

## NAME

ovn-ctl – Open Virtual Network northbound daemon lifecycle utility

## SYNOPSIS

**ovn-ctl** [*options*] *command* [*-- extra\_args*]

## DESCRIPTION

This program is intended to be invoked internally by Open Virtual Network startup scripts. System administrators should not normally invoke it directly.

## COMMANDS

```
start_northd
start_controller
start_controller_vtep
start_ic
stop_northd
stop_controller
stop_controller_vtep
stop_ic
restart_northd
restart_controller
restart_controller_vtep
restart_ic
promote_ovnnb
promote_ovnsb
demote_ovnnb
demote_ovnsb
status_ovnnb
status_ovnsb
start_ovsdb
start_nb_ovsdb
start_sb_ovsdb
stop_ovsdb
stop_nb_ovsdb
stop_sb_ovsdb
restart_ovsdb
run_nb_ovsdb
run_sb_ovsdb
promote_ic_nb
promote_ic_sb
demote_ic_nb
demote_ic_sb
status_ic_nb
status_ic_sb
start_ic_ovsdb
start_ic_nb_ovsdb
start_ic_sb_ovsdb
stop_ic_ovsdb
stop_ic_nb_ovsdb
stop_ic_sb_ovsdb
restart_ic_ovsdb
run_ic_nb_ovsdb
run_ic_sb_ovsdb
start_ovnbr_ovsdb
```

```
start_br_controller
stop_ovnbr_ovsdb
stop_br_controller
restart_ovnbr_ovsdb
restart_br_controller
status_ovnbr_ovsdb
status_br_controller
run_ovnbr_ovsdb
```

## OPTIONS

```
--ovn-northd-priority=NICE
--ovn-northd-wrapper=WRAPPER
--ovn-controller-priority=NICE
--ovn-controller-wrapper=WRAPPER
--ovn-ic-priority=NICE
--ovn-ic-wrapper=WRAPPER
--ovsdb-nb-wrapper=WRAPPER
--ovsdb-sb-wrapper=WRAPPER
--ovn-br-controller-priority=NICE
--ovn-br-controller-wrapper=WRAPPER
--ovn-user=USER:GROUP
-h | --help
```

## FILE LOCATION OPTIONS

```
--db-sock=SOCKET
--db-nb-file=FILE
--db-sb-file=FILE
--db-nb-schema=FILE
--db-sb-schema=FILE
--db-sb-create-insecure-remote=yes|no
--db-nb-create-insecure-remote=yes|no
--db-ic-nb-file=FILE
--db-ic-sb-file=FILE
--db-ic-nb-schema=FILE
--db-ic-sb-schema=FILE
--db-ic-sb-create-insecure-remote=yes|no
--db-ic-nb-create-insecure-remote=yes|no
--db-nb-config-file=FILE
--db-sb-config-file=FILE
--db-ic-nb-config-file=FILE
--db-ic-sb-config-file=FILE
--db-sb-relay-config-file=FILE
--ovn-controller-ssl-key=KEY
--ovn-controller-ssl-cert=CERT
```

```
--ovn-controller-ssl-ca-cert=CERT
--ovn-controller-ssl-bootstrap-ca-cert=CERT
--db-ovnbr-sock=SOCKET
--db-ovnbr-file=FILE
--db-ovnbr-schema=FILE
--db-ovnbr-create-insecure-remote=yes|no
--db-ovnbr-config-file=FILE
--ovn-br-controller-ssl-key=KEY
--ovn-br-controller-ssl-cert=CERT
--ovn-br-controller-ssl-ca-cert=CERT
--ovn-br-controller-ssl-bootstrap-ca-cert=CERT
```

