

How to show a MAC learning table of Linux bridge

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Question: I would like to check MAC address learning status of a Linux bridge that I created with `brctl` tool. How can I view the MAC learning table (or forwarding table) of a Linux bridge?

A Linux bridge is software implementation of a network bridge, which is part of Linux kernel. Similar to hardware bridge, Linux bridge maintains a layer-2 forwarding table (also known as MAC learning table, forwarding database, or just FDB), which keeps track of what MAC addresses are associated with which ports. When a bridge receives a packet (with source MAC address X) at port N, it records in FDB that MAC address X is reachable from port N. That way, later when a bridge needs to forward a packet destined to address X, it knows where to forward the packet from FDB lookup. Building a FDB is often called "MAC learning" or just "learning" process.

You can check the current forwarding table or MAC learning table of a Linux bridge using the following command.

```
$ sudo brctl showmacs
```

```
dev@svc:~$ sudo brctl showmacs br0
port no mac addr          is local?    ageing timer
  1    00:0c:29:0d:0f:d6      no           0.75
  1    00:0c:29:2c:43:4d      no           0.75
  2    00:0c:f9:1d:01:e0      yes          0.00
  1    00:0c:f9:1d:01:e9      yes          0.00
dev@svc:~$
dev@svc:~$
```

This command will show a list of all learned MAC addresses along with their associated port number. Each entry has a corresponding aging timer attached to it, so that the forwarding entries get refreshed after some time, making the MAC learning table up-to-date.