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## **Red Hat Enterprise Linux Release 9.2 Manual Pages on 'bpftool-struct\_ops.8' command**

**\$ man bpftool-struct\_ops.8**

BPFTOOL-STRUCT\_OPS(8)

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### NAME

bpftool-struct\_ops - tool to register/unregister/introspect BPF  
struct\_ops

### SYNOPSIS

bpftool [OPTIONS] struct\_ops COMMAND  
OPTIONS := { { -j | --json } { -p | --pretty } } | { -d | --debug }  
| { -l | --legacy } }  
COMMANDS := { show | list | dump | register | unregister | help }

### STRUCT\_OPS COMMANDS

bpftool struct\_ops { show | list } [STRUCT\_OPS\_MAP]  
bpftool struct\_ops dump [STRUCT\_OPS\_MAP]  
bpftool struct\_ops register OBJ  
bpftool struct\_ops unregister STRUCT\_OPS\_MAP  
bpftool struct\_ops help  
STRUCT\_OPS\_MAP := { id STRUCT\_OPS\_MAP\_ID | name STRUCT\_OPS\_MAP\_NAME }  
OBJ := /a/file/of/bpf\_struct\_ops.o

### DESCRIPTION

bpftool struct\_ops { show | list } [STRUCT\_OPS\_MAP]  
Show brief information about the struct\_ops in the system.  
If STRUCT\_OPS\_MAP is specified, it shows information only for the given struct\_ops. Otherwise, it lists all struct\_ops currently existing in the system.

Output will start with struct\_ops map ID, followed by its map name and its struct\_ops's kernel type.

```
bpftool struct_ops dump [STRUCT_OPS_MAP]
```

Dump details information about the struct\_ops in the system.

If STRUCT\_OPS\_MAP is specified, it dumps information only for the given struct\_ops. Otherwise, it dumps all struct\_ops currently existing in the system.

```
bpftool struct_ops register OBJ
```

Register bpf struct\_ops from OBJ. All struct\_ops under the ELF section ".struct\_ops" will be registered to its kernel subsystem.

```
bpftool struct_ops unregister STRUCT_OPS_MAP
```

Unregister the STRUCT\_OPS\_MAP from the kernel subsystem.

```
bpftool struct_ops help
```

Print short help message.

## OPTIONS

-h, --help

Print short help message (similar to bpftool help).

-V, --version

Print bpftool's version number (similar to bpftool version), the number of the libbpf version in use, and optional features that were included when bpftool was compiled. Optional features include linking against libbfd to provide the disassembler for JIT-ted programs (bpftool prog dump jited) and usage of BPF skeletons (some features like bpftool prog pro? file or showing pids associated to BPF objects may rely on it).

-j, --json

Generate JSON output. For commands that cannot produce JSON, this option has no effect.

-p, --pretty

Generate human-readable JSON output. Implies -j.

-d, --debug

Print all logs available, even debug-level information. This includes logs from libbpf as well as from the verifier, when attempting to load programs.

`-l, --legacy`

Use legacy libbpf mode which has more relaxed BPF program requirements. By default, bpftool has more strict requirements about section names, changes pinning logic and doesn't support some of the older non-BTF map declarations.

See

<https://github.com/libbpf/libbpf/wiki/Libbpf:-the-road-to-v1.0> for details.

## EXAMPLES

```
# bpftool struct_ops show
100: dctcp      tcp_congestion_ops
105: cubic      tcp_congestion_ops

# bpftool struct_ops unregister id 105
Unregistered tcp_congestion_ops cubic id 105

# bpftool struct_ops register bpf_cubic.o
Registered tcp_congestion_ops cubic id 110
```

## SEE ALSO

`bpf(2)`, `bpf-helpers(7)`, `bpftool(8)`, `bpftool-btf(8)`,  
`bpftool-cgroup(8)`, `bpftool-feature(8)`, `bpftool-gen(8)`,  
`bpftool-iter(8)`, `bpftool-link(8)`, `bpftool-map(8)`, `bpftool-net(8)`,  
`bpftool-perf(8)`, `bpftool-prog(8)`  
`BPFTOOL-STRUCT_OPS(8)`