

## 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
```