THE QUICK GUIDE FOR LINUX UBUNTU OF

# QVD 4.2 installation

QVD DOCUMENTATION

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# Contents

# Warnings

**Important**
The current guide contains the necessary commands to make a **mononode** QVD installation, where all the components will installed into the same machine. In a multinode installation will exist additional steps and network configuration may be different.

**Important**
During the process, some packages will be installed and the network configuration will be affected. It is recommended use a testing environment.

# Chapter 1

# Requirements

## 1.1 Database

- 2 CPU cores
- 2 GB of RAM
- PostgreSQL 10 or higher

## 1.2 HKD

- x86_64 architecture.

# Chapter 2

# Pre-installation

```
root@myserver:~# wget -qO - https://www.theqvd.com/packages/key/public.key | sudo apt-key  ↩
    add -
root@myserver:~# echo "deb http://theqvd.com/packages/ubuntu-bionic QVD-4.2.0 main" > /etc/ ↩
    apt/sources.list.d/qvd.list
root@myserver:~# apt-get update
```

For commercial packages:

```
root@myserver:~# wget -qO - https://www.theqvd.com/packages/key/public.key | sudo apt-key  ↩
    add -
root@myserver:~# echo "deb http://$USER:$PASSWORD@theqvd.com/commercial-packages/ubuntu/ ↩
    xenial QVD-4.2.0 main" > \
/etc/apt/sources.list.d/qvd.list
root@myserver:~# apt-get update
```

**Note**
$USER and $PASSWORD are the credentials received when the suscription is purchased.

# Chapter 3

# HKD installation

```
root@myserver:~# apt-get install perl-qvd-hkd
```

# Chapter 4

# Database installation and configuration

```
root@myserver:~# apt-get install postgresql
root@myserver:~# service postgresql start
```

## 4.1 Create a user account

```
root@myserver:~# su - postgres
postgres@myserver:~$ createuser -SDRP qvd
Enter password for new role: passw0rd
Enter it again: passw0rd
```

## 4.2 Create the QVD database

```
postgres@myserver:~$ createdb -O qvd qvddb
postgres@myserver:~$ exit
```

## 4.3 Change the PostgreSQL configuration

Edit the file `/etc/postgresql/{PSQL_VERSION}/main/pg_hba.conf` and add the following line **to the beginning**:

```
host qvddb qvd 192.168.0.0/24 md5
```

**Note**
Make sure to replace the default network 192.168.0.0/24 with the network that your platform uses.

Edit the file `/etc/postgresql/{PSQL_VERSION}/main/postgresql.conf` and set the following parameters:

```
listen_addresses = '*'
default_transaction_isolation = 'serializable'
```

Restart PostgreSQL.

```
root@myserver:~# service postgresql restart
```

## 4.4 Basic configuration

```
root@myserver:~# cp -v /usr/lib/qvd/config/sample-node.conf /etc/qvd/node.conf
root@myserver:~# chown root:root /etc/qvd/node.conf
root@myserver:~# chmod 0640 /etc/qvd/node.conf
```

Edit the file `/etc/qvd/node.conf` and modify/add the following entries:

```
nodename=qvdnode
database.host=localhost
database.name=qvddb
database.user=qvd
database.password=passw0rd
```

## 4.5 QVD tables population

```
# /usr/lib/qvd/bin/qvd-deploy-db.pl
```

# Chapter 5

# Administration tools installation

## 5.1 SSL Configuration

**Note**
If you already have a certificate signed by a third party, you can skip the auto signed certificate creation and use your signed certificate instead.

**Auto signed certificate creation**

```
# apt-get install openssl
# mkdir /etc/qvd/certs
# cd /etc/qvd/certs
```

Generate a private key.

```
# openssl genrsa 2048 > key.pem
```

Create an auto signed certificate.

```
# openssl req -new -x509 -nodes -sha256 -days 3650 -key key.pem > cert.pem
```

**Note**
OpenSSL will prompt you to enter the various fields that it requires for the certificate. In the field **Common Name** you must insert the fully qualified domain name of the host that will be running your QVD node.

## 5.2 API

```
root@myserver:~# apt-get install perl-qvd-api
```

Create the file `/etc/qvd/api.conf` with the following content:

```
database.host=localhost
database.name=qvddb
database.user=qvd
database.password=passw0rd
api.user=root
api.group=root
path.api.ssl=/etc/qvd/certs
```

To execute either the CLI or the WAT we must start the API.

```
service qvd-api start
```

Calling to the endpoint *info* from the browser or using the following command, we will check that the API is working.

```
# curl -k https://localhost:443/api/info
```

It should return a JSON with system information.

