**major-ring**

#### Parameters

None

#### Default Value

By default, the node ring's level is not configured.

#### Command Mode

Node configuration mode

#### Usage Guidelines

1. The node ring's level can only be set to one of the two levels: major-ring or sub-ring.
2. After the node type, the ring's level and ring control VLAN are set, you need to decide whether to exist from the ring configuration mode and enable the ring's node, for if you conduct the two actions, the node ring's level can never be modified.
3. The edge node and the assistant node cannot be set to major ring.

#### Example

```
S1_config#mether-ring 1 domain 2
S1_config_ring1# transit-node
S1_config_ring1#major-ring
S1_config_ring1#
```

#### Related Command

[master-node](#)

[transit-node](#)

[edge-node](#)

[assistant-node](#)

[sub-ring](#)

[control-vlan](#)



### 1.1.7 sub-ring

To set the node ring's level to be the sub-ring node, run the following command:

#### **sub-ring**

##### Parameters

None

##### Default Value

By default, the node type is not configured.

##### Command Mode

Node configuration mode

##### Usage Guidelines

1. The node ring's level can only be set to one of the two levels: major-ring or sub-ring.
2. After the node type, the ring's level and ring control VLAN are set, you need to decide whether to exist from the ring configuration mode and enable the ring's node, for if you conduct the two actions, the node ring's level can never be modified.
3. If the edge node or the assistant node is set, they are regarded as sub-rings by default. Of course, you can set them not to be sub-rings.

##### Example

```
S1_config#mether-ring 1 domain 2
S1_config_ring1#master-node
S1_config_ring1#sub-ring
S1_config_ring1#
```

##### Related Command

[master-node](#)

[transit-node](#)

[edge-node](#)

[assistant-node](#)

[major-ring](#)

[control-vlan](#)

### 1.1.8 control-vlan

To set the control VLAN of the ring node, run the following command:

**control-vlan** *vlan-id*

#### Parameters

Parameters	Description
vlan-id	ID of the control VLAN Value range: 1-4094

#### Default Value

By default, the control VLAN of a node is not configured.

#### Command Mode

Node configuration mode for the Ethernet ring

#### Usage Guidelines

1. You can set any VLAN to be the control VLAN of a node and at the same time the system will create the corresponding system VLAN and another control VLAN according to the ring level.
2. After the node type, the ring's level and ring control VLAN are set, you need to decide whether to exist from the ring configuration mode and enable the ring's node, for if you conduct the two actions, the ring control VLAN can never be modified.

#### Example

```
S1_config#mether-ring 1 domain 2
S1_config_ring1#master-node
S1_config_ring1#sub-ring
S1_config_ring1#control-vlan 2
S1_config_ring1#
```

#### Related Command

[master-node](#)

[transit-node](#)

[edge-node](#)

[assistant-node](#)

[major-ring](#)

---

## sub-ring

### 1.1.9 single-subring-mode

To configure the edge node or assistant edge node and enter the single subring mode, run the following command.

#### **single-subring-mode**

##### Parameters

None

##### Default Value

Don't enter the single subring mode by default.

##### Command Mode

Node configuration mode for the Ethernet ring

##### Usage Guidelines

1. Configuration of single-subring-mode can only be effective in the edge node and the assistant edge node.
2. As in the single ring mode the subring protocol packet channel status detection on the main ring is not run, the dual-homing networking can't appear in the Ethernet ring.

##### Example

```
S1_config#mether-ring 1 domain 2
S1_config_ring1#edge-node
S1_config_ring1#control-vlan 2
S1_config_ring1#single-subring-mode
```

##### Related Command

None

### 1.1.10 hello-time

To configure the cycle for the master node to transmit the HEALTH packets of the Ethernet ring, run the following command:

**hello-time** *value*

To resume the default value of the cycle, run the following command:

**no hello-time**

## Parameters

Parameters	Description
value	Stands for a time value, whose unit is second.  The default value is one second. The value ranges between 3 and 10 seconds.

## Default Value

By default, the hello-time is three seconds.

## Command Mode

Node configuration mode for the Ethernet ring

## Usage Guidelines

1. The hello-time configuration validates only on the master node.
2. By default, the value of the hello-time is smaller than that of the fail-time, which avoids the Ethernet ring protocol from being shocked. The hello-time needs to modify after modifying fail-time.

