POSTGRES CLUSTER (DR) INSTALL & REPLICA ( <https://www.youtube.com/watch?v=NaPnYQBBdyU> )

# Install initial PostgreSQL 10 cluster and verify it exists

sudo pg\_lsclusters

# create a second postgres cluster

sudo pg\_createcluster 10 replica1

sudo pg\_ctlcluster 10 replica1 status

sudo systemctl status postgresql@10-main

# create archive directories for both clusters

sudo -H -u postgres mkdir /var/lib/postgresql/pg\_log\_archive/main

sudo -H -u postgres mkdir /var/lib/postgresql/pg\_log\_archive/replica1

## Configure Main Cluster (Primary / Master) ###################################################

# edit configuration file

sudo nano /etc/postgresql/10/main/postgresql.conf

wal\_level = replica

wal\_log\_hints = on

archive\_mode = on # (change requires restart)

archive\_command = 'test ! -f /var/lib/postgresql/pg\_log\_archive/main/%f && cp %p /var/lib/postgresql/pg\_log\_archive/main/%f'

max\_wal\_senders = 10

wal\_keep\_segments = 64

hot\_standby = on

# edit host based access file

sudo nano /etc/postgresql/10/main/pg\_hba.conf

local replication rep\_user trust # DO NOT USE. Configure your own connection and authentication information

# create replication user

sudo -H -u postgres psql -c "CREATE USER rep\_user WITH replication;"

# restart the main cluster

sudo systemctl restart postgresql@10-main

## Configure Replica1 Cluster ###################################################################

# stop replica1 cluster

sudo systemctl stop postgresql@10-replica1

# edit configuration file

sudo nano /etc/postgresql/10/replica1/postgresql.conf

wal\_level = replica

wal\_log\_hints = on

archive\_mode = on # (change requires restart)

archive\_command = 'test ! -f /var/lib/postgresql/pg\_log\_archive/replica1/%f && cp %p /var/lib/postgresql/pg\_log\_archive/replica1/%f'

max\_wal\_senders = 10

wal\_keep\_segments = 64

hot\_standby = on

# edit host based access file

sudo nano /etc/postgresql/10/replica1/pg\_hba.conf

local replication rep\_user trust

## Setup Replica1 Cluster Replication ###########################################################

# remove replica1 existing database files

sudo su - postgres

rm -rf /var/lib/postgresql/10/replica1

# sync replica1 with main cluster

pg\_basebackup -D /var/lib/postgresql/10/replica1 -U rep\_user -w -P -R # -X stream

# configure recovery.conf

nano /var/lib/postgresql/10/replica1/recovery.conf

restore\_command = 'cp /var/lib/postgresql/pg\_log\_archive/replica1/%f %p'

recovery\_target\_timeline = 'latest'

standby\_mode = 'on'

primary\_conninfo = 'user=rep\_user passfile=''/var/lib/postgresql/.pgpass'' host''/var/run/postgresql'' port=5432 sslmode=prefer sslcompression=1 krbsrvname=postgres target\_session\_attrs=any'

archive\_cleanup\_command = 'pg\_archivecleanup /var/lib/postgresql/pg\_log\_archive/replica1 %r'

# start replica cluster and verify in sync

sudo pg\_ctlcluster 10 replica1 start

tail -n 100 /var/log/postgresql/postgresql-10-replica1.log

## Verify Replica1 Cluster In Sync #############################################################

# create database with some data

sudo su - postgres

psql -c "create database test;" -p 5432

psql test -c "

create table posts (

id integer,

title character varying(100),

content text,

published\_at timestamp without time zone,

type character varying(100)

);

insert into posts (id, title, content, published\_at, type) values

(100, 'Intro to SQL', 'Epic SQL Content', '2018-01-01', 'SQL'),

(101, 'Intro to PostgreSQL', 'PostgreSQL is awesome!', now(), 'PostgreSQL');

"

# verify data has been replicated on replica1

psql test -c "select \* from posts;" -p 5433

# stop main cluster (simulate failure condition)

sudo systemctl status postgresql@10-main

# promote replica1

sudo pg\_ctlcluster 10 replica1 promote

# verify replica1 is now a master / primary cluster

tail -n 100 /var/log/postgresql/postgresql-10-replica1.log

psql test -c "insert into posts (id, title, content, type) values

(102, 'Intro to SQL Where Clause', 'Easy as pie!', 'SQL'),

(103, 'Intro to SQL Order Clause', 'What comes first?', 'SQL');" -p 5433

psql test -c "select \* from posts;" -p 5433