## 5.3 CLI

```
root@myserver:~# apt-get install perl-qvd-admin4
```

Create the file `/etc/qvd/qa.conf` with the following content:

```
qa.url = https://localhost:443/
qa.tenant = *
qa.login = superadmin
qa.password = superadmin
qa.format = TABLE
qa.insecure = 1
```

**Caution**
This is just a testing installation guide. Never for be using in production environment. The parameter `qa.insecure` must be replaced by the parameter `qa.ca` with your Authority certification path.

With the following command we will check that QA4 is working.

```
# qa4 admin get
```

It should return the two administrators of the system: admin and superadmin.

## 5.4 WAT

```
# apt-get install qvd-wat
```

**Executing the WAT**

Visit https://localhost:443

Credentials:

- **username**: superadmin@*
- **password**: superadmin

# Chapter 6

# Basic and indispensable configuration

## 6.1 Network configuration

### 6.1.1 Set dnsmasq to be controlled by QVD

```
# dpkg -s dnsmasq
```

If it is not installed:

```
# apt-get install dnsmasq
```

```
# service dnsmasq stop
# sed -i s/ENABLED=1/ENABLED=0/ /etc/default/dnsmasq
```

### 6.1.2 Configure IP forwarding

Edit the file `/etc/sysctl.conf` and uncomment the line:

```
net.ipv4.ip_forward=1
```

Execute:

```
# sysctl -p
```

### 6.1.3 Configure a network bridge

Edit the file `/etc/network/interfaces` and add the following lines:

```
auto qvdnet0
iface qvdnet0 inet static
  pre-up brctl addbr qvdnet0
  pre-up iptables -t nat -A POSTROUTING -o eth0 -j SNAT --to-source 192.168.0.2
  pre-up iptables -t nat -A PREROUTING -d 192.168.0.2 -p tcp --dport 8443 -j DNAT --to- ↩
      destination 10.3.15.1
  post-down brctl delbr qvdnet0
  address 10.3.15.1
  netmask 255.255.255.0
```

**Note**
You will need to change the IP address **192.168.0.2** to the IP address of the network interface that you intend your clients to connect to.

**Note**
The range **10.3.15.0/24** should be unique within your infrastructure.

Bring up the network bridge

```
# ifup qvdnet0
```

### 6.1.4 Configure QVD for your network

```
# qa4 config set tenant_id=-1,key=vm.network.ip.start,value=10.3.15.50
# qa4 config set tenant_id=-1,key=vm.network.netmask,value=24
# qa4 config set tenant_id=-1,key=vm.network.gateway,value=10.3.15.1
# qa4 config set tenant_id=-1,key=vm.network.dns_server,value=10.3.15.254
# qa4 config set tenant_id=-1,key=vm.network.bridge,value=qvdnet0
```

## 6.2 Configure QVD to use the SSL certificates

```
# qa4 config ssl key=/etc/qvd/certs/key.pem, cert=/etc/qvd/certs/cert.pem
# openssl version -d
```

The previous command may return the following response by default:

```
OPENSSLDIR: "/usr/lib/ssl"
```

**Note**
If other directory is returned, use it instead `/usr/lib/ssl` for the following steps.

The trusted certificates are stored in `/usr/lib/ssl/certs`.

```
# trusted_ssl_path=/usr/lib/ssl/certs
# cert_path=/etc/qvd/certs/cert.pem
# cert_name=`openssl x509 -noout -hash -in $cert_path`.0
# cp $cert_path $trusted_ssl_path/QVD-L7R-cert.pem
# ln -s $trusted_ssl_path/QVD-L7R-cert.pem $trusted_ssl_path/$cert_name
```

## 6.3 Configure HKD Node

Edit file /etc/qvd/node.conf with this contents:

```
nodename = node1
database.host = localhost
database.name = qvddb
database.user = qvd
database.password = passw0rd
```

Now, add the node to the solution by running:

```
# qa4 host new name=node1,address=10.3.15.1
```

And start HKD service:

```
# systemctl start qvd-hkd
```

# Chapter 7

# And now, what?

Should you have any issue, please check the full QVD installation guide.

If you have already done all the steps of this guide, congratulations, you already have a solution QVD installed. Now you should:

- Configure your fist OSF
- Install your first image
- Add your first user
- Add a VM for your user

We recommend to you to continue with **the WAT guide** to do these steps.

Once finished, you will only have to:

- Connect and try the solution

Check **the quick guide to install the QVD client** in your system.

If you have any question or need additional support, visit our website at http://theqvd.com/ or contact with us at info@theqvd.com.