Install Exalate for HP ALM/QC

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Exalate architecture requires installing one Exalate application for each instance.

As far as HP ALM/QC does not offer any integration option for plugins, you need to install a separate server to store the Exalate for HP ALM/QC application and configure it to communicate with your HP ALM/QC.

System Requirements

Check all requirements before installing the Exalate app for HP ALM/QC.

Install Exalate for HP ALM/QC on CentOS 6

Exalate Server for HP ALM/QC hosts the applications to translate the HP ALM/QC defect information to a common format and the way around.

The application requires JAVA and PostgreSQL.

Install and Configure the Database Server (PostgreSQL 9.6)

Please follow the steps to install PostgreSQL on the exalate server as documented here
https://wiki.postgresql.org/wiki/YUM_Installation
Ensure that

- the database server comes up when the server is booted
- the data directories are included in the backup strategy

Enable PostgreSQL to Accept Login with Password

http://stackoverflow.com/questions/4328679/how-to-configure-postgresql-so-it-accepts-loginpassword-a...

You will need to modify `/var/lib/pgsql/9.6/data/pg_hba.conf` to require md5 for local IPv4 connections, such as at the end of the file it does look like

```
# TYPE  DATABASE        USER            ADDRESS                 METHOD
# "local" is for Unix domain socket connections only such as postgres
local   all             all                                     trust
# IPv4 local connections:
host    all             all             127.0.0.1/32            md5
```

Restart the Database

```
systemctl restart postgresql-9.6.service
```

Installing OpenJDK

- Needs Exalate for HPQC version 5.0 and higher
- For versions lower than 5.0, please deploy Oracle Java version 1.8

Commands extracted from https://www.liquidweb.com/kb/install-java-8-on-centos-7/

```
#refresh repos
yum -y update

#install the openjdk - latest version in the 8 family
yum install java-1.8.0-openjdk

#ensure it is being used - choose the openjdk
update-alternatives --config java


#update the java home in your .bash_profile by adding (the openjdk path depends on what was installed)
export JAVA_HOME=/usr/lib/jvm/java-1.8.0-openjdk-1.8.0.242.b08-0.el7_7.x86_64
export JAVA_JRE=$JAVA_HOME/jre
export PATH=$PATH:@JAVA_JRE/bin/
```

Install the Exalate server for HP ALM/QC

You can download the Exalate server for HP ALM/QC RPM from here.

Install the latest version of the Exalate app for HP ALM/QC :

```
# the version number will differ
yum localinstall exalate-hpqcnode-5.0.13.noarch.rpm
```

This will create these files:

- /opt/hpqcnode/data -> Contains configuration files
    - /opt/hpqcnode/logs -> Contains log files
- /opt/hpqcnode/install -> contains all the files (binaries) which are necessary for the application to run
- /etc/init.d/hpqcnode -> Script which will allow start, stop and restart hpqcnode application
- /etc/sysconfig/hpqcnode -> System properties

Copy dist files into prod files

```
cp /etc/sysconfig/hpqcnode.dist /etc/sysconfig/hpqcnode
cp /etc/init.d/hpqcnode.dist /etc/init.d/hpqcnode
cp /opt/hpqcnode/data/hpqcnode.conf.dist /opt/hpqcnode/data/hpqcnode.conf
cp /opt/hpqcnode/data/logger.xml.dist /opt/hpqcnode/data/logger.xml
```

Adapt configuration files

Adapt /etc/init.d/hpqcnode `RUN_AS_USER` variable to point to a valid user who will be running the application

```
...
#
#

# Script arguments (start, stop, restart or status)
COMMAND=$1

# ***************************************************
# *************  Set these variables  ***********

RUN_AS_USER=root // Set the user that would be running the application
NAME=hpqcnode
HOME_DIR=/opt/hpqcnode
DATA_DIR=$HOME_DIR/data
APP_DIR=$HOME_DIR/install
SYSCONFIG=/etc/sysconfig/hpqcnode

# ***************************************************

# stop if no configuration available
if [ ! -f "$SYSCONFIG" ]; then printf "no config present ... exiting\n"; exit 1; fi
...
```

