

Table of Contents

Common items for dCache/FedCloud installation.....	1
Operating systems and software repositories.....	1
Server setting.....	2
Pool setting.....	4
Authorisation setting (on manager).....	5

Common items for dCache/FedCloud installation

links

- old manual of 2014 year [↗](#)
- The dCache Book for 2.16-series [↗](#)
- The actual dCache sources [↗](#)
- TroubleShooting [↗](#)
- github about zookeeper [↗](#)
- dCache twiki [↗](#)

Operating systems and software repositories

Standard software repositories:

- RHEL 6.x (CentOS, Scientific Linux, etc)
- EPEL,
- PostgreSQL 94 (for Server):

For centos:

```
yum install -y https://download.postgresql.org/pub/repos/yum/9.4/redhat/rhel-6-x86_64/pgdg-centos
```

For SL:

```
yum install -y https://download.postgresql.org/pub/repos/yum/9.4/redhat/rhel-6-x86_64/pgdg-sl94-9
```

Packages:

- Main package:

```
wget --no-check-certificate https://131.169.4.221/downloads/1.9/repo/2.16/dcache-2.16.10-1.noarch.rpm  
or
```

```
wget --no-check-certificate https://131.169.4.221/downloads/1.9/repo/3.0/dcache-3.0.10-1.noarch.rpm
```

```
yum localinstall dcache-2.16.10-1.noarch.rpm -y
```

```
or
```

```
yum localinstall dcache-3.0.10-1.noarch.rpm -y
```

- Requirements packages:

```
yum install java-1.8.0-openjdk rpcbind liquibase -y
```

- Database packages (for server):

```
yum install postgresql94-server postgresql94-jdbc plpgsql_check_94 -y
```

- CA and voms (for server):

```
yum install http://repository.egi.eu/sw/production/umd/4/sl6/x86_64/updates/umd-release-4.1.2-1.el6
```

```
yum install lcg-CA
```

Server setting

DB setting:

```
service postgresql-9.4 initdb
sed -ie 's/max_connections = 100/max_connections = 1000/' /var/lib/pgsql/9.4/data/postgresql.conf
mv /var/lib/pgsql/9.4/data/pg_hba.conf{,}_ori}
cat > /var/lib/pgsql/9.4/data/pg_hba.conf <<EOF
local   all             all                                     trust
host    all             all             127.0.0.1/32         trust
host    all             all             ::1/128              trust
EOF
```

```
service postgresql-9.4 start
chkconfig postgresql-9.4 on
```

```
createuser -U postgres --no-superuser --no-createrole --createdb chimera
createuser -U postgres --no-superuser --no-createrole --createdb dcache
createuser -U postgres --no-superuser --no-createrole --createdb srmdcache
createdb -U srmdcache dcache
createdb -O dcache -U postgres chimera
createdb -O srmdcache -U postgres billing
createdb -O dcache -U postgres spacemanager
createdb -U dcache replica
```

Autentication setting (empty)

```
mv /etc/dcache/gplazma.conf{,}_ori}
vim /etc/dcache/gplazma.conf
```

example /etc/dcache/gplazma.conf for FedSE:

```
[root@alice01 ~]# cat /etc/dcache/gplazma.conf
auth    optional    x509
auth    optional    kpwd

map     requisite    gridmap
map     sufficient   authzdb

session sufficient   authzdb
session requisite    kpwd
```

Example /etc/dcache/dcache.conf

```
~]# cat /etc/dcache/dcache.conf
dcache.layout=fedlayout
pnfsmanager.default-retention-policy=REPLICA
pnfsmanager.default-access-latency=ONLINE

# It is used by logback.xml
dcache.log.dir=/var/log/dcache
#keep logs while domain restarting
dcache.log.mode=keep
#log levels
#dcache.log.level.file=debug
dcache.log.level.file=info
#dcache.log.level.pinboard=debug
#dcache.log.level.events=off
```

