**Modify State Messages**

***class*ryu.ofproto.ofproto\_v1\_0\_parser.OFPFlowMod(*datapath*, *match=None*, *cookie=0*, *command=0*, *idle\_timeout=0*, *hard\_timeout=0*, *priority=32768*, *buffer\_id=4294967295*, *out\_port=65535*, *flags=0*, *actions=None*)**

Modify Flow entry message

The controller sends this message to modify the flow table.

| **Attribute** | **Description** |
| --- | --- |
| match | Instance of **OFPMatch**. |
| cookie | Opaque controller-issued identifier. |
| command | One of the following values.  OFPFC\_ADD  OFPFC\_MODIFY  OFPFC\_MODIFY\_STRICT  OFPFC\_DELETE  OFPFC\_DELETE\_STRICT |
| idle\_timeout | Idle time before discarding (seconds). |
| hard\_timeout | Max time before discarding (seconds). |
| priority | Priority level of flow entry. |
| buffer\_id | Buffered packet to apply to (or 0xffffffff). Not meaningful for OFPFC\_DELETE\*. |
| out\_port | For OFPFC\_DELETE\* commands, require matching entries to include this as an output port. A value of OFPP\_NONE indicates no restriction. |
| flags | One of the following values.  OFPFF\_SEND\_FLOW\_REM  OFPFF\_CHECK\_OVERLAP  OFPFF\_EMERG |
| actions | List of **OFPAction\*** instance. |

Example:

**def** **send\_flow\_mod**(self, datapath):

ofp **=** datapath**.**ofproto

ofp\_parser **=** datapath**.**ofproto\_parser

match **=** ofp\_parser**.**OFPMatch(in\_port**=**1)

cookie **=** 0

command **=** ofp**.**OFPFC\_ADD

idle\_timeout **=** hard\_timeout **=** 0

priority **=** 32768

buffer\_id **=** 0xffffffff

out\_port **=** ofproto**.**OFPP\_NONE

flags **=** 0

actions **=** [ofp\_parser**.**OFPActionOutput(ofp**.**OFPP\_NORMAL, 0)]

req **=** ofp\_parser**.**OFPFlowMod(

datapath, match, cookie, command, idle\_timeout, hard\_timeout,

priority, buffer\_id, out\_port, flags, actions)

datapath**.**send\_msg(req)

JSON Example:

{

"OFPFlowMod": {

"actions": [

{

"OFPActionOutput": {

"max\_len": 65535,

"port": 6

}

}

],

"buffer\_id": 65535,

"command": 0,

"cookie": 0,

"flags": 0,

"hard\_timeout": 0,

"idle\_timeout": 0,

"match": {

"OFPMatch": {

"dl\_dst": "f2:0b:a4:7d:f8:ea",

"dl\_src": "00:00:00:00:00:00",

"dl\_type": 0,

"dl\_vlan": 0,

"dl\_vlan\_pcp": 0,

"in\_port": 0,

"nw\_dst": "0.0.0.0",

"nw\_proto": 0,

"nw\_src": "0.0.0.0",

"nw\_tos": 0,

"tp\_dst": 0,

"tp\_src": 0,

"wildcards": 4194295

}

},

"out\_port": 65532,

"priority": 123

}

}

***class*ryu.ofproto.ofproto\_v1\_0\_parser.OFPPortMod(*datapath*, *port\_no=0*, *hw\_addr='00:00:00:00:00:00'*, *config=0*, *mask=0*, *advertise=0*)**

Port modification message

The controller send this message to modify the behavior of the port.

| **Attribute** | **Description** |
| --- | --- |
| port\_no | Port number to modify. |
| hw\_addr | The hardware address that must be the same as hw\_addr of **OFPPhyPort** of **OFPSwitchFeatures**. |
| config | Bitmap of configuration flags.  OFPPC\_PORT\_DOWN  OFPPC\_NO\_STP  OFPPC\_NO\_RECV  OFPPC\_NO\_RECV\_STP  OFPPC\_NO\_FLOOD  OFPPC\_NO\_FWD  OFPPC\_NO\_PACKET\_IN |
| mask | Bitmap of configuration flags above to be changed |
| advertise | Bitmap of the following flags.  OFPPF\_10MB\_HD  OFPPF\_10MB\_FD  OFPPF\_100MB\_HD  OFPPF\_100MB\_FD  OFPPF\_1GB\_HD  OFPPF\_1GB\_FD  OFPPF\_10GB\_FD  OFPPF\_COPPER  OFPPF\_FIBER  OFPPF\_AUTONEG  OFPPF\_PAUSE  OFPPF\_PAUSE\_ASYM |

Example:

**def** **send\_port\_mod**(self, datapath):

ofp **=** datapath**.**ofproto

ofp\_parser **=** datapath**.**ofproto\_parser

port\_no **=** 3

hw\_addr **=** 'fa:c8:e8:76:1d:7e'

config **=** 0

mask **=** (ofp**.**OFPPC\_PORT\_DOWN **|** ofp**.**OFPPC\_NO\_RECV **|**

ofp**.**OFPPC\_NO\_FWD **|** ofp**.**OFPPC\_NO\_PACKET\_IN)

advertise **=** (ofp**.**OFPPF\_10MB\_HD **|** ofp**.**OFPPF\_100MB\_FD **|**

ofp**.**OFPPF\_1GB\_FD **|** ofp**.**OFPPF\_COPPER **|**

ofp**.**OFPPF\_AUTONEG **|** ofp**.**OFPPF\_PAUSE **|**

ofp**.**OFPPF\_PAUSE\_ASYM)

req **=** ofp\_parser**.**OFPPortMod(datapath, port\_no, hw\_addr, config,

mask, advertise)

datapath**.**send\_msg(req)