## PROTOCOL, CIPHER AND CIPHERSUITE OPTIONS

```
--ovn-controller-ssl-protocols=PROTOCOLS
--ovn-ic-ssl-protocols=PROTOCOLS
--ovn-northd-ssl-protocols=PROTOCOLS
--ovn-nb-db-ssl-protocols=PROTOCOLS
--ovn-sb-db-ssl-protocols=PROTOCOLS
--ovn-ic-nb-db-ssl-protocols=PROTOCOLS
--ovn-ic-sb-db-ssl-protocols=PROTOCOLS
--ovn-controller-ssl-ciphers=CIPHERS
--ovn-ic-ssl-ciphers=CIPHERS
--ovn-northd-ssl-ciphers=CIPHERS
--ovn-nb-db-ssl-ciphers=CIPHERS
--ovn-sb-db-ssl-ciphers=CIPHERS
--ovn-ic-nb-db-ssl-ciphers=CIPHERS
--ovn-ic-sb-db-ssl-ciphers=CIPHERS
--ovn-controller-ssl-ciphersuites=CIPHERSUITES
--ovn-ic-ssl-ciphersuites=CIPHERSUITES
--ovn-northd-ssl-ciphersuites=CIPHERSUITES
--ovn-nb-db-ssl-ciphersuites=CIPHERSUITES
--ovn-sb-db-ssl-ciphersuites=CIPHERSUITES
--ovn-ic-nb-db-ssl-ciphersuites=CIPHERSUITES
--ovn-ic-sb-db-ssl-ciphersuites=CIPHERSUITES
--ovn-br-controller-ssl-protocols=PROTOCOLS
--ovn-br-db-ssl-protocols=PROTOCOLS
--ovn-br-controller-ssl-ciphers=CIPHERS
--ovn-br-db-ssl-ciphers=CIPHERS
--ovn-br-db-ssl-ciphersuites=CIPHERSUITES
--ovn-controller-ssl-server-name=NAME
```

```
--ovn-ic-ssl-server-name=NAME
--ovn-northd-ssl-server-name=NAME
--ovn-nb-db-ssl-server-name=NAME
--ovn-sb-db-ssl-server-name=NAME
--ovn-ic-nb-db-ssl-server-name=NAME
--ovn-ic-sb-db-ssl-server-name=NAME
--ovn-sb-relay-db-ssl-server-name=NAME
```

**ADDRESS AND PORT OPTIONS**

```
--db-nb-sync-from-addr=IP ADDRESS
--db-nb-sync-from-port=PORT NUMBER
--db-nb-sync-from-proto=PROTO
--db-sb-sync-from-addr=IP ADDRESS
--db-sb-sync-from-port=PORT NUMBER
--db-sb-sync-from-proto=PROTO
--db-ic-nb-sync-from-addr=IP ADDRESS
--db-ic-nb-sync-from-port=PORT NUMBER
--db-ic-nb-sync-from-proto=PROTO
--db-ic-sb-sync-from-addr=IP ADDRESS
--db-ic-sb-sync-from-port=PORT NUMBER
--db-ic-sb-sync-from-proto=PROTO
--ovn-northd-nb-db=PROTO:IP ADDRESS: PORT..
--ovn-northd-sb-db=PROTO:IP ADDRESS: PORT..
--ovn-ic-nb-db=PROTO:IP ADDRESS: PORT..
--ovn-ic-sb-db=PROTO:IP ADDRESS: PORT..
```

**CLUSTERING OPTIONS**

```
--db-nb-cluster-local-addr=IP ADDRESS
--db-nb-cluster-local-port=PORT NUMBER
--db-nb-cluster-local-proto=PROTO (tcp/ssl)
--db-nb-cluster-remote-addr=IP ADDRESS
--db-nb-cluster-remote-port=PORT NUMBER
--db-nb-cluster-remote-proto=PROTO (tcp/ssl)
--db-nb-election-timer=Timeout in milliseconds
--db-sb-cluster-local-addr=IP ADDRESS
--db-sb-cluster-local-port=PORT NUMBER
--db-sb-cluster-local-proto=PROTO (tcp/ssl)
--db-sb-cluster-remote-addr=IP ADDRESS
--db-sb-cluster-remote-port=PORT NUMBER
--db-sb-cluster-remote-proto=PROTO (tcp/ssl)
--db-sb-election-timer=Timeout in milliseconds
--db-ic-nb-cluster-local-addr=IP ADDRESS
```

**--db-ic-nb-cluster-local-port=PORT NUMBER**  
**--db-ic-nb-cluster-local-proto=PROTO (tcp/ssl)**  
**--db-ic-nb-cluster-remote-addr=IP ADDRESS**  
**--db-ic-nb-cluster-remote-port=PORT NUMBER**  
**--db-ic-nb-cluster-remote-proto=PROTO (tcp/ssl)**  
**--db-ic-sb-cluster-local-addr=IP ADDRESS**  
**--db-ic-sb-cluster-local-port=PORT NUMBER**  
**--db-ic-sb-cluster-local-proto=PROTO (tcp/ssl)**  
**--db-ic-sb-cluster-remote-addr=IP ADDRESS**  
**--db-ic-sb-cluster-remote-port=PORT NUMBER**  
**--db-ic-sb-cluster-remote-proto=PROTO (tcp/ssl)**  
**--db-cluster-schema-upgrade=yes|no**