## Example

```
S1_config#mether-ring 1 domain 2
S1_config_ring1#master-node
S1_config_ring1#sub-ring
S1_config_ring1#control-vlan 2
S1_config_ring1#hello-time 4
```

## Related Command

[fail-time](#)

## 1.1.11 fail-time

To configure the time cap of waiting for the HEALTH packets for the secondary port of the master node, run the following command:

**fail-time** *value*

To resume the default value of the fail-time, run the following command:

**no fail-time**

## Parameters

Parameters	Description
value	Stands for a time value, whose unit is second.  The default value is three seconds. The value ranges between 9 and 30 seconds.

## Default Value

By default, the fail-time is 9 seconds.

## Command Mode

Node configuration mode for the Ethernet ring

## Usage Guidelines

1. The fail-time configuration validates only on the master node.
2. By default, the value of the fail-time is triple of the hello-time, which avoids the Ethernet ring protocol from being shocked. The hello-time needs to modify after modifying fail-time.

## Example

```
S1_config#mether-ring 1 domain 2
S1_config_ring1#master-node
S1_config_ring1#sub-ring
S1_config_ring1#control-vlan 2
S1_config_ring1#hello-time 4
S1_config_ring1#fail-time 12
```

## Related Command

[hello-time](#)

## 1.1.12 pre-forward-time

To configure the time of maintaining the pre-forward state on the transit port, run the following command.

**pre-forward-time** *value*

To resume the default value of the pre-forward-time, run this command.

**no pre-forward-time**

## Parameters

Parameters	Description
value	Stands for a time value, whose unit is second.  The default value is three seconds. The value ranges between 9 and 30 seconds.

## Default Value

By default, the pre-forward-time is 9 seconds.

## Command Mode

Node configuration mode for the Ethernet ring

## Usage Guidelines

1. The pre-forward-time configuration validates only on the transit node.
2. By default, the pre-forward-time on the transit node is triple the value of the hello-time on the master node, which avoids the network loop from being occurred after the transmission link recovers from disconnection. After the hello-time of the master node is modified, the corresponding pre-forward-time on the transit node need be adjusted.

## Example

```
S1_config#mether-ring 1 domain 2
S1_config_ring1#transit-node
S1_config_ring1#sub-ring
S1_config_ring1#control-vlan 2
S1_config_ring1#pre-forward-time 12
```

## Related Command

None

## 1.2 Port Configuration Commands

### 1.2.1 mether-ring *id1* domain *id2* primary-port

To set a port to be the primary port of a master node, run the following command:

**mether-ring *id1* domain *id2* primary-port**

To cancel the primary port configuration of a port, run the following command:

**no mether-ring *id1* domain *id2* primary-port**

## Parameters

Parameters	Description
Id1	ID of the node
Id2	ID of the domain

## Default Value

The primary port is not configured by default.

## Command Mode

The physical port configuration mode and the converged port configuration mode

## Usage Guidelines

The primary port can be configured only when the ring control VLAN, the ring's node type and the ring level are configured, and when the node type is the master node.

If the configured domain is 0, that is **id2 is 0**, *domain id2* can be omitted.

## Example

```
S1_config#interface GigaEthernet 0/1
S1_config_g0/1# mether-ring 1 domain 2 primary-port
S1_config_g0/1#exit
```

## Related Command

[master-node](#)

[mether-ring id1 domain id2 secondary-port](#)

1.2.2 mether-ring *id1* domain *id2* secondary-port

To set a port to be the secondary port of a master node, run the following command:

**mether-ring *id1* domain *id2* secondary-port**

To cancel the secondary port configuration, run the following command:

**no mether-ring *id1* domain *id2* secondary-port**

## Parameters

Parameters	Description
Id1	ID of the node
Id2	ID of the domain

### Default Value

The secondary port on the master node is not configured by default.

### Command Mode

The physical port configuration mode and the converged port configuration mode

### Usage Guidelines

The primary port can be configured only when the ring control VLAN, the ring's node type and the ring level are configured, and when the node type is the master node.

If the configured domain is 0, that is **id2 is 0**, *domain id2* can be omitted.