Adapt /etc/sysconfig/hpqcnode parameters:

```
# ---------
# Data Base specifics
DHPQCNODE_PG_USER=idalko
DHPQCNODE_PG_PWD=idalko
DHPQCNODE_PG_HOST=localhost
#DHPQCNODE_PG_HOST="localhost:5432"
DHPQCNODE_PG_DB=hpqcnode
# ---------
# OS User Name
# Name of the OS User to run the app with
DHPQCNODE_SYS_USER=root
# ---------
# Port specifics
DHPQCNODE_PORT=9000
# ---------
# SMTP specifics
DHPQCNODE_SMTP_HOST_NAME=mail.server.com
DHPQCNODE_SMTP_PORT=465
DHPQCNODE_SMTP_FROM=admin@admin.com
DHPQCNODE_SMTP_USER=admin
DHPQCNODE_SMTP_PASS=1234567
DHPQCNODE_SMTP_SSL=true
# ---------
```

Start the application

```
/etc/init.d/hpqcnode start
```

Troubleshooting

Problems during the installation using yum

If you have problems during the installation of the Exalate server for HP ALM/QC using yum, you can find logs describing possible problems inside `/tmp` The name for this file is generated randomly automatically by the OS but you should be able to find the file based on the creation date.

In case of 'yum list postgresql*' error refer to the troubleshooting article.

Problems while running the Exalate server for HP ALM/QC

Logs will be generated under the directory: `/opt/hpqcnode/data/logs` . Refer to these logs to get more information about possible problems and communicate with our support if you need any assistance.

Run Exalate for HP ALM/QC on Docker

> You need to install Docker. Check the docker documentation for more details.

To run Exalate for HP ALM/QC on Docker:

- Create a docker-compose
- Start the application

Create a docker-compose

Create a directory that would hold the docker-compose file:

```
cd ~
mkdir exalate-hp-qc
```

Create the docker-compose.yml file in it:

```
cd exalate-hp-qc
touch docker-compose.yml
cat > docker-compose.yml << 'EOF'
version: '2'

services:
  database:
    restart: always
    image: postgres:9.4
    volumes:
      - voldatabase:/var/lib/postgresql/data
      - ./createdb.sh:/docker-entrypoint-initdb.d/init-user-db.sh
    environment:
      - DB_NAME=hpqcnode
      - DB_USER=idalko
      - DB_PASS=idalko
    networks:
      - database

  hpqcnode:
    restart: always
    ports:
      - 9000:9000
    image: idalko/hpqcnode:latest
    depends_on:
      - database #wait for postgres to be started, not for ready
    volumes:
      - volhpqcnode:/opt/hpqcnode/data
    environment:
      - HPQCNODE_PG_DB=hpqcnode
      - HPQCNODE_PG_USER=idalko
      - HPQCNODE_PG_PWD=idalko
    networks:
      - database
      - default

volumes:
  voldatabase:
  volhpqcnode:

networks:
  database:
    driver: bridge
  default:
    driver: bridge
EOF
```

Please note the environment variables used for hpqcnode container. All of them are optional, and in the given example, we've overridden HPQCNODE_PG_DB, HPQCNODE_PG_USER and HPQCNODE_PG_PWD just to explicitly how can different credentials be passed to the Exalate application.

Here's the full list of environment variables

Variable name	Default value	Example	Description
HPQCNODE_PG_HOST	HPQCNODE_PG_HOST=database	HPQCNODE_PG_HOST=localhost	tells Exalate where is the Postgres database to connect to host
HPQCNODE_PG_DB	HPQCNODE_PG_DB=hpqcnode	HPQCNODE_PG_DB=exalate	tells Exalate what is the Postgres database name for the exalate application

Variable name	Default value	Example	Description
HPQCNODE_PG_USER	HPQCNODE_PG_USER=idalko	HPQCNODE_PG_USER=exalate	tells Exalate what is the Postgres database user name for the exalate application to perform queries with
HPQCNODE_PG_PWD	HPQCNODE_PG_PWD=idalko	HPQCNODE_PG_PWD=secret	tells Exalate what is the Postgres database user's password for Exalate to perform queries with