DCacheInstallationAndConfigurationDocumentation < Sandbox < TWiki

```
#dcache.log.level.access=debug
dcache.log.level.access=info
#log format
dcache.log.format.file=%d{yyy-MM-dd}T%d{HH:mm:ss.SSS} \\(%X{cells.cell}\\\\) [%X{org.dcache.ndc}]
dcache.log.format.pinboard=${dcache.log.format.file}

dcache.java.memory.heap=512m
dcache.java.memory.direct=512m
```

```
xrootd.net.port=1094
xrootdIsReadOnly=false
```

```
xrootd.authz.read-paths = /
xrootd.authz.write-paths = /
xrootd.plugins=gplazma:gsi
xrootdAuthNPlugin=gsi
dcache.authn.hostcert.verify=true
```

```
dcache.enable.replica=true
#replica.poolgroup=reppool
```

And files for gplazma:

```
touch /etc/grid-security/grid-mapfile
chmod 664 /etc/grid-security/grid-mapfile
touch /etc/grid-security/storage-authzdb
chown dcache: /etc/grid-security/storage-authzdb
```

Example layout file (fedlayout.conf now)

```
~]# cat /etc/dcache/layouts/fedlayout.conf
[dCacheDomain]
[dCacheDomain/admin]
[dCacheDomain/poolmanager]
[dCacheDomain/spacemanager]
[dCacheDomain/pnfsmanager]
[dCacheDomain/billing]
[dCacheDomain/httpd]
[dCacheDomain/topo]
[dCacheDomain/info]
```

```
[zookeeperDomain]
[zookeeperDomain/zookeeper]
```

```
[XROOTD]
[XROOTD/xrootd]
```

```
[AUTH]
[AUTH/gplazma]
```

```
[replicaDomain]
[replicaDomain/replica]
```

Update DB

```
dcache database update
```

Create access for admin interface:

```
cat .ssh/id_rsa.pub > /etc/dcache/admin/authorized_keys2
```

Server setting

Start services:

```
dcache start
```

Check access:

```
ssh -p 22224 -l admin localhost -i .ssh/id_rsa
```

Port open: For servers:

```
tcp 2181
tcp 11111
udp 11111
```

For all:

```
tcp 1094
```

Pool setting

Files:

```
[root@eos ~]# cat /etc/dcache/dcache.conf
# This is the main configuration file of dCache.
#
# This file used to be called config/dCacheSetup, but is now stored in
# etc/dcache.conf. Documentation may still refer to it as
# config/dCacheSetup. Most of the parameters are the same and the
# documentation also applies to this file.
#
# By default the file is empty. Default values are picked up from the
# properties files in share/defaults/. Do not modify the defaults
# files: any changes will be lost when upgrading. Instead override the
# defaults by redefining the parameters in this file.
```

```
dcache.broker.host=alice01.spbu.ru
dcache.layout=domain01
```

```
dcache.net.lan.port.min = 1095
dcache.net.lan.port.max = 1099
```

```
[root@eos ~]#
```

And layout:

```
cat >> /etc/dcache/layouts/domain01.conf << EOF
[${HOSTNAME}-pool]
[${HOSTNAME}-pool/xrootd]
EOF
```

Command:

```
dcache start
dcache pool create --size=1000G /data0/dcache2 `hostname -s`_2 ${HOSTNAME}-poo
dcache restrart
```

Port open: For servers:

```
tcp 11111
```

Pool setting

udp 11111

For all:

tcp 1094:1099

Authorisation setting (on manager)

Example of files:

```
[root@muon ~]# cat /etc/grid-security/storage-authzdb
authorize eosuser read-write 2016 2016 / / /
[root@muon ~]# cat /etc/grid-security/grid-mapfile
"/C=RU/O=RDIG/OU=users/OU=sphu.ru/CN=Andrey Zarochentsev" eosuser
```

Setting on chimera:

```
chimera:/# mkdir /dcache
chimera:/# mkdir /dcache/fedcloud
chimera:/# mkdir /dcache/fedcloud/zar/

chimera:/# chown 2016:2016 /dcache/fedcloud/
chimera:/# chown 2016:2016 /dcache/fedcloud/zar
```

Host certs:

```
[root@muon ~]# cp /etc/grid-security/daemon/host* /etc/grid-security/
[root@muon ~]# chown dcache: /etc/grid-security/host*
```

-- AndreyZarochentsev - 2016-08-25

This topic: [Sandbox > DCaheInstallationAndConfigurationDocumentation](#)

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