## PROBE INTERVAL OPTIONS

**--db-nb-probe-interval-to-active=Time in milliseconds**  
**--db-sb-probe-interval-to-active=Time in milliseconds**

## EXTRA OPTIONS

Any options after '-' will be passed on to the binary run by *command* with the exception of start\_northd, which can have options specified in ovn-northd-db-params.conf. Any *extra\_args* passed to start\_northd will be passed to the ovsdb-servers if **--ovn-manage-ovsdb=yes**

## CONFIGURATION FILES

Following are the optional configuration files. If present, it should be located in the etc dir

### ovnnb-active.conf

If present, this file should hold the url to connect to the active Northbound DB server

**tcp:x.x.x.x:6641**

### ovnsb-active.conf

If present, this file should hold the url to connect to the active Southbound DB server

**tcp:x.x.x.x:6642**

### ovn-northd-db-params.conf

If present, start\_northd will not start the DB server even if **--ovn-manage-ovsdb=yes**. This file should hold the database url parameters to be passed to ovn-northd.

**--ovnnb-db=tcp:x.x.x.x:6641 --ovnsb-db=tcp:x.x.x.x:6642**

### ic-nb-active.conf

If present, this file should hold the url to connect to the active Interconnection Northbound DB server

**tcp:x.x.x.x:6645**

### ic-sb-active.conf

If present, this file should hold the url to connect to the active Interconnection Southbound DB server

**tcp:x.x.x.x:6646**

### ovn-ic-db-params.conf

If present, this file should hold the database url parameters to be passed to ovn-ic.

**--ic-nb-db=tcp:x.x.x.x:6645 --ic-sb-db=tcp:x.x.x.x:6646**

## RUNNING OVN DB SERVERS WITHOUT DETACHING

**# ovn-ctl run\_nb\_ovsdb**

This command runs the OVN nb ovsdb-server without passing the **detach** option, making it to block until

ovsdb-server exits. This command will be useful for starting the OVN nb ovsdb-server in a container.

#### # ovn-ctl run\_sb\_ovsdb

This command runs the OVN sb ovsdb-server without passing the **detach** option, making it to block until ovsdb-server exits. This command will be useful for starting the OVN sb ovsdb-server in a container.

#### # ovn-ctl run\_ic\_nb\_ovsdb

This command runs the OVN IC-NB ovsdb-server without passing the **detach** option, making it to block until ovsdb-server exits. This command will be useful for starting the OVN IC-NB ovsdb-server in a container.

#### # ovn-ctl run\_ic\_sb\_ovsdb

This command runs the OVN IC-SB ovsdb-server without passing the **detach** option, making it to block until ovsdb-server exits. This command will be useful for starting the OVN IC-SB ovsdb-server in a container.

#### # ovn-ctl run\_ovnbr\_ovsdb

This command runs the OVN bridge db ovsdb-server without passing the **detach** option, making it to block until ovsdb-server exits. This command will be useful for starting the OVN br db ovsdb-server in a container.

## EXAMPLE USAGE

### Run ovn-controller on a host already running OVS

```
# ovn-ctl start_controller
```

### Run ovn-northd on a host already running OVS

```
# ovn-ctl start_northd
```

### All-in-one OVS+OVN for testing

```
# ovs-ctl start --system-id="random"
```

```
# ovn-ctl start_northd
```

```
# ovn-ctl start_controller
```

### Promote and demote ovsdb servers

```
# ovn-ctl promote_ovnnb
```

```
# ovn-ctl promote_ovnsb
```

```
# ovn-ctl --db-nb-sync-from-addr=x.x.x.x --db-nb-sync-from-port=6641 --db-nb-probe-interval-to-active=60000 demote_ovnnb
```

```
# ovn-ctl --db-sb-sync-from-addr=x.x.x.x --db-sb-sync-from-port=6642 --db-sb-probe-interval-to-active=60000 demote_ovnsb
```

