

Step by Step
Setup of
Oracle 19c Data Guard

This tutorial is divided into 3 Videos

Video 1

1. Steps involved & Overview
2. Create Primary Database
3. Create Standby from Primary
4. Enable Managed Recovery Process (MRP)
5. Testing of Data Guard Log Shipping

Video 2

1. Enable Data Guard Broker
2. Enable Fast-Start Failover

Video 3

1. Add third Standby

My Setup

Oracle 19c

Oracle Linux 7.8

2 Linux Boxes – db1 and db2

Make sure both servers/machines are able to communicate with each other. There is no firewall blocking between 2 machines /servers.

Part1: Setup of Data Guard

On the Primary

1. Create **Primary Database**
2. Setup Primary Database in **ARCHIVELOG** mode
3. Enable **FORCE LOGGING**
4. Enable **FLASHBACK ON**
5. Set **DB_UNIQUE_NAME**
6. Create the **PFILE**
7. Configure **listener.ora**
8. Configure **tnsnames.ora**

Site	Primary	1 st Standby	2 nd Standby
DB_NAME	ora	ora	ora
INSTANCE_NAME	ora	ora	ora
DB_UNIQUE_NAME	orap	oras	orat
HOST_NAME	db1	db2	db3

On the Standby

1. Copy **PFILE** to Standby and edit PFILE Parameters
2. Start Standby **NOMOUNT**
3. Perform **RMAN ACTIVE DUPLICATION**
 - a) **Primary Database** should be connected **TARGET**
 - b) **Standby Database** should be connected as **AUXILLARY**
 - c) Use **RMAN DUPLICATE TARGET DATABASE FOR STANDBY** Command
4. Create **Standby Control** File

On the Primary – Set the Data Guard Parameter

1. Configure **LOG_ARCHIVE_DEST_1** for local Archiving
2. Configure **LOG_ARCHIVE_DEST_2** for archiving to Standby Service
3. Configure **LOG_ARCHIVE_CONFIG** to include the Primary and Standby Unique Name
4. Set **FAL_CLIENT** to Local Service Name
5. Set **FAL_SERVER** to Remote Service Name
6. Configure **STANDBY_FILE_MANAGEMENT** to AUTO
7. Configure **STANDBY REDO LOG (SRL)** files

On the Standby

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4. Set **FAL_CLIENT** to Local Service Name
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6. Configure **STANDBY_FILE_MANAGEMENT** to AUTO
7. Configure **STANDBY REDO LOG (SRL)** files
8. Start the **MRP**

Testing

9. On the Primary – Perform some transactions
10. Verify that the Transactions on the Primary have appeared on Standby

Part 2a: Setup of Data Guard Broker

1. Setup **DG_BROKER_START** to **TRUE** on Primary.
2. Setup **DG_BROKER_START** to **TRUE** on Standby.
3. Configure **DG_BROKER_CONFIG_FILE**
4. Create Data Guard Configuration and add the Primary
5. Add the Standby in the Data Guard Broker configuration
6. Configure **StaticConnectIdentifier** Data Guard Property with connection identifier that the DGMGRL client will use when starting database instances.
7. Enable the configuration
8. Perform the switchover using Data Guard Broker

Part 2b: Enable Fast Start Failover

1. Set '**LogXptMode**'='**sync**' for Primary.
2. Set '**LogXptMode**'='**sync**' for Standby.
3. Set protection mode as **maxavailability**
4. Enable the **Configuration**
5. Enable the **Fast_Start Failover**
6. Enable the **Observer**.

Part 3: Add third Standby

1. Copy **PFILE** to Standby and edit PFILE Parameters
2. Start Standby **NOMOUNT**
3. Perform **RMAN ACTIVE DUPLICATION**
 - d) **Primary Database** should be connected **TARGET**
 - e) **Standby Database** should be connected as **AUXILLARY**
 - f) Use **RMAN DUPLICATE TARGET DATABASE FOR STANDBY** Command
4. Create **Standby Control File**
5. Set the **Data Guard Parameter** – Opposite of the Primary
6. Start the **MRP**
7. Setup **DG_BROKER_START** to **TRUE** on Third Standby.
8. Add the Standby in the Data Guard Broker configuration.
9. Set '**LogXptMode**'='**sync**' for third Standby
10. Configure **StaticConnectIdentifier** Data Guard Property with connection identifier that the DGMGRL client will use when starting database instances.
11. Enable the configuration
12. Show configuration

Primary ORAP

log_archive_config	string	dg_config=(orap,oras,orat)
fal_client	string	orap
fal_server	string	

1 Standby ORAS

log_archive_config	string	dg_config=(oras,orap,orat)
fal_client	string	oras
fal_server	string	orap, orat

2nd Standby ORAT

log_archive_config	string	DG_CONFIG=(orat,orap,oras)
fal_client	string	orat
fal_server	string	orap, oras