### Example

```
S1_config#interface GigaEthernet 0/3
S1_config_g0/3# mether-ring 1 domain 2 secondary-port
S1_config_g0/3#exit
```

### Related Command

[master-node](#)

[mether-ring id1 domain id2 primary-port](#)

## 1.2.3 mether-ring *id1* domain *id2* transit-port

To set a port to be the transit port of a transit node, run the following command:

**mether-ring *id1* domain *id2* transit-port**

To cancel the transit port, run the following command:

**no mether-ring *id1* domain *id2* transit-port**

### Parameters

Parameters	Description
id1	ID of the node
id2	ID of the domain

### Default Value

The transit port on the transit node is not configured by default.



## Command Mode

The physical port configuration mode and the converged port configuration mode

## Usage Guidelines

The primary port can be configured only when the ring control VLAN, the ring's node type and the ring level are configured, and when the node type is the transit node. Two transit ports can be configured on one transit node.

If the configured domain is 0, that is **id2 is 0**, *domain id2* can be omitted.

## Example

```
S1_config_ring1#exit
S1_config#interface GigaEthernet 0/1
S1_config_g0/1# mether-ring 1 domain 2 transit-port
S1_config_g0/1#exit
S1_config#interface GigaEthernet 0/3
S1_config_g0/3# mether-ring 1 domain 2 transit-port
S1_config_g0/3#exit
```

## Related Command

[transit-node](#)

### 1.2.4 mether-ring *id1* domain *id2* common-port

To set a port to be a public port of an edge node (assistant edge node), run the following command:

**mether-ring *id1* domain *id2* common-port**

To cancel the public port, run the following command:

**no mether-ring *id1* domain *id2* common-port**

## Parameters

Parameters	Description
Id1	ID of the node
Id2	ID of the domain

## Default Value

By default, there is no configuration of the public port of an edge node.

## Command Mode

The physical port configuration mode and the converged port configuration mode

## Usage Guidelines

The public port can be configured only when the ring control VLAN, the ring's node type and the ring level are configured, and when the node type is the edge node.

If the configured domain is 0, that is **id2 is 0**, *domain id2* can be omitted.

## Example

```
S1_config_ring1#exit
S1_config#interface GigaEthernet 0/1
S1_config_g0/1# mether-ring 2 domain 2 common-port
S1_config_g0/1#exit
```

## Related Command

[edge-node](#)

[assistant-node](#)

[mether-ring id1 domain id2 edge-port](#)

### 1.2.5 mether-ring *id1* domain *id2* edge-port

To set a port to be an edge port of an edge node (assistant edge node), run the following command:

**mether-ring *id1* domain *id2* edge-port**

To cancel the edge port configuration of a port, run the following command:

**no mether-ring *id1* domain *id2* edge-port**

## Parameters

Parameters	Description
id1	ID of the node
id2	ID of the domain

## Default Value

By default, there is no configuration of the edge port of an edge node.

## Command Mode

The physical port configuration mode and the converged port configuration mode

## Usage Guidelines

The edge port can be configured only when the ring control VLAN, the ring's node type and the ring level are configured, and when the node type is the edge node.

If the configured domain is 0, that is **id2 is 0**, *domain id2* can be omitted.

## Example

```

S1_config_ring1#exit
S1_config#interface GigaEthernet 0/3
S1_config_g0/3# mether-ring 2 domain 2 edge-port
S1_config_g0/3#exit

```

## Related Command

[edge-node](#)

[assistant-node](#)

[mether-ring id1 domain id2 common-port](#)

# 1.3 Show

## 1.3.1 show mether-ring

To display the summary information about the Ethernet-ring node, run the following command:

```
show mether-ring id1 domain id2
```

To display the detailed information about the Ethernet-ring node, run the following command:

```
show mether-ring id1 domain id2 detail
```

To display the information about the Ethernet-ring port, run the following command:

```
show mether-ring id1 domain id2 interface intf-name
```

To display all summary information about the Ethernet-ring node, run the following command:

```
show mether-ring
```

## Parameters

Parameters	Description
Id1	ID of the node
Id2	ID of the domain
intf-name	Name of an interface

## Default Value

None

## Command Mode

Monitoring mode, global configuration mode, node configuration mode or port configuration mode

## Usage Guidelines

If the configured domain is 0, that is **id2 is 0**, *domain id2* can be omitted.

## Example

None

## Related Command

None