HPQCNODE_PORT	HPQCNODE_PORT=9000	HPQCNODE_PORT=80	tells what which is port to start Exalate on. Note that this is the port within the exalatehpqc_hpqcnode_1 container, thus if this variable is changed (for example to 80), the
			`ports:`
			`- 9000:9000`
			should also be changed to
			`ports:`
			`- 80:80`

HPQCNODE_SMTP_HOST_NAME	HPQCNODE_SMTP_HOST_NAME=mail.server.com	HPQCNODE_SMTP_HOST_NAME=smtp.gmail.com	is used to send email notifications about errors blocking synchronization
HPQCNODE_SMTP_PORT	HPQCNODE_SMTP_PORT=465	HPQCNODE_SMTP_PORT=587	is used to send email notifications about errors blocking synchronization
HPQCNODE_SMTP_FROM	HPQCNODE_SMTP_FROM=admin@admin.com	HPQCNODE_SMTP_FROM=my.name@gmail.com	is used to send email notifications about errors blocking synchronization
HPQCNODE_SMTP_USER	HPQCNODE_SMTP_USER=admin	HPQCNODE_SMTP_USER=my.name	is used to send email notifications about errors blocking synchronization
HPQCNODE_SMTP_PASS	HPQCNODE_SMTP_PASS=1234567	HPQCNODE_SMTP_PASS=secret	is used to send email notifications about errors blocking synchronization
HPQCNODE_SMTP_TLS	HPQCNODE_SMTP_TLS=true	HPQCNODE_SMTP_TLS=true	is used to send email notifications about errors blocking synchronization. Can be set to false, but then the HPQCNODE_SMTP_PORT should be set to the port, that accepts non-SSL and non-TLS connections

create "createdb.sh" (referenced from docker-compose.yml):

```
touch createdb.sh
cat > createdb.sh << 'EOCREATEDB'
#!/bin/bash

TEST=`psql -U postgres <<-EOSQL
  SELECT 1 FROM pg_database WHERE datname='$DB_NAME';
EOSQL`

echo "******CREATING DOCKER DATABASE******"
if [[ $TEST == "1" ]]; then
    # database exists
    # $? is 0
    exit 0
else
psql -U postgres <<-EOSQL
  CREATE ROLE $DB_USER WITH LOGIN ENCRYPTED PASSWORD '${DB_PASS}' SUPERUSER;
EOSQL

psql -U postgres <<-EOSQL
  CREATE DATABASE $DB_NAME WITH OWNER $DB_USER ENCODING 'UNICODE' LC_COLLATE 'C' LC_CTYPE 'C' TEMPL
ATE template0;
EOSQL

psql -U postgres <<-EOSQL
  GRANT ALL PRIVILEGES ON DATABASE $DB_NAME TO $DB_USER;
EOSQL
fi

echo ""
echo "******DOCKER DATABASE CREATED******"
EOCREATEDB
```

Ensure that the volumes are included in your backup strategy:

- voldatabase
- volhpqcnode

Start the Application

```
cd ~/exalate-hp-qc
docker-compose up -d
```

Check How to Manage the Application on the Docker

Run queries to the application's database

```
cd ~/exalate-hp-qc
docker exec -it exalatehpqc_database_1 bash
su postgres
psql -A $DB_NAME
```

One can find all the tables using psql's \dt+ command:

```
\dt+
```

All the postgres SQL queries are permitted

To exit the application's DB:

```
\q
# \q exits the psql
exit
# exits the postgres user session
exit
# exits the exalatehpqc_database_1 bash session
```

Inspect the application's filesystem

```
cd ~/exalate-hp-qc
docker exec -it exalatehpqc_hpqcnode_1 bash
```

Remove the application

```
cd ~/exalate-hp-qc
docker-compose rm
```

Remove the application data

Danger zone - do this only if you wish to lose all the synchronization information, including the current synchronizations enqueued to be performed and synchronization status.