### Creating a clustered db on 3 nodes with IPs x.x.x.x, y.y.y.y and z.z.z.z

*Starting OVN ovsdb servers and ovn-northd on the node with IP x.x.x.x*

```
# ovn-ctl --db-nb-addr=x.x.x.x --db-nb-create-insecure-remote=yes --db-sb-addr=x.x.x.x --db-sb-create-insecure-remote=yes --db-nb-cluster-local-addr=x.x.x.x --db-sb-cluster-local-addr=x.x.x.x --ovn-northd-nb-db=tcp:x.x.x.x:6641,tcp:y.y.y.y:6641,tcp:z.z.z.z:6641 --ovn-northd-sb-db=tcp:x.x.x.x:6642,tcp:y.y.y.y:6642,tcp:z.z.z.z:6642 start_northd
```

*Starting OVN ovsdb-servers and ovn-northd on the node with IP y.y.y.y and joining the cluster started at x.x.x.x*

```
# ovn-ctl --db-nb-addr=y.y.y.y --db-nb-create-insecure-remote=yes --db-sb-addr=y.y.y.y --db-sb-create-insecure-remote=yes --db-nb-cluster-local-addr=y.y.y.y --db-sb-cluster-local-addr=y.y.y.y --db-nb-cluster-remote-addr=x.x.x.x --db-sb-cluster-remote-addr=x.x.x.x --ovn-northd-nb-db=tcp:x.x.x.x:6641,tcp:y.y.y.y:6641,tcp:z.z.z.z:6641 --ovn-northd-sb-db=tcp:x.x.x.x:6642,tcp:y.y.y.y:6642,tcp:z.z.z.z:6642 start_northd
```

*Starting OVN ovsdb-servers and ovn-northd on the node with IP z.z.z.z and joining the cluster started at*

*x.x.x.x*

```
# ovn-ctl --db-nb-addr=z.z.z.z --db-nb-create-insecure-remote=yes --db-nb-cluster-local-addr=z.z.z.z --db-sb-addr=z.z.z.z --db-sb-create-insecure-remote=yes --db-sb-cluster-local-addr=z.z.z.z --db-nb-cluster-remote-addr=x.x.x.x --db-sb-cluster-remote-addr=x.x.x.x --ovn-northd-nb-db=tcp:x.x.x.x:6641,tcp:y.y.y.y:6641,tcp:z.z.z.z:6641 --ovn-northd-sb-db=tcp:x.x.x.x:6642,tcp:y.y.y.y:6642,tcp:z.z.z.z:6642 start_northd
```

**Passing ssl keys when starting OVN dbs will supersede the default ssl values in db**

*Starting standalone ovn db server passing SSL/TLS certificates*

```
#          ovn-ctl          --ovn-nb-db-ssl-key=/etc/ovn/ovnnb-privkey.pem  
--ovn-nb-db-ssl-cert=/etc/ovn/ovnnb-cert.pem    --ovn-nb-db-ssl-ca-cert=/etc/ovn/cacert.pem  
--ovn-sb-db-ssl-key=/etc/ovn/ovnsb-privkey.pem --ovn-sb-db-ssl-cert=/etc/ovn/ovnsb-cert.pem  
--ovn-sb-db-ssl-ca-cert=/etc/ovn/cacert.pem start_northd
```

**Avoiding automatic clustered OVN database schema upgrade**

If you desire more control over clustered DB schema upgrade, you can opt-out of automatic on-start upgrade attempts with **--no-db-cluster-schema-upgrade**.

*Start OVN NB and SB clustered databases on host with IP x.x.x.x without schema upgrade*

```
# ovn-ctl start_nb_ovsdb --db-nb-cluster-local-addr=x.x.x.x --no-db-cluster-schema-upgrade  
# ovn-ctl start_sb_ovsdb --db-sb-cluster-local-addr=x.x.x.x --no-db-cluster-schema-upgrade
```

*Trigger clustered DB schema upgrade manually*

```
# ovsdb-client convert unix:/var/run/ovn/ovnnb_db.sock /usr/local/share/ovn/ovn-nb.ovsschema #  
ovsdb-client convert unix:/var/run/ovn/ovnsb_db.sock /usr/local/share/ovn/ovn-sb.ovsschema
```

**Run OVN bridge controller services on a host already running OVS**

```
# ovn-ctl start_ovnbr_ovsdb  
# ovn-ctl start_br_controller
```