Be sure that the remote side (you exalate issues with) knows that you're stopping synchronization and are ready to handle synchronization errors.

```
cd ~/exalate-hp-qc
# docker volume ls | grep exalatehpqc_vol |  awk '{ print $2 }' | xargs docker volume rm
docker volume rm exalatehpqc_voldatabase
docker volume rm exalatehpqc_volhpqcnode
```

Troubleshooting

Problems during the installation of Exalate for HP ALM/QC

If you have problems during the installation of the Exalate app for HP ALM/QC, you can find logs describing possible problems inside `/tmp`. The name for this file is generated randomly automatically by the OS but you should be able to find the file based on the creation date.

Problems while running Exalate for HP ALM/QC

Logs will be generated under the directory: `/opt/hpqcnode/data/logs`. Refer to these logs to get more information about possible problems and communicate with our support if you need any assistance.

Support

Check our Support options if necessary.

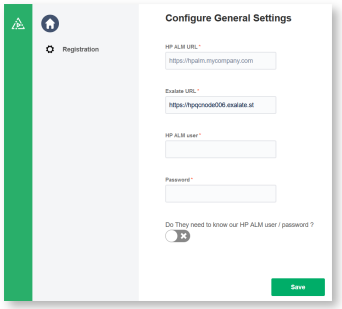
Exalate needs to exchange information with the HP ALM instance. After Exalate for HP ALM/QC is deployed on the server, you need to establish the connection between the Exalate app for HP ALM/QC and HP ALM/QC instance.

Configure Exalate to Communicate with HP ALM/QC Instance

To configure Exalate:

1. Open Exalate for HP ALM/QC.

2. **Configure General Settings**.



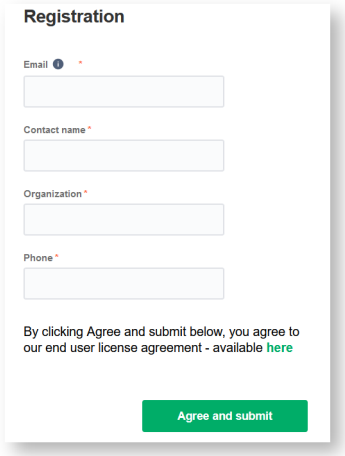
Field descriptions

3. Click **Save**.

4. Fill in your contact details in the **Registration** screen.

Exalate uses this info to:

- Verify your instance.
- Activate an evaluation license.
- Create an admin account to receive error notifications.



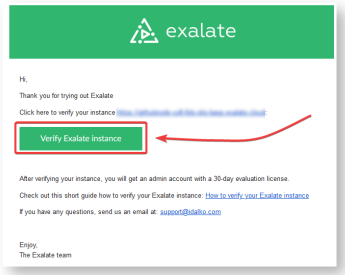
5. Click **Agree and submit**.

After clicking **Agree and submit**, you will get an email to complete a security check.

> After clicking **Agree and submit**, you will accept our End User License Agreement (EULA). It is also available here:
>
> https://static.idalko.com/legal/eula-addons.pdf

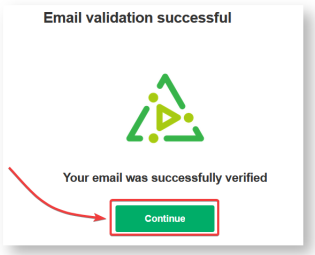
6. Open your email and click **Verify Exalate instance**.

You will be redirected back to your Exalate console.



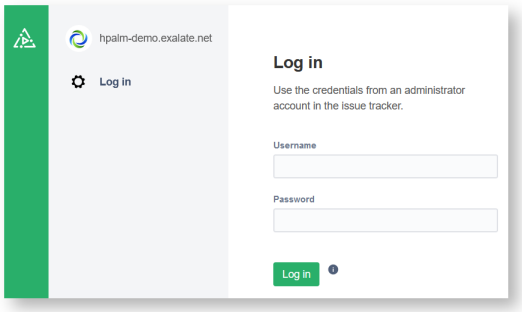
7. Click **Continue**.

After clicking **Continue**, you complete the verification procedure, so you can log in to the Exalate admin console.



8. Log in to your Exalate admin console.

Input the **Username** and the **Password** of the proxy user